ERRATA LIST

AGE

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SHOULD READ

4

aggregate £49.71
million loans

aggregate nominal three
per cent £49.71 million
loans.

38

Table 42

Central Peninsular
Railway Company £0.8;
Companhia Nacional dos
Caminhos de Ferro ao
Sul do Tejo £0.2;
South Eastern of Port-
ugal £1.2; Lisbon Steam
Tramways Company £0.2;
Beira Alta Railway
Company £0.4; Royal
Portuguese Railway
Company £1.5.
THE ROLE OF BRITAIN AND FRANCE IN THE FINANCE OF PORTUGUESE RAILWAYS 1850-1890. A COMPARATIVE STUDY IN SPECULATION, CORRUPTION AND INEFFICIENCY

Thesis submitted to the University of Leicester for the Degree of Doctor of Philosophy by António Lopes Vieira

(October, 1983)
To the dear memory of António Ferreira Vieira and António Casimiro de Almeida; in different times of my life they have taught me to grow up and become a man.
The object of this thesis is to study the underlying trends in railway finance in Portugal between 1850 and 1890. During these 40 years the building of the trunk lines was completed, with over 2,000 kilometres in operation at the beginning of 1890.

Schemes for railways in Portugal were put forward in the mid-1840s but the unstable political situation, which culminated in a Civil War in 1847, delayed the commencement of railway services until 1856. Because of Portugal's continuing critical financial situation and the consequent meagre resources of the Portuguese Treasury railway construction was largely financed by foreign capital. Allowing for the imperfection of the data it would appear that at least a third of total investment in Portuguese railways would have been financed by foreign investors. Both British and French railway promoters and speculators dominated the scene and set the pace for railway development throughout the period covered in this study. The initial railway schemes were experimental and then developed erratically, with an absence of a consistent and sustained railway policy on the part of the Government. Locomotives and materials, as well as the capital required for the construction of the lines, were first imported from England, but from the early 1860s France became a major supplier of capital, relegating Britain to a position of a supplier of coal and rolling stock.

This contrast between British and French investments, however, may in some ways be misleading. Overall, in both Iberian countries it seems reasonable to argue that the success of French railway schemes was partly due to the support, direct or indirect as the case may be, of English financial houses. Although Rondo Cameron's extensive study placed France as the supplier of capital for railway building in Spain, with further research serious doubts have emerged as to the nature and financial connections of the capital invested there by the Crédit Mobilier and other French investment banks. For Portugal, however, the present study suggests that the distinction between British and French investments hardly stands. It seems difficult to differentiate the nature of foreign capital invested in the Portuguese railways and it appears more reasonable to conclude that foreign investments were the product of an Anglo-French financial alliance formed by investment banks which envisaged the control of railway services in both Portugal and Spain.

The nature of Portuguese railway finance is also linked with the successive failures of the Portuguese Government to establish an adequate railway policy with the result that the cost of the lines built by
foreign private operators, but with a government subsidy, was substantially higher than the cost of state-lines. This study will demonstrate that at least £4.1 million could have been saved throughout the 40 years between 1850 and 1890, if the state had embarked on a program of direct railway construction. In annual terms the amount mentioned above represented over 20 per cent of the budget deficit and around 3.5 per cent of the service of the consolidated debt between 1877-78 and 1889-90. Further, this study will show that the high cost of construction was also the result of high interest rates, over seven per cent, paid on state bonds. This, in turn, explains the lack of private railway entrepreneurship and investors' preference for an indirect investment which produced higher returns than those offered by the equity capital of the private companies.

The nature of Portuguese railway finance is ultimately connected with the dependent peripheral condition of 19th century Portugal which, like in all European peripheral countries, made the railway a leading sector to animate the economy and propelled industrialisation forward. The outcome of this relationship, however, varied widely in the peripheral areas of Europe and no general pattern can be established with respect to either the finance or the impact of the railways in various peripheral economy countries. In Portugal, the conditions surrounding the building of the network resulted in a speculative, inefficient, uneconomic, costly and foreign-orientated railway system.
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Dr. Patrick O'Brien's comments on 19th century core-periphery relations were important to tackle the 'perilous waters' of the topic. I have benefited greatly from his suggestions.

Among those who have allowed me access to company archives and governmental departments I am particularly grateful to Dr. John Orbell for permitting me to consult the Baring Brothers Papers and to Mme. Alice Guilllaume of the French Ministry of Economy and Finance for her prompt cooperation in making the F30 series on Portugal available at a record time.

Record keepers and librarians have, in many respects, smoothed the difficulties during my research. I am, therefore, indebted to the staffs of the Public Record Office, the London School of Economics Library, the British Museum Library, the Senate House Library, the Archives Nationales and the Bibliothèque Nationale in Paris, the Biblioteca Nacional and the Archivos de RENFE in Madrid, and the Arquivo Histórico of the Portuguese Ministry of Public Works, in Lisbon.

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A final acknowledgement should be made to my friend João Segura do for designing the maps and to Miss Manuela Ramos who has done the laborious work of typing.
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Throughout the thesis, the place of publication of all the works cited is London unless otherwise stated and the following abbreviations are used.

AEFMEF - Archives Économiques et Financières du Ministère de l’Économie et des Finances

AHMOP - Arquivo Histórico do Ministério das Obras Públicas

ANP - Archives Nationales de Paris

BBP - Baring Brothers & Company Papers

BNP - Bibliothèque Nationale de Paris

DHP - Dicionário de História de Portugal

EHR - Economic History Review

EJ - Economic Journal

FOCR - Foreign Office Consular Reports

GBPP - Great Britain Parliamentary Papers

GCF - Gazeta dos Caminhos de Ferro

GCH - Gaceta de los Caminos de Hierro

HR(C)J - Herapath’s Railway (and Commercial) Journal

JCF - Journal des Chemins de Fer

JEH - Journal of Economic History

JTH - Journal of Transport History

LARR - Latin America Research Review

MOPCI - (Boletim do) Ministério das Obras Públicas Comércio e Indústria

PRO, BT - Public Record Office, Board of Trade Files
PRO, FO - Public Record Office, Foreign Office Files
RHES - Revista de História Económica e Social
ROPM - Revista de Obras Públicas e Minas
RPH - Revista Portuguesa de História
CHAPTER 1

INTRODUCTION
"What the most strikes me in the language of my Foreign Colleagues is the desponding tone in which they one and all speak of this unhappy country. "C'est un pays per­du", is an expression which I never fail to hear as often as the condition of Por­tugal is spoken of..."

Seymour to Palmerston (11 June 1851)
1.1 SCOPE OF THE STUDY

The overall lack of research into the economic history of 19th century Portugal has made this thesis, itself devoted to the analysis of backwardness in a particular sector of the economy, the first case-study of the origins and nature of Portuguese railway finance in the second half of the 19th century. If, on the one hand, the privilege of exploring virgin territory is immense and glorifying, it brings out, on the other hand, a tremendous responsibility the significance of which, for better or worse, will become clearer whenever further contributions to this area of research are accomplished. The challenge, however, is unavoidable, partly because of the 'mystery' and 'excitement' that have always surrounded the finance and construction of railways anywhere in the world, and partly because some of the 'illustrious' fellow-countrymen who played a decisive role in the making of Portuguese railway policy, and who have been portrayed as untouchable by the official historiography, are considered more circumspectly.

This study attempts to shed some light on a structural aspect of Portuguese economic and political life which concerns the economic historian and the economist as much as it should concern the politician and the businessman. Yesterday, like today, the leaders of this country, apparently on behalf of those who elected them and support them through the high taxes that they pay, have failed in the policies which they have adopted, in the decisions which they have taken, in the development prospects which they have devised. The role of inland transport, for example, is still an area of widespread and inconclusive debate and a reshaping of the railways and the construction of a motorway network appear to be issues with which government officials are, so they say, gravely concerned. If this reflects a backward and inadequate transport system, it further shows that a more consistent policy has to be pursued for the improvement of both rail and road transport which, in turn, seem to be two vital factors for the growth of the domestic market. The hesitation which has been displayed by all Governments, irrespective of their party political nature, maintains the deadlock with all the dramatic consequences for the economy as a whole. Moreover, the attitudes of politicians and government officials bear a great resemblance to their predecessors' of the mid-19th century and it would represent a great achievement for them, as well as a considerable benefit for the community, if they somehow learnt from the errors of the past, in order to increase their mastery over the problems of the society of the present.
With this hope in mind, the object of this thesis is to study the causal factors which determined the nature of the Portuguese railway system and, particularly, to assess the role and relevance of capital exported to Portugal in the second half of the 19th century for the finance of the railways. This will be done by both reviewing through case-studies the railways which were financed from abroad and discussing the conditions surrounding foreign investment which dictated the internal organisation and future development prospects of the railway companies. The presence of foreign capital was the result of government policy and, therefore, particular attention will be paid to general economic policy, and railway policy in particular. The international capitalist system and its impact on the Portuguese economy will also be examined and it will be demonstrated that the dependent peripheral condition of Portugal played a part in establishing the overall framework of potential railway development. The period for the study, 1850 to 1890, was determined simply because construction did not commence until the mid-century while the major trunk lines, which involved foreign investment, were completed by 1890 when the total mileage in operation reached over 2,000 kilometres.

It has not been the intention of the research for this thesis to write an economic history of Portugal. Further, this study is not concerned with the impact of the railways upon the economy and therefore this interrelation will not be discussed. Some passing references are made, but their sole purpose is to illustrate and reinforce the object of the present study. Finally, and despite the recent emergence of cliometrics and counterfactual history, particularly when applied to transport history, it is not the object of this thesis to pursue counterfactual analysis. The aim of this present study is not to investigate what would have happened to Portuguese transport and the domestic market if the railways had not been built, but rather the actual conditions which determined the construction of the system, together with an analysis of the development of the companies involved in making the lines.

The main findings of the present work are:

(1) the establishment of the Portuguese railway network was dictated by external factors. Overall, the railways served the interests and aspirations of foreign promoters and investors, rather than formed the necessary infra-structure the Portuguese economy so badly needed. Accordingly, the context within which the finance of the railways in Portugal took place, displayed no substantial differences to that of other European peripheral countries;
(2) the number of railway concessions granted by the Government in the mid-1840s were the product of very short-run favourable financial conditions in Portugal which, in turn, were the result of a railway speculative fever in the London money market. However, the internal political situation in Portugal and the accumulated deficits of the Portuguese Treasury did not permit their fruition, let alone their full legal organisation. Basically, they were purely speculative and premature schemes which reflected the immature stage of capitalist development in Portugal, the lack of confidence of the foreign investor in a country which had lost its fundamental financial support (Brazil), and which showed little signs of being able to repay its debt;

(3) the railway companies which were created after the mid-century were all financed by foreign capital. The concerted action of English and French capitalists makes it difficult to distinguish, clearly, the origin of the imported capital. It will be demonstrated that it is more reasonable to assume that foreign investments in the Portuguese railways were the combined product of an Anglo-French financial alliance which was backed by investment banks in both England and France with the ultimate objective of controlling the railway system of the Iberian Peninsula;

(4) the railway policy which was adopted by the Government proved to be inadequate for the overall development of the economy, given the financial situation and the necessity of importing capital and technology from abroad. Following the prevailing doctrines of economic liberalism, the Government opted out for a non-interventionist policy. As a principle, the building of the railways was to be left for private entrepreneurship with state support limited to subsidising the private companies and allowing them duty-free imports of railway materials and rolling stock. In practice, however, the state was heavily committed to the construction of the private lines and was further compelled to construct its own system. The state had to intervene to subsidise the private companies, as originally planned, but it never chose the most appropriate procedure; a subvention per kilometre was allowed when the guaranteed interest on capital would have been more favourable and conversely. Further, the state took part in one of the schemes as a shareholder, and moreover was forced to purchase lines whenever a breach of the contract between the contractors and the company occurred. It will be demonstrated that two important aspects emerged from this situation: first, the creation of a state network, originally consisting of the unfinished sections abandoned by contractors which the state purchased from the private companies; second, the additional expenditure incurred by the Government whenever it had to subsidise the private operators. At least £4.1 mil-
lion might have been saved by the Treasury if the construction of the lines had been carried out directly by the state. This proved to be a substantial sum and in annual terms represented over 20 per cent of the budget deficit between 1850 and 1890 and about 3.5 per cent of the debt charge between 1877-78 and 1889-90;

(5) the general economic backwardness of 19th century Portugal is explained by the dependent peripheral condition of the country. If this shaped and conditioned the policy of the Government, the nature of the policy maintained, and reinforced to a certain extent, Portugal's peripheral position. However, government policy was confronted with the availability of resources, both natural, social and institutional. The scarcity of resources and their fragile competitiveness whenever they were faced with other commodities both in the domestic and foreign markets, contributed to the overall modest growth of the economy and also conditioned the potentials for growth. In particular areas, however, it appears that the policy which was adopted tended to become the dominant factor which determined the development of the area. Railways were a sector of the Portuguese economy of the 19th century which suffered to a very large extent from the policy pursued by the various Governments after the 1850s.

Brought in from abroad and set up by foreign promoters, and foreign resources to a large extent, the pattern of railway development in Portugal soon proved to be inadequate for the country's needs. On the one hand, the philosophy on which it was based - railways are a necessary and sufficient cause of economic development - required levels of production and a road network which had not been established in Portugal. On the other hand, the lack of articulation of the various modes of transport and the slow consolidation of the domestic market, as well as the latter's connection with the availability of resources through regional markets, explains the lack of real economic development. Moreover, the network built up paid little attention to the necessities of internal traffic, or to its potential, with very often means of communication being confused with traffic.

1.2 OUTLINE OF THE STUDY

The purpose of this study is to demonstrate that Portugal's railways were the combined product of an Anglo-French financial alliance together with government railway policy which was adopted during the second half of
the 19th century. The latter proved to be inadequate for the consolidation and growth of the system and perpetuated Portugal's political and financial dependence on England, its major trading partner.

In order to do so, it was found necessary to investigate the conditions of transport before the railways in order to assess the potential benefit which would be gained from the introduction of a new and revolutionary mode of transport. Chapter 2, then, mainly deals with the structure of road transport, as well as river and coastal shipping and, despite the scarcity and unreliability of data, it appears reasonable to assume that, given the condition and development prospects of other means of transport, the contribution of the railways to the growth of the domestic market would be substantial. The several railway schemes which were contemplated in this chapter, however, proved to be ahead of their time and it would not be before the late 1850s that railway services, but on a very small scale, actually commenced.

Against this background, Chapter 3 will investigate the nature of the government policy which was adopted by Fontes and his successors after the early 1850s. An estimate of the direct and total cost of construction is presented and, together with the main characteristics in each of the sub-periods which determined the development of the network, it will show the inadequacy of the policy pursued.

The complex nature of foreign investments in the Portuguese railways will be dealt with in Chapter 4. Although a separate analysis between British and French investments is carried out, it proved difficult to draw a clear line between British and French capital and the main conclusion to draw from this chapter is that an Anglo-French financial alliance, which was beyond the eventual diversity of each country's foreign policy, emerged spontaneously and dictated the future shape of the Portuguese railway system.

The case-studies which originated from investments of British and French capital are reviewed in Chapters 5 and 6, respectively. They show, once again, the intimate connections of British and French capitalists and railway promoters, and they reinforce the conclusions which had
been presented in the previous chapter¹.

The last chapter discusses the dependent peripheral condition of 19th century Portugal and argues that the causal factors which explain Portugal's dependence were of internal, as well as external nature. In the particular case of the railways it appears that the internal factors, namely the government policy, rather than external factors, played a dominant role and constituted the ultimate causal factor which determined the speculative nature of the railway schemes, the shape of the network, the troubled business life of all private companies, and the consequent financial burden which fell upon the Portuguese Treasury.

1.3 AN ECONOMIC AND FINANCIAL INTRODUCTION TO 19TH CENTURY PORTUGAL²

Portugal in the 19th century was characterised by the predominance of agriculture and of artisanal, small-scale, forms of industrial production. Further, only after the late 1870s with the consolidation of the railway network and signs of a new spurt of industrial development, particularly in the cotton sector³, was it possible to overcome the compartmentalisation of prevailing local, and regional to a certain extent, market structures and initiate the formation of a national market. Overall, the economy was far from stagnant but the volume of both internal and external trade and, consequently, the volume and technological development of both agricultural and industrial output was restrained by a modest level of internal demand, by the costs of transport which, in turn, were the result of the structure of the railway system and its connections with other forms of transport, and by Portugal's dependent peripheral position.

¹ One of the English case-studies which are reviewed in Chapter 5, The Lisbon Steam Tramways Company, has been published in Portuguese as part of a book which studied urban and suburban public transport in Lisbon in the period 1830 to 1910. Its contents, however, have been revised in this thesis and additional data has been included herein. See Antônio Lopes Vieira, Os Transportes Públicos de Lisboa entre 1830 e 1910 (Lisbon, 1982).
² Unless stated otherwise all data presented herein is based on the tables of the Statistical Annex, pp.340-56.
It is difficult to ascertain which sector of the economy was the driving force of growth during the last century. Certainly, industry was not and recent theories on the contribution of agriculture to economic growth have demonstrated that its impact was exhausted by the late 1880s, that is, only after 20 years the original spurt had occurred. Bearing in mind that the driving economic forces of Portugal had relied on its colonial possessions since the 15th century, and on Brazil from the early 18th century, it is clear that the core of the Portuguese economic structure and its financial resources remained in Brazil until the colony became independent in 1825. Thereafter, Brazil was no longer a Portuguese colony in formal terms but remained a source of financial support which, in turn, was the result of an increasing flow of migration from Portugal. This is neither the time nor the place to embark on a study of this relationship, but it appears that the sluggish condition of the Portuguese domestic economy, during the second half of the 19th century, was in a way counterbalanced by the flow of migration to Brazil. An annual average of 14,380 people between 1866 and 1890 went to South America from a country whose population grew at less than one per cent. In the early 1870s, these migrants remitted to Portugal about £2 million per annum. The application of the Brazilian remittances across a wide spectrum of investment areas, together with their serving as a mean of payment for Portugal’s foreign loans contracted in London, gives rise to the suspicion that much of the investment in the domestic market and the consequent accumulation of capital was derived from remittances from Brazil. It is not within the scope of this study to measure the impact of the Brazilian money upon the productive, and non-productive, sectors of the Portuguese economy. It is sufficient to point out, however, that a country which relied on exogeneous and erratic factors with which to set up the pre-requisites for modernisation and economic de-

1. See Miriam Halpern Pereira, Assimetrias de Crescimento e Dependência Ex- terna (Lisbon, 1974).
3. For investments in the northwestern province of Minho, see Chapter 5, pp. 242-43.
velopment, thus display beyond any doubt, a weak economic structure. Its basic components consisted of a distorted structure of foreign trade, continuing budget deficits and an alarming growth of foreign debt.

The trade deficit, estimated at £0.3 million annual average, from 1848 to 1851, jumped to £1.30 million between 1851 and 1855 and had reached £3.28 million by 1890-94. Throughout the second half of the 19th century the visible trade deficit was always well over £1 million, while exports covered no more than 60 to 65 per cent of the value of imports. Further, foreign trade was largely dominated by Great Britain and, although some diversification occurred after the mid-1870s, in 1886-90 imports from Britain still accounted for 34 per cent of total Portuguese imports, whilst Britain took no less than 40 per cent of total Portuguese exports. In 1880, for example, the market structure of the Portuguese foreign trade showed clearly the dominant position of Great Britain among Portugal's trading partners.

Table 1. Breakdown in Percentage of Value of Portugal's Trading Partners in 1880

<table>
<thead>
<tr>
<th>country</th>
<th>imports from</th>
<th>export to</th>
</tr>
</thead>
<tbody>
<tr>
<td>Great Britain</td>
<td>43.5</td>
<td>46.0</td>
</tr>
<tr>
<td>France</td>
<td>12.0</td>
<td>6.0</td>
</tr>
<tr>
<td>Germany</td>
<td>5.5</td>
<td>4.5</td>
</tr>
<tr>
<td>United States</td>
<td>15.0</td>
<td>2.5</td>
</tr>
<tr>
<td>Brazil</td>
<td>6.0</td>
<td>24.0</td>
</tr>
<tr>
<td>Spain</td>
<td>6.0</td>
<td>7.2</td>
</tr>
<tr>
<td>Sweden and Norway</td>
<td>3.5</td>
<td>-</td>
</tr>
<tr>
<td>TOTAL</td>
<td>91.5</td>
<td>90.2</td>
</tr>
</tbody>
</table>


Note: the shares of other trading partners are irrelevant
Further, the structure of Portugal's foreign trade contributed to the maintenance of the trade deficit because of the high proportion of primary products in exports which had a low income elasticity; as Sideri put it, "the demand for exports grew slowly and the degree of adaptability of the export sector was quite low".

Table 2. Structure of Portuguese Foreign Trade as a Percentage of Value in 1890

<table>
<thead>
<tr>
<th>item</th>
<th>imports in percentage (%)</th>
<th>exports in percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>agricultural products</td>
<td>26.8</td>
<td>65.6</td>
</tr>
<tr>
<td>cattle</td>
<td>13.4</td>
<td>3.9</td>
</tr>
<tr>
<td>fish</td>
<td>5.1</td>
<td>7.0</td>
</tr>
<tr>
<td>forest products</td>
<td>3.3</td>
<td>17.7</td>
</tr>
<tr>
<td>mining products</td>
<td>13.4</td>
<td>5.8</td>
</tr>
<tr>
<td>industrial products</td>
<td>38.0</td>
<td>-</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Sideri, *op.cit.*, p. 174, footnote 64.

Both the market structure and product composition of foreign trade were responsible for a stagnation of exports at around £4.90 million in the 1870s, a slight increase to around £5 million in the early 1880s and yet another stagnation until the mid-1890s at around £5.14 million. Between 1870-74 and 1890-94 exports rose by only 2.8 per cent, imports by no less than 30.3 per cent, the latter due in part to imports of railway material.

The financial aspects of the Portuguese economy of the 19th century were clearly dominated by constant budget deficits and, in the second

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1. Sideri, *op.cit.*, p. 11. See also Chapter 3 of this thesis, pp. 106-108
half of the century, by the rising import of foreign capital. Overall, the main features of Portuguese public finances were related to the continuance of a traditional financial structure, together with a persisting difficulty in obtaining new sources of revenue. The maintenance of this traditional financial structure is well demonstrated in the proportion of customs receipts to total government revenue: between 1850 and 1914 they accounted for about 40 per cent of government revenue, but in the early 1870s they represented no less than 53.3 per cent of total receipts. The primary concern of the administration was to balance the budget, but this never occurred. The revenue was always less than expected while the expenditure was vastly beyond the original estimate. In 1880 it was observed that "each of the 70 Finance Ministers who have served during the last 45 years has declared his intention to extinguish the deficit, or at least to reduce it to insignificance; some have proclaimed that they have succeeded. But still the floating debt has gone on increasing. In 1855 it was but £355,000; in 1863, nearly a million; in 1867 it exceeded three millions; in 1879 fell to two millions; and on the 30st of June 1880 again exceeded £3,500,000. Budget deficits remained under £0.5 million annually between 1850-51 and 1864-65, jumped to over £1.0 million in each of the following six fiscal years and still amounted to £0.32 million between 1885-86 and 1889-90.

The deficit was partly explained by investments in infrastructure, namely in railways and roads, which constituted one the primary functions of the state in the 19th century. However, by the early 1860s the British Secretary of Legation at Lisbon did not fail to point out in his annual financial report that "there are no public works of a productive character to show for the extraordinary expenditure of past years". His comment was later reinforced by the position that the total amount of capital applied by the state to public works until 1878 was £21.78 million (of which £7.26 million were in railway development), whereas this amount represented only

1. Between 1792 and 1815, however, the amount of loans contracted by Portugal in London had totalled £9.43 million nominal, which corresponded to no less than 14.7 per cent of all loans issued in London for the same period; Banker's Magazine (February 1855), pp. 35-36.
4. GBPP (1860), LXVI, 2716, "Report by Mr. Barron, Her Majesty's Secretary of Legation at Lisbon, on Finances and Public Credit, 3 April 1860", p. 52.
25.1 per cent of the total debt\(^1\). This state of affairs gives rise to the suspicion that public money was misused. Morier, the British Minister at Lisbon, shortly after his arrival on Portugal in the late 1870s, was stunned by the financial situation of Portugal the nature of which he reported to London: "Certain it is that only in the Iberian Peninsula could a minister of finance have the naïveté to tell Parliament, as Serpa [the Portuguese Minister of Finance] has done, that, having a few weeks ago raised a loan for colonial purposes and obtained the money from certain French capitalists on the faith of the remunerative objects to which this loan was to be applied, the proceeds had, as matter of course, been illegally diverted to totally different objects, and that a second loan was required in order to allow the first to be at some future period scrupulously applied to its legal object\(^2\).

Briefly, from 1851 on, "Portuguese finances were in perpetual deficit and government borrowed at home and abroad, often at heavy discount. The new loans were used to pay the interest of older ones\(^3\). The Portuguese internal and external funded debt rose substantially from £18.5 million in 1850 to £140.00 million in 1890, while the annual debt charge nearly doubled from £2.47 million in 1877-78 to £4.03 million in 1889-90, by which time it represented no less than 46.1 per cent of the state revenue\(^4\). Con-

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2. PRO, F063/1062/9, Morier to Lord Derby, 2 February 1877.
4. "The direct return from the railways is not yet sufficient to meet the interest charges. Year by year, therefore, the service of the debt absorbed an increasingly large proportion of the revenue, leaving only a small and constantly dwindling margin available for the ordinary administrative expenditure"; *The Economist* (27 November 1880), p. 1390. "The amount of the debt charge is exhorbitant, and cripples the country"; *The Statist* (25 December 1880), p. 414.
tinuous borrowing on the European money markets reduced Portugal's credit rating substantially and the actual interest rate paid on the aggregate £49.71 million loans issued between 1862 and 1884 was no less than 7.23 per cent, having reached 10.17 per cent in 1869\(^1\), while British Consols yielded between 2.97 and 3.32 per cent and French rentes 3.51 to 4.49 per cent over the same period\(^2\). Consequently, Portuguese funds were always quoted under par on the London Stock Exchange and only in 14 of the 41 years between 1850 and 1890 did they rise above 50 but never went beyond 66. The funds remained under 50 between 1850 and 1874, stayed around 53 thereafter, but the financial crisis of 1891 brought them down again to 35. Consequently, floating debt rose and amounted to £5.5 million by 14 January 1890\(^3\). It had reached the astronomical sum of £12.75 million in 1878, out of a total debt of £92.75 million\(^4\) and in 1887 alone it had risen by 47.9 per cent from £1.65 million to £2.43 million\(^5\).

\(^1\) In 1872 the Portuguese Government had to pay 8.5 per cent and 10 per cent in Portugal for the floating debt, and 14 per cent abroad; PRO, F063/1002/9, Murray to the Earl of Granville, 25 January 1873.

\(^2\) Relatório Propostas de Lei e Documentos Apresentados na Câmara dos Senhores Deputados da Nação Portugueza na Sessão de 12 de Julho de 1897 pelo Ministro e Secretário de Estado dos Negócios da Fazenda Frederico Ressano Garcia, Parte II, Documentos (Lisbon, 1897), p. 68.

\(^3\) FOCR (1890), "Report for the Year 1889 on the Finances of Portugal", p. 16.

\(^4\) The Statist (25 December 1880), p. 1350.

\(^5\) Ibid (28 January 1888), p. 102. In 1866 the Portuguese Government contracted "no fewer than seven small loans, amounting in the aggregate to £912,000; the average rate of interest, including commission, was 15 per cent. Of that total Baring Brothers advanced no less than £740,000"; HR(C)J (23 March 1867), p. 320. In 1867, the floating debt to Baring Brothers amounted to nearly £800,000; PRO, F063/935/25, Paget to Lord Stanley, 28 March 1867. For the short-term advances made by French banks to the Portuguese Government see Chapter 4, p. 171.
Two other aspects of Portuguese finance, which are intimately connected to each other, deserve further attention: the proportion of the internal/external debt to the total funded debt and Britain's share in the total amount of bonds which were issued in London. In the mid-19th century, as Platt observed, rightly, "Portuguese government stock remained unsaleable in London". In the 1850s and 1860s the internal debt averaged around 50 per cent of the total funded debt. From then on, the proportion was always higher than 50 per cent and it seems significant to underline that from 1891 to 1897 the operations in state bonds on the Lisbon and Oporto Bourses, both on the internal and external debt, amounted to no less than £15.52 million. Moreover, the convertability of the foreign debt with the home debt, together with average interest rates of more than seven per cent on bonds of three per cent nominal value, made it more attractive for Portuguese capitalists to subscribe for bonds issued in London and Paris, which would reduce, even further, the proportion of the foreign debt to the total public debt of Portugal. As Platt put it, "the Portuguese gradually came to share a large proportion of their own debt".

Initially, Portuguese subscribers took a modest share of foreign loans. Of the £5 million nominal issued in July, 1862 by Knowles & Foster in London at 42.19 only 10 per cent was reserved for Portugal. However, in the following year, the £2.5 million nominal issued in October by Stern Brothers in London at 45.50 was heavily subscribed with "more than ten times

1. Christopher Platt, "Domestic and Foreign Finance in Portugal, 1815-1869" (St. Antony's College 1982), paper for private circulation, p. 6, quoted by courtesy of the author.
3. Relatório..., p. 29.
4. "There is one feature greatly in favour of Portuguese stock. The Bonds issued in this country are convertible with the Home Debt of the country in Portugal, nor can they be again returned up in this market. By this means very large sums are being constantly withdrawn from this to Portugal"; BBP, Ms. 18,321, Hc. 17.251, Frederick Joule to Baring Brothers, London 21 October 1864.
the amount offered being subscribed for both in London and in Portugal.\(^1\)
The £4.75 million nominal issued in December, 1867, again by Stern Brothers, at only 35.44 made The Economist comment "that the Portuguese themselves were prepared to subscribe" was the most encouraging feature of the loan.\(^2\)
Thereafter, the Portuguese increased their share of the foreign loans considerably, partly because by the 1880s they were still convertible into Portuguese internal stock.\(^3\) Such was the case with the three loans issued in London in 1880, 1883 and 1884, of which no less than 40 per cent of the nominal value was always reserved for subscription in Portugal: of the £8.70 million nominal issued in November, 1880 at 47.63, for example, 40 per cent was reserved for Portugal, 33.5 per cent for issue in France and Belgium and the same proportion was reserved for subscription in England and Holland.\(^4\) Herapath's further commented that the "Portuguese capitalists who have taken part in the loan had at first only 40 per cent of it, but, owing to the appearances of a great demand in Portugal, they have used pressure to obtain more, and have now taken "firm" 50 per cent of the loan; and it further appears that they would have liked the whole."\(^5\) If, on the one hand, "the money markets of Europe [were] getting tired, and that with reason, of the constant applications by Portugal for fresh loans,"\(^6\) the Portuguese Government, on the other hand, could rely 'safely' on the national investors. As Platt put it, "the Portuguese had real money to invest."\(^7\)

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5. HR(C)J (18 December 1880), p. 1453. Not surprisingly, "on the day of subscription, the influx of subscribers was so great that the Bank of Portugal did not close its doors until a very late hour"; Ibid (1 January 1881), p. 17. The £8.38 million nominal issued in May, 1884 in London at 41.48 was also heavily subscribed in Portugal - no less than 50 per cent, leaving 25 per cent for England and Holland and the balance for France, Belgium and Switzerland; AEFMF; F30/317, Journal des Actionnaires,
and were willing to do it, providing the issue of the loans was guaranteed by a respected and prestigious money market. Because of the limitations of the domestic capital market, Portuguese investors preferred to invest their own savings, part of which were directed to the infra-structure of their own economy, through the financial support granted by the London Stock Exchange and the Paris Bourse. In the end, Platt is perhaps right when he concluded that "like so many other countries at the time, [Portugal] paid for herself".

Platt was also the first scholar to contradict the traditional approach that defended the predominance of Britain over the Portuguese bonds of the foreign debt, just because they were issued in London. In a more recent work, he maintained that "the largest part of the speculation and genuine investment in Portuguese Government securities, after the closure of the London Stock Exchange to new Portuguese bonds in January, 1853 was Dutch". He based his argument upon the correspondence of Baring Brothers between the 1840s and the 1860s: "... up to the period named [1862], M. de Brito [the financial agent of the Portuguese Government in London] depended mainly upon two firms [Stern Brothers and Knowles & Foster] for the purchase of the Bonds, which firms afterwards sold the stock in Amsterdam, the Dutch being the largest holders of Portuguese Bonds". Platt restricted his conclusions to the period before 1870. However, there are indications that the situation thereafter changed substantially. In the autumn of 1886 Portuguese stock was for the first time quoted on the Berlin Bourse, and in the early 20th century "the amount of Portuguese bonds currently existing in this country [England] is relatively small. It is estimated that in England, Holland and Belgium the value of the existing bonds

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2. See Christopher Platt, "British Portfolio Investments Overseas before 1870: Some Doubts", EHR, XXXIII (February 1980), pp. 1-16. In more general terms, Sideri also noticed that "although the British seemed to be the 'initiators of most Portuguese loans, they resold the bonds to other European buyers, mainly French and German"; Sideri, op.cit., p. 162.
4. BBP, Ms 18,321, Hc. 17.251, Memorandum sent by Frederick Joule to Baring Brothers, London 21 October 1864.
5. The Statist (1 October 1887), p. 375.
does not exceed £10 million, compared with £36 million in France and £10 million in Germany". By the 1900s the French and the German had taken the lion's share of the foreign debt. At the same time the proportion of foreign debt to the total funded debt had fallen from the 50 per cent level current at the end of the 1860s to no more than around one third: for a total debt of £137.7 million in 1910, for example, no more than £41.8 million, that is, 30.4 per cent, represented the external debt.

In general, Portugal developed along lines common with other European peripheral countries where the absence of an energetic middle-class explains the economic backwardness of such areas and the subsequent leading role of the state. The absence of a bourgeoisie was a substantial drawback to the development of Portugal. In his study of the structure of the Portuguese society, Godinho focused upon the modest impact of the middle-class. He argued that "one can find banks, factories, limited liability companies, there is a larger circulation of goods, and yet the vast majority of the population does not improve its living standards". Briefly, there existed wealth and there were capitalists but there was no industrial capitalism. In Portugal during the mid-19th century one could find nothing but "spots of modern economy lost in the vastness of tradition". Savings, part of which were invested in state funds, were applied to "the improvement of domestic commercial and trading relations rather than at the development of productive sectors of an economic system", because surplus financial resources lacked the necessary mechanism to create manufactures and activate industrial output. In his annual report for 1878, the British Consul at Lisbon, George Brackenbury, wrote that 127 new companies with an aggregate capital of £24,119,466 had been created between June, 1867 and December, 1875. However, he further observed that such increase was "indicative of anything but a healthy state of things. Financially speaking, of this vast nominal capital of £24 million sterling, more than £16 million, or more than two thirds, represented banking enterprises, while mining and

2. Sideri, op.cit., p. 177, footnote 91.
4. Ibid.
5. Sideri, op.cit., p. 149.
manufacturing companies together are answerable for only £1.5 million, or about one-sixteenth of the total nominal capital\(^1\). Even banking activities took a long time to be consolidated; the first bank was founded only in 1821 and was the result of political debate rather than a business initiative. The Bank of Portugal was the product of a merger in 1848 due to the financial crisis of that year. The development of a modern banking system only took place after the mid-1860s, though with successive failures, as a result of an increasing flow of remittances from Portuguese emigrants in Brazil\(^2\). The speculation in Spanish state bonds in 1876, which involved several Lisbon and Oporto banks and resulted in the Government suspending payments on foreign bills for three months\(^3\), followed by the financial crisis of 1891, reduced the number of banks from 51 in 1877 to 40 in 1892. However, the amount of deposits took the lion's share of the banks' operations so that in 1888-92, for example, they totalled £47.96 million. Deposits were largely mobilised through discount operations (drafts) which amounted to £33.60 million in 1892. Accordingly, banks developed as deposit gatherers and discount institutions rather than investment banks. For a long time neither Portuguese nor foreign banks were directly involved in financing capital-intensive sectors of the economy, such as the railways, and only in the 1880s, some of the Lisbon banks, particularly the Banco Lisboa & Açores, subscribe for railway loans issued abroad, while seven Oporto banks got involved in a speculative and unsuccessful railway scheme in Spain which, in the end, destroyed their image and terminated their power of issuing banknotes. This appears to be a clear contrast with the development of banking activities in other European peripheral countries where, as Cameron observed, French investment banks, and the Crédit Mobilier in particular, together with local banks, were essential for the development of continental railways\(^4\).

\(^{1}\) FOCR (1879), "Report by Consul George Brackenbury on the Trade and Commerce of Lisbon for the Year 1878", p. 953.

\(^{2}\) See Vieira, op. cit., p. 178.

\(^{3}\) Because of the crisis the Government was forced to suspend payments for 60 days; The Economist (24 June 1876), p. 738 and (26 August 1876), p. 997. The deals on the Lisbon Bourse in the first six months of 1876 amounted to no less than £15 million, and the Portuguese Minister of Finance admitted that private deals off the Bourse had reached even a higher sum; Ibid (28 July 1877), p. 884.

Overall, the Portuguese economy in the second half of the 19th century changed but it did not modernise. The structure of foreign trade, the precarious financial situation, the insipid domestic market, together with the social structures and mentalities, show that the transformation of a pre-industrial into a modern society in Portugal had hardly begun by the end of the century. This, in turn, further shows that the impact of industrialisation and modernisation in western Europe had only a marginal effect upon Portugal. But, as The Times ironically put it, "there is nothing desperate in the situation; and by making sacrifices Portugal will continue to pay her way; but the sacrifices must be made, and the reforms accomplished, else the present embarrassments must increase".

1. On this important aspect of 19th century Portuguese society see Godinho, op. cit.
2. The Times (30 April 1880).
CHAPTER 2

TRANSPORT IN PORTUGAL BEFORE THE RAILWAYS
"I fear the Portuguese are not a traveling people in their own country".

Benjamin Oliveira to Count Tojal (1 November 1844).
In the first half of the 19th century Portugal experienced a series of dramatic events, the results of which would dictate the shape of the economy and society for the rest of the century. The French invasion in the first decade of the century, apart from the physical destruction of the country, produced serious political changes which, in turn, altered the course of the Portuguese economy and gave birth to successive re-arrangements among rival political factions. The Brazilian market, which had acted as the main support of Portugal's economic and financial structure, was lost in 1810 and, further, Brazil became independent in 1825. Thereafter, Portugal was compelled to organise a new economic and financial framework for its fragile economy, although the opposing goals of different pressure groups made it a long, painful and by no means peaceful process. The object of the present chapter is both to show the inadequacy of the traditional transport network to service a rising demand, and to discuss the potential demand for railway development when other forms of transport were not sufficiently developed to feed traffic to a railway system.
2.1 POLITICAL INSTABILITY AND ECONOMIC STAGNATION

In 1893 the geographer Gérardo Pery made an extensive, though incomplete, survey of Portuguese foreign trade over the previous century. He started his study by underlining the following points: "The prosperity of a country, in terms of its stagnation or backwardness, may be revealed by the course of its exports. It is obvious that any progress achieved in such a long period (1800 to 1890) will produce a growth of exports both of natural and industrial produce. It is also certain that in order to investigate the wealth, the resources and the progress of a nation it appears indispensable to study all of its commercial activities, its industry, its agriculture, as well as its finances, and compare all these elements throughout long-run periods. To enquire of its prosperity or decline, however, the course of its exports by itself is sufficient to draw sound conclusions. A country in which both its industry and agriculture have progressed, in which its trade has improved from its natural markets, is a country of large and increasing exports which, in turn, make an eloquent demonstration of its prosperity. By contrast, a country whose industry stagnates or declines; whose agriculture does not follow the pace of those nations which have the objective to produce more, better and cheaper; its trade languishes in unchanged pattern; a country which has shown its inability either to preserve its old markets or to conquer new ones, in that country exports will soon show, because of their depression or stagnation, the evils that are the cause for the state of decline".

Pery's statement well serves the purpose of surveying the Portuguese economy throughout the years which preceded the coming of the railway. If, alongside Pery's view, Sideri's argument that "a chronic balance of trade deficit (without a steady inflow of income to even up the total balance of payments)" is "one of the main indicators of underdevelopment" is accepted, then, it is clear that Portugal's economic and financial situation stagnated during the first half of the last century. Pery estimated Portugal's foreign trade between 1800 and 1851 to be:

1. Gérardo Pery, "Estudos Economicos [O Commercio Externo de Portugal de 1800 a 1890]", RHES (July-December, 1979), n° 4, p. 89.
Table 3. Portuguese Foreign Trade, 1800-1851

<table>
<thead>
<tr>
<th>years</th>
<th>annual average imports in £ million</th>
<th>annual average exports in £ million</th>
</tr>
</thead>
<tbody>
<tr>
<td>1800-1804</td>
<td>7.3</td>
<td>7.8</td>
</tr>
<tr>
<td>1805-1807</td>
<td>7.1</td>
<td>7.5</td>
</tr>
<tr>
<td>1808</td>
<td>0.7</td>
<td>1.7</td>
</tr>
<tr>
<td>1809</td>
<td>3.3</td>
<td>3.1</td>
</tr>
<tr>
<td>1810-1814</td>
<td>7.8</td>
<td>3.5</td>
</tr>
<tr>
<td>1815-1819</td>
<td>6.7</td>
<td>6.4</td>
</tr>
<tr>
<td>...</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>1842-1843</td>
<td>2.5</td>
<td>1.9</td>
</tr>
<tr>
<td>...</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>1848-1851</td>
<td>2.7</td>
<td>2.4</td>
</tr>
</tbody>
</table>

Source: Péry, *op.cit.*, p. 92, adapted.
(gold and silver coins and bars not included)

Péry organised his table by five-year periods but he pointed out that no statistics were available for either 1820 to 1841 or 1844 to 1847. This was due in the former period to the Liberal Revolution of 1820 and the subsequent unstable years which culminated in the Civil War of 1832-34, the effects of which were only overcome by the early 1840s. The lack of data for the second period was due to yet another Civil War and subsequent foreign invasion. During these 25 years statistics were simply not collected on a consistent basis and the nature of the scattered figures available for the period is as erratic as unreliable. The main conclusion to

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draw from Pery's figures lies in the structural change of the Portuguese foreign trade after 1808 - this year was the last in which a trade surplus occurred. Another conclusion is that the period 1800 to 1851 was very unstable, largely because of political events. Apart from those mentioned above, the French invasions in 1807 and 1811, the opening of the Brazilian ports to foreign nations (namely England) in 1808 with the subsequent new Anglo-Portuguese commercial treaty signed two years after, and the independence of Brazil in 1825, produced dramatic results for the Portuguese economy and society. They caused a substantial decrease in the amount of foreign trade in the first decade of the century, stagnation in the following decade and yet another decrease thereafter. Further, all these events, "created a burden of debt from which the Government, deprived of Brazil, had no hope of recovery". Economic stagnation, coupled with wars and a diversion of savings into state debt, produced successive years in which food was scarce which, in turn, caused a decline in population. Between 1807 and 1835 the Portuguese population fell by no less than 138,136, or 4,933 per year.

<table>
<thead>
<tr>
<th>years</th>
<th>population</th>
<th>annual average growth in 000s</th>
<th>annual average growth in percentage</th>
<th>number of years</th>
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</thead>
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<tr>
<td>1807</td>
<td>3,200,000</td>
<td>-4,933</td>
<td>-0,1543</td>
<td>28</td>
</tr>
<tr>
<td>1835</td>
<td>3,061,864</td>
<td></td>
<td></td>
<td></td>
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</tbody>
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1. Christopher Platt, "Domestic and Foreign Finance in Portugal, 1815-1869", paper for private circulation, St. Antony's College (Oxford, 1982), p.1, quoted by courtesy of the author. In the aftermath of the Civil War of 1832-34 James Alexander observed in his *Sketches in Portugal*: "The manufactures carried on in Portugal at this moment consist of coarse woollens, hats, common glass and earthenware, silk-weaving, printed cottons, paper-making, & c.; but all on a very small scale. They have decreased latterly owing to Brazil (the principal market) being supplied from other countries at a cheaper rate"; James Edward Alexander, *Sketches in Portugal* during the Civil War of 1834 (1835), p. 206.

Overall, the political confusion of the first half of the last century, particularly after the loss of Brazil\(^1\), forced contemporaries to search for an alternative course for the Portuguese economy. According to Oliveira Marques, "both economists and statesmen tried 'to look inside' to European Portugal; they searched for the resources of the nation in terms of its agriculture, cattle rearing, fisheries, mining, and industry (the latter somewhat later) and tried to use and gain advantages from them"\(^2\).

The consequences of the political events outlined above, then, were basically the formation of a new economic and social structure. Because of the re-arrangement of the ruling élite, which was well illustrated in the Civil War of 1832-34, and further in the internal strife between the Chartist and the Septemberists, and the rise of new pressure groups, it took a considerable period for the country as a whole to adapt to the new internal situation and to adjust to a new world where industrialisation was setting the pace. The first half of the 19th century was the period during which social conflicts in Portugal were at their height and the state of the economy suffered accordingly. An anonymous pamphlet printed in Lisbon in 1847 summarised the political situation: "The present state of the country is such, that if all the administrations after 1834 had tried their best to destroy Portugal they could have not done it in either a more suitable way or in a shorter period of time"\(^4\).

1. "During the eighteenth century Lisbon's commercial economy was heavily dependent on the colony of Brazil, and Lisbon in turn was the main source of revenue for the Portuguese State... In 1802 Portugal had borrowed extensively from Holland and Britain on the security of Brazilian diamonds – the only 'Diamond Loan' recorded in Western finance"; Platt, op.cit., p. 1.

2. Oliveira Marques, História de Portugal (Lisbon, 1973) II, p. 3.

3. For the political history of this period see Marques, op.cit., pp. 84-102. An English version is available: History of Portugal (New York, 1972).

4. Anonymous, Autopsia dos Partidos Políticos e Guarda-Quedas do Governo: ou Ensaio sobre as Contínuas Revoluções de Portugal (Lisbon, 1847), p. 7. "Deception, and low, paltry subterfuge, pervade all classes, and contribute its largest share to the degradation of the highest. To seem rather than to be, is the unblazoned device on the shield of Portugal"; Harvey & Darton (editors), Portugal; or the Young Travellers: being some account of Lisbon and its environs, and of a tour in the Alemtejo, in which the customs and manners of the inhabitants are faithfully detailed (1830), p. iv.
The coming of the conservative Chartists to power in 1842 inaugurated a short period of peace in which their leader, Costa Cabral, emerged as a "competent and authoritarian statesman who knew how to govern and make himself obeyed and followed"\(^1\). According to Platt, "under Costa Cabral's direction Portuguese finance in the early '40s seemed, at least to foreigners, on the path to recovery"\(^2\). In the middle of the decade Cabral's Cabinet sponsored the formation of a handful of public companies which were to become the nucleus of an ambitious scheme to improve the transport network, as well as a support for the increasing financial needs of Treasury. The most important of these schemes, taking into account the amount of share capital which they were supposed to have raised, were the Companhia de Confiança Nacional, the Companhia de Obras Públicas and the Companhia do Tabaco, the latter being the association of the tobacco contractors which were to lend a sum of £888,888 to the Portuguese Government. Along with many others, these companies were short-lived speculative schemes and, when they were wound-up, left the Treasury in a critical situation\(^3\). The formation of these tax monopoly companies was considered as an attempt to appease the growing protests of most of Cabral's supporters, as well as a suitable way to return favours for their support in defeating the more radical Septemberists. The outcome of Cabral's initiative, however, was widespread speculation in that of the £7.5 million nominal capital which was offered by the monopoly companies for public subscription, only one third was taken up and paid-up\(^4\). Moreover, the flotation of the companies and their non-fulfillment of the various and important clauses which were included in their contracts signed with the Government revealed a substantial degree of corruption among government officials\(^5\). This led to an increase in taxes which resulted in growing popular discontent. Strong government and rising taxation produced a serious social conflict which forced Cabral to resign in May, 1846 and soon degenerated in yet another Civil War. Once again the various factions of the ruling class had to resort

\(^1\) Marques, op.cit., p. 97.
\(^2\) Platt, op.cit., p. 4.
\(^3\) Anonymous, A Regeneração e a Reacção; resumo histórico dos acontecimentos de Portugal em 1851 dedicado à Ilustração Contemporânea, e ao juízo imparcial da posteridade. Por um observador atento e consciencioso (Lisbon, 1851), pp. 35-36.
\(^4\) Ibid, p. 37.
\(^5\) According to Platt, "Hughes, a British resident in Portugal", later told Cabral that "he was aware of the corruption of the four years of Cabral's administrations"; op.cit., p. 4.
to violence to settle their affairs.

At the height of the war, in the spring of 1847, Portugal's financial situation was desperate because of the following factors. First, the unfulfilled servicing of the debt contracted in England in the 1830s to finance the opponents in the Civil War of 1832-34 (Liberals and Absolutists), which amounted to about £10 million, "80 per cent of which, supposedly, was held in Britain". Second, there was an urgent need for fresh money to assist the Government in the current Civil War, and third, the Oporto Customs House was in the hands of the rebels which prevented the Government from collecting duty taxes. Further, the situation became graver in late June when, due to the war, taxes and contributions were now two years overdue. Finally, the series of financial crisis of 1847 followed by the European revolutions of 1848 adversely affected the ability of the Portuguese Government to find financial assistance on the European money markets. London remained the only place open to Portuguese loans and, not surprisingly, the Portuguese Foreign Minister, Count Tojal, appealed strongly to Baring Brothers for them to become the Financial Agents for Portugal on the markets of London, Paris, and Amsterdam. This English financial house, however, declined the invitation, partly because they had not yet received £106,000 out of the £140,000 they had lent to Portugal, and partly because they first "wished to see the establishment of order and tranquility in this country".

1. Ibid, p. 3.
2. BBP, Ms 18,321, HC 14.5.11., Count Tojal to Baring Brothers, 19 April 1847. Between May, 1846 and April, 1847 no less than seven Cabinets were forced to resign.
3. Ibid, Count Tojal to Baring Brothers, 2 July 1847.
4. Ibid, 28 February 1847. See also the Oporto newspaper Estrella do Norte (5 April 1847). As Platt rightly observed this was due to the fact that "during the 1830s and '40s Portuguese stock, like Spanish, became a favourite speculation on international markets, a focus of gambling among 'bulls' and 'bears' and the more credulous investors"; op.cit., p. 4.
5. Ibid, 30 March 1847.
The financial condition of the Portuguese Treasury must have been very critical as Tojal literally begged Baring Brothers "to save this country from the dreadful consequences of a total suspension of its payments, until order can be reestablished, the Queen's authority reinvested all over the country, and the revenue can be collected in the usual way". Baring's refusal to act as Portugal's financial agents for at least the war period frustrated Tojal's objectives and left him with no alternative but to press them for some money, reminding them that "the present disturbances" were due "most likely to British interference". Baring Brothers, however, maintained their position and appeared very little disposed to make any further advances, at least during the war. With no further trumps to play, Tojal made his last and pathetic move - he offered the country as a guarantee: "Good Heavens, is Portugal with all her resources and Colonies not good for a temporary loan of £300,000".

The end of the war in the summer of 1847 did not clear the political atmosphere; Saldanha resigned, Costa Cabral resumed his premiership and the old order was reestablished. However, political intrigue persisted, fuelled by the critical financial situation in which the public debt was estimated at "twelve times the amount of [Portugal's] revenue", and "the relaxation of authority [which] enables so large a proportion of the Community to evade or to neglect the payment of their state contributions". In a conversation with Franzini, a former Portuguese Minister of Finance, held in May, 1849 Seymour, the British Minister at Lisbon, realised the extent to which corruption was embodied in the Portuguese administration and the danger to British bondholders' interests if the situation continued. Seymour reported to London that the ex-Minister had openly confessed that "we are robbed and our affairs are mismanaged by a set of rogues and thieves (un tas de cocquins et de voleurs) who are charged with the collection of the

1. Ibid, 9 May 1847.
2. Ibid, 30 March 1847. This was particularly true as Saldanha, then acting as Prime Minister and fearing mounting popular insurgence, asked both Spain and England for help. The former invaded Portugal by land and the latter's fleet sieged Oporto; see Marques, op.cit., p. 100.
3. Ibid
4. PRO, F063/704/169, Seymour to Palmerston, 7 May 1849.
5. Ibid. In order to increase its political clientèle the Government used to remit to certain persons the payment of their taxes; PRO, F063/801/64, Howard to the Earl of Clarendon, 26 April 1856.
Franzini further mentioned the case of the collector of the revenue of the Lisbon suburban hamlet of Benfica who was known to have stolen £2,600 but the attempts to take him to court were blocked, because "he is the right handman of the Marquis of Fronteira and he conducts the elections [in Benfica] according to the Marquis's directions". Given Britain's position as Portugal's largest creditor, Seymour further observed that he had the right to complain of the interference of the Marquis of Fronteira because "these election intrigues destroy revenue and credit" while "English subjects are defrauded".

Political confusion at the turn of the 1840s enabled Saldanha to mount yet another revolution which returned him to power in 1851. At the beginning of the 1850s the public credit of Portugal was very poor; it was particularly bad in England where "it was calculated (by the bondholders) that they had experienced a cash loss, exclusive of compound interest, of £6,200,000 on a total debt of £10,000,000". By 1851 Portugal was a distressed country, whose Treasury was perpetually empty, whose expenditure was determined autocratically, and whose national vitality seemed corrupted and declining. Future changes would not alter these structural aspects of Portuguese society. Instead, politicians discovered a more suitable and rewarding way with which to gain power - they gave up war and confined themselves to political intrigue and debate.

2.2 THE MAINTENANCE OF TRADITIONAL TRANSPORT

One result of the social upheaval and political confusion of the first half of the last century was that very little financial resources were available for either the improvement of transport or the introduction of new means of communication. Modernisation necessitated, of course, the modification of many traditional values, particularly the fatalistic acceptance of the world as it existed and the consequent attitude of the inability to alter the basic features of the Portuguese economic structure.

1. PRO, FO63/704/181, Seymour to Palmerston, 17 May 1849.
2. Ibid.
Further, the insecure exercise of power and authority and the rigid class structure proved to be insurmountable obstacles for the development of the domestic market and, consequently, the breaking away from traditional forms of transport. No matter how desired, the improvement of transport and the development of new technology, namely the application of the steam machine to maritime but above all inland transport, seemed to be beyond the reach of the Portuguese society during the first half of the 19th century.

It is important to observe, however, that inland transport only became a significant component of the Portuguese socio-economic structure from the 1870s. The discoveries and subsequent colonial expansion in the 15th and 16th centuries, and the diversion of the economy to maritime and transcontinental trade produced far-reaching long-term consequences in a small country with a population of no more than one million. Between the 15th and the 18th centuries the core of the economy shifted from European Portugal to India in the 16th century and then to Brazil in the late 17th, 18th and early 19th centuries. This structural change shifted the attention of the Crown and the savings of aristocrats, merchants and, but to a lesser extent, common people to overseas. The interior of Portugal either stagnated throughout these centuries or, if it showed any signs of development, it was not sufficient to alter the new balance. In the early 18th century, Dom Luiz da Cunha, a former Portuguese Minister in Paris and a respected man in government circles, was bold enough to suggest that the right decision was to move the Court to Brazil and appoint a Vice-King to govern Portugal. Although this was considered as a purely utopian dream, Da Cunha rightly pointed out that Portugal was merely "a plot of land" and that it needed "all the riches from Brazil". Thus, it was reasonable and advisable for the King to settle on Rio de Janeiro, "which in a short time will become more oppulent than Lisbon", because "it is more suitable and safer to be where one has more than what one requires than to be where one has to wait for what one needs". Far more recently, Fisher, in a study of English merchants in 18th century Lisbon, found no sign of any impact of internal trade upon the fortunes of the business community established in Lisbon.

2. Ibid, pp. 211, 212, 218.
The loss of Brazil in the early 19th century resulted in fresh structural change in Portuguese inland transport. The consequences to Portuguese society as a whole have already been stressed; it will now be sufficient to observe that, despite the turbulence of the 1830s and 1840s, the very first attempts to modernise inland transport did occur then. They did not succeed, partly because of the political situation, partly because of their purely speculative nature. But it is important to note that they only took place because for the first time Portugal was compelled to develop its own (European) territory, rather than to exploit the rump of its Empire.

Once Brazil had gone, the adverse effects of a deficient transport network emerged to their full extent. In his Sketches, which have already been referred to, James Alexander commented that "the want of good inland conveyance is severely felt, and if the country were opened up by roads and canals the produce could be afforded at a much lower price. The carriage to Lisbon from some inland districts, of wines, &c. comes to as much as the original cost of the article". In April, 1850 Lopes de Mendonça, who was to become one of the high-priests of the Fontismo, wrote in a Lisbon newspaper: "An increase in agricultural produce is, at times, a factor of ruin to property because its consumption is limited by the difficulties of communications".

A brief survey of Portuguese transport before the coming of the railway will indicate the economic conditions of the domestic market and the potential demand for new modes of transport. In his pioneering study of Portuguese price fluctuations, Vitorino Magalhães Godinho, in order to establish reactions of the national (as well as local) market to price changes considered three economic areas within Portugal, which he called "ensembles géographico-économiques". Although such classification is naturally open to

1. Alexander, op.cit., p. 207.
2. See chapter 3, p. 103.
3. Eco dos Operários (28 April 1850). In the opening lecture on the inauguration day of the Agrarian Institute of Lisbon, José Maria Grande, the director of the Institute, focused his attention on the drawbacks of inland transport: "Wine, cereals, olive oil and fruits are already an important item in our exports; but they could be far more important, if we had a system of rapid and easy communications"; MOPCI (January 1854), "Discurso pronunciado por ocasião da inauguração do Instituto Agrícola de Lisboa, pelo Director do mesmo Instituto, o Conselheiro José Maria Grande", p. 21.
further debate and research, particularly as far as the boundaries of the three areas are concerned, it is by no means irrelevant for the purpose of the following survey. The merit of Godinho's ensembles is that they combine the geographical factor with the economic conditions of the market within its limits and those of adjacent areas, both of which are basic features for the future shape of the inland transport system.

"Quand on envisage l'histoire économique du Portugal à vol d'oiseau, on parvient aisément à distinguer trois ensembles géographico-économiques. Nous avons d'un côté les villes côtières telles: Viana do Castelo, Porto, Aveiro, Lisbonne, Setubal, Faro, liées au trafics coloniaux et internationaux, ports de pêche et de marine marchande, tantôt bourdonnantes d'activité, tantôt assoupies par la concurrence triomphante des grands centres. Second group: les villes de l'intérieur soit à développement industriel, telles Guimarães, ses toiles de lin et sa coutellerie; Covilha et ses lainages, Coimbra et sa poterie, soit au cœur commercial battant en multiples pulsations d'échanges qui rayonnent au loin - on peut citer Évora, le gros marché de blé, Santarém, Viseu. Enfin, les localités perdues au-delà des montagnes, soustraites à l'influence de la mer et ne participant qu'à peine à la circulation terrestre ou fluviale; isolées, elles conservent une vie plutôt archaïque: c'est le cas de Bragança, Guarda, peut-être même de Braga."

Each of the three ensembles was served by a primitive transport network while communications from one ensemble to another were minimal and in some places practically non-existent. The quality and frequency of transport decreased from the coastal areas to those of the interior, so that "the best way to travel in the interior of the country [was] by mule or horse". By the end of the 1840s the coastal areas relied largely on coastal shipping with the exception of a few roads to adjacent areas. River navigation, rather than road transport, maintained the insecure and erratic communications with the interior and shipping was largely confined to barge traffic on the longest navigable river course. Where river navigation

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1. See David Justino's further contribution to this question, through the establishment of polarised regions. A very short reference can be seen in chapter 7, p. 318, footnote 1.
was not feasible, the transport of both people and goods was forced to rely on more traditional forms of conveyance - bullock carts and the almocreve (muleteer), walking side by side with his mule trains which provided the only link between the mountainous provinces of the northeast and the markets of the coast. Albert Ménadier summarised the situation: "Sa situation exceptionelle, ses villes maritimes, la difficulté de ses communications avec l'Espagne, tout contribuait à lui faire trouver dans la voie de mer le moyen le plus sûr et le plus direct de correspondre avec l'Europe. Mais, comme conséquence, l'activité et les transactions se concentraient dans quelques ports, tandis que le reste du royaume, rencontrant les mêmes obstacles à l'écoulement des produits qu'à la acquisition des objets de l'importation, restait stationnaire dans le progrès, faute de débouchés".

The transport of grain from the producing areas of the Alentejo to Lisbon provides a good example of the interrelation between the various modes of transport. At the beginning of 1845 the Governor of the large district of Beja, also the largest producing area in the province, reported to Lisbon: "The farmers of this district have their grain in their granaries without a chance to extract it, and I fear that within a short time they will not be able to till their fields. What is now happening with respect to wheat is equally true with respect to olive oil and other agricultural produce of the country. It is obvious that the difficulty of transport and the subsequent exaggerated cost form the main cause to this stagnation of produce, which will never compete in the market at Lisbon, or in those of other ports, for the benefit of the farmer. Thus, it is of the utmost importance that, with no further delay, a road is built from Beja to Porto d'El-Rei, the spot where the Sado reaches the end of its navigability; this road to be built in such a way that it will be passable in all seasons of the year, in order to avoid the situation with which we are now confronted namely that it is not possible to use the existing track throughout the winter, autumn and a good part of the spring. The produce conveyed to Porto d'El-Rei will be trans-shipped there in barges which will sail northbound to Setubal, and Lisbon, and this quality of transit facilitates, as it is obvious, the conveyance of produce to the great market of Lisbon".

2. AHMOP, MR 2D - IR; 2; L3 1-153, José Silvestre Ribeiro (Governador Civil de Beja) ao Ministro e Secretário de Estado dos Negócios do Reino, 1 February 1845.
overall picture of the movement of grain from the Alentejo to Lisbon has been given by Albert Silbert in his massive study of southern Portugal at the turn of the 18th century. Grain produced in the southern province of the Alentejo came from the northeastern part of Portalegre, Elvas and Estremoz, the central district of Evora, and the more southerly areas of Cuba, Beja and Mértola. From each of these grain-producing centres to the consuming market of Lisbon a complex web of traditional transport can be easily detected. According to Silbert, "le trafic des céréales empruntait un système de routes commandé par l'existence, aux lisières de la province, de quelques voies navigables [the rivers Tagus, Sado and Guadiana]". The main outlet in northern Alentejo was the town of Abrantes on the Tagus to where 180 to 200 bullock carts conveyed grain from the neighbouring areas of Portalegre, Campo Maior and Castelo de Vide; thereafter, barges transported the grain down the river to Lisbon. Part of the grain produced in Evora was also conveyed by cart to the south bank of the Tagus (Aldeia Galega) and then across the river by barge to Lisbon. The southern producing areas (and Evora to a certain extent) had a more circuitous, strenuous and costly system to convey their produce to Lisbon. Grain was carried to the river Sado by means of "14 convois organisés (quadrilhas de carretas) qui transportent à chaque voyage 210 muids de céréales" and then upstream to Setubal by barge where it was trans-shiped to larger boats which sailed to Lisbon, the final destination. But the Algarve, too, was an important outlet for the grain from southern Alentejo: "Le blé de l'Alentejo est en effet régulièrement exporté vers l'Algarve". From Beja and Mértola grain was conveyed to the river Guadiana by cart, then went downstream by barge to Vila Real where it was transhipped, then proceeded along the Algarve coast and northbound to Lisbon, via Setubal.

2. Ibid, p. 534.
5. Ibid, p. 539.
Map 1. Transport of Grain in Southern Portugal before the Railways

Source: Silbert, op. cit., II, p. 540.
Silbert's study illustrates perfectly not only the inadequacy of road transport and the intimate connections within the traditional forms of transport, but also (although this is not quantified by Silbert) the high proportion of freight in the total cost of agricultural produce. Not surprisingly, the British Minister at Lisbon reported to London in May, 1849 on the conditions of grain transport: "The exportations of corn would be likely even this year to be very considerable if any facilities existed for communication between the interior and the coast. As it is I have heard it stated by one of the corn dealers of Lisbon that he finds more advantage in importing grain from the Black Sea than causing it to be sent over the Tagus from the Alentejo."

The absence of an articulated transport network delayed the formation of a national market, with various staples having only a local or regional economic significance. For pre-industrial economies Jean Meuvret noticed that the current system of transport was an obstacle preventing the enlargement of local markets and their subsequent integration into the national market. In his classic study of 18th century Portuguese industry Jorge Borges de Macedo observed, rightly, that Portugal "cannot be defined as one market but as an aggregation of markets of different integration according to their own produce. These, in turn, are determined by the means of communication. There were goods that could afford both the cost and time of transport and still remained marketable. They formed the products of national dimension, both for export and internal consumption... Other products had a strictly local economic significance, either because they could not afford the cost of transport to the consuming markets, or, because their deterioration due to transport itself made them useless, or, because they were produced in sufficient quantity in the towns or in their surroundings."

1. PRO, FO63/704/171, Seymour to Palmerston, 8 May 1849.
3. Macedo, op.cit., pp. 130-31. Macedo focused upon the 18th century but there are no reasons why his conclusions cannot be extended forward, at least until the consolidation of the rail network.
2.3 INLAND TRANSPORT

At the present stage of research into Portuguese road transport history, available data on road traffic is so scanty and unreliable that it is impossible to have an overall picture of the degree of mobility within areas of the Portuguese domestic economy. The nature of this survey, then, has to be confined to a qualitative approach with very limited quantitative information, both in volume and area covered. One thing, however, appears to be certain: inland transport developed very slowly during this period and although road construction progressed remarkably after the 1850s, there were no dramatic changes in the volume and structure of traffic. Large tracts of Portugal remained isolated and unaccessible and only emerged as a segment of a modern society when the railway arrived after the 1860s. In the more remote areas of the country, however, this only happened in the 1930s with the spread of the motor bus network.

In the early 19th century the old medieval, even roman, tracks provided the most widespread network for travel. In the northern Minho province, for example, the only road passable was the roman track which had been built to connect Braga (Braccara Augusta) with Roman France (Galia). The more densely populated areas had narrow dirty roads, more often than not rough and unusable after heavy rains. Over them, horses, carts, coaches, and mule trains passed.

1. Artur Teodoro de Matos Ph.D. thesis on transport proved a frustrating and disappointing exercise. When it was published its author, unfortunately, did not review the contents of his original study and it remained but an exhaustive collection of important primary sources which still wait for a more profound and comprehensive treatment. See Artur Teodoro de Matos, Transportes e Comunicações em Portugal, Açores e Madeira (1750-1850) (Ponta Delgada, 1980). For Spain, Ringrose suggestive study was a major step ahead on the conditions of road transport and road traffic in large areas of the peninsula. See David Ringrose, Los Transportes y el Estancamiento Económico de España (1750-1850) (Madrid, 1972).

2. For an introductory approach of road traffic in the 1930s see António Lopes Vieira, "Os Transportes Rodoviários em Portugal, 1900-1940", RHES, n° 5 (January-June 1980), pp. 57-94.

From the 1780s there were a few projects to improve road construction, but they were either cancelled for shortage of funds or construction was abandoned because of political instability. Further, the objective was to carry royal mail rather than responding to a potential demand of traffic. In 1788, for example, a concession was granted to the Post-Office Master General for the construction of a road from Lisbon to Coimbra. Service by stage-coach between the two cities started in September, 1798 but the poor construction of the road, coupled with the insignificant volume of traffic, made it a short-lived scheme. Fares were raised from £2 7d, to £2 7s, but the service was abandoned in May, 1804 when the aggregate loss amounted to £15,865. In the aftermath of the Liberal Revolution of 1820 there was yet another unsuccessful scheme, although no serious improvement in road construction had occurred. In November, 1825 John Milley Doyle who had come to Portugal as an army major to fight the French invaders, was allowed to operate a stage-coach service on the road from Lisbon to the spa of Caldas da Rainha, some 50 miles north of the capital. The concession, which was to last for 14 years, was a complicated service and illustrated once more the inadequacy of road transport and the intimate connection between river navigation and inland conveyance, with single fares amounting to no less than £1 4s 1d. Moreover, the service was purely seasonal and there were no northbound connections to Coimbra and Oporto. Although the concession was granted in 1825, the service only started in June, 1826 and terminated in 1827 with Doyle being arrested for his sympathies towards

2. Ibid. Shortly after the Liberal Revolution of 1820, Manuel Fernandes Thomaz, reading his manifesto to the Portuguese Parliament, observed: "... each of you will accept the state of carelessness which distinguishes [the roads in this country]. Our negligence has reached such a stage that we even ruined the only good road, a rather magnificent one, that we had built at such a heavy cost, from the capital to Coimbra"; José Tengarrinha (editor), Manuel Fernandes Tomás e a Revolução de 1820 (Lisbon, 1974), p. 59. Another unsuccessful scheme was launched in March, 1807 to link Lisbon with the suburban hamlet of Belém (Ferreira, op.cit., p. 81).
3. Once the Peninsular War was over, Boyle returned to England in 1815 but came back to Portugal in 1823 as the representative of an English group of capitalists who applied for a concession for road transport between Lisbon and Oporto and from Lisbon to the frontier of Spain at Badajoz (Ferreira, op.cit., pp. 76-77).
Map 7. John Doyle's Stage-Coach Service to Caldas da Rainha in 1825
the liberal cause and expelled from Portugal\textsuperscript{1}.

In the early decades of the last century, and for reasons which have been already described in this chapter, the road mileage available and the dimensions of traffic were very modest with the vast proportion of the country remaining in a state of nearly total isolation. Further, with the current political situation there were no signs of launching an overall policy of economic recovery, let alone one of transport development. In his famous speech to Parliament on the state of the Portuguese nation Manuel Fernandes Tomás, one of the leading revolutionaries of 1820, merely complained of the lack of public conveyance and the urgent need for road construction, because "the cost of freight very often exceeds the value of the produce"\textsuperscript{2}. Concessions for road construction were granted by the Government after 1837 but the works did not progress because the contractors were simply money jobbers, rather than entrepreneurs\textsuperscript{3}. Although no progress in road construction occurred, the connection between the two Iberian capitals was secured by the end of the 1820s. Again, this was mainly a mail service ranking fifth among the six first class mail services in Spain\textsuperscript{4}. The service was operated by a Portuguese company, Francisco de Paula Gomes Rollo & Companhia, with the journey lasting 36 hours and single fares ranging from £5 to £6\textsuperscript{5}. The amount of traffic was certainly very modest and although the company received a government subsidy of £2,000 per year the service was abandoned in February, 1831\textsuperscript{6}.

\begin{itemize}
\item[Ibid, pp. 71-75.]
\item[Tengarrinha, op.cit., p. 60.]
\item[Anonymous, A Regeneração e a Reacção ..., p. 59.]
\item[Francisco Xavier de Cabanes, Guia General de Correos, Postas y Caminos del Reino de España (Madrid, 1830), p. 36. The other first class mail services were: Madrid to France via Irun; Madrid to Barcelona via Zaragoza; Madrid to Cartagena; Madrid to Cádiz; and Madrid to La Coruña.]
\item[Frederico de Quadros Abragão, Caminhos de Ferro Portugueses - esboço da sua história (Lisbon, 1959), pp. 98-100.]
\item[Ibid, p. 101.]
\end{itemize}
The Civil War of 1832-34 caused yet further stagnation in the development of both road construction and road traffic. Only with the coming to power of the Chartists in 1842 was there a new approach to the road question. But the nature of government policy made it a short-lived, inefficient, speculative and costly arrangement. Concessions for road construction were granted by the Chartist Government to a handful of Portuguese and foreign contractors, the most important being the French Lavergne, Dorsaz, Pierre Pezarat, Louis Lebois, and the Count Claranges-Lucotte. Their lack of funds led to the concessions being either cancelled by the Government, abandoned before the works were started, or subcontracted to larger construction schemes, thus showing their speculative nature. Very rarely were the envisaged works completed and when this occurred the construction was very poor with serious technical shortcomings. The first company to apply for a government concession was the Companhia das Estradas do Minho which was founded in September, 1843 with a share capital of £55,555. Originally, the concession had been granted to Claranges-Lucotte in August, 1843 who later subcontracted the works to a group of three capitalists - Vicente Gonçalves Rio Tinto, José Inácio Seixas and José Maria Eugénio de Almeida. These, in turn, founded the company whose object was to improve the roads from Oporto to Braga and Guimarães, and between the latter town and Braga, and to establish a road service by stage-coach, according to the original concession granted to Lucotte. The company, however, did not succeed in carrying out the envisaged works for lack of funds (two-thirds of the capital remained unpaid) and the concession was passed on to another company in June, 1845.

The Companhia de Obras Públicas de Portugal founded in December, 1844 became the most notorious speculative and fraudulent achievement of Cabral's Government in the mid-1840s. The object of the company, which had a nominal share capital of 20 million Reis (£4.4 million), was "the under-

1. Matos, op.cit..., pp. 188-196.
2. Ibid, p. 196.
5. Ibid.
6. Anonymous, A Regeneração e a Reacção..., p. 36.
taking of all great works of public improvement, to be devised as a pro\
fitable investment of money, offering also to advance with the same view, the
capital represented by any annual sums which the Government or the Cortes
[Parliament] may destine to that object".[1] More specifically, the company
was to be involved in the construction of all roads and railways everywhere
in Portugal, the ringroad and the Public Library in Lisbon, the Customs Hou­
se in Oporto, and the new Bar at the mouth of the river Douro, with works to
start within 12 months[2]. The directors of the company were members of the
rising bourgeoisie which had emerged victorious from the Civil War of
1832-34 and formed a strong financial support of Cabral and the Chartist
Party[3]. They were all involved in the other speculative financial schemes
which characterised Cabral's short tenure of power and one of them, José
Maria Eugênio de Almeida, became one of the wealthiest Portuguese capita­
lists of the last century, investing heavily in railways in Portugal and
Spain, and dealing with state bonds through the London Stock Exchange and
the Paris Bourse[4]. When the names of the directors were disclosed to the
public, Howard, with his usual acute eye on Portuguese politics reported
to London: "I am extremely distrustful of the soundness of the policy of
giving impulse to such associations, founded upon such a monopolising and
sweeping principle, instead of the mature consideration of the specific
works they are to undertake. The parties who figure as the directing mem­
bers represent jobbing money speculators; and there can hardly be a doubt
but that either the Government or the public, in a pecuniary sense, will
be the victims"[5]. Howard was right in his lack of confidence in the promo­
ters and directors of the "monster company", as it became to be known in
English circles related to railway schemes in Portugal in the mid-1840s.

1. PRO, F063/589/268, Howard to the Earl of Aberdeen, 29 December 1844.
3. The directors were Carlos Morato Roma, Francisco Ribeiro da Cunha, Joa­
quim Honorato Ferreira, José Maria Eugênio de Almeida, Manuel Cardoso
dos Santos, Manuel Gomes da Costa São Romão and Thomaz Maria Bessone.
4. According to Prof. Jaime Reis who is preparing a biographic study of Jo­
sé Maria Eugênio de Almeida.
5. Howard to the Earl of Aberdeen....
In fact, the whole affair proved to be very shady. First, neither the memorandum of association nor the statutes of the company disclosed the nominal value and number of the shares issued. Second, while the share capital amounted to £4.4 million, only £1.8 million were to be issued and paid in instalments every three months, of three per cent each, with the exception of the first which was to be five per cent. The issue of shares being therefore limited to £1.8 million, and the first instalment being no more than five per cent of that amount, this instalment would not exceed £90,000. In four months time a second instalment of three per cent (£54,000) was to be received; and again in four months after that, a third, equal to the second. Thus, and assuming these instalments were all paid-up the company would have a total capital of £198,000 available for investment in the first year, and £160,000 in the following years. The annual instalments of £160,000, however, were an insignificant sum not only for the expected road construction but also because they were less than the annual road tax which averaged £222,222 to £244,444. As Howard put it, "thus the public will have to contribute annually nearly 1,000 contos [£222,222] for roads, in compensation of which the company will expend no more than 720 contos [£160,000]; binding itself to administrate these funds, to received interest on them, as though it had been disbursed to their full amount, and to carry into effect, under such favourable auspice, an extensive system of public works".

The course of events, however, ran otherwise. Of the £1.8 million originally issued only six per cent (of the original share capital of £4.4 million) was paid-up - that is, £266,666. This sum, however, was not yet available for investment as, according to the contract signed with the Government, the company was to deposit, on behalf of the Treasury, £66,666 in three per cent state bonds. All in all, the amount of available capital for such an ambitious scheme came to £200,000.

The fall of Cabral's Cabinet in the spring of 1846 put an end to the aims of the "monster company", although the state was compelled to refund its directors no less than £307,918 after an original claim of £323,129 had been refused. Of all the envisaged public works the company

1. Ibid.
3. Ibid, p. 77.
achieved none: not a single kilometre of railways had been opened to the public, let alone planned and built; there was no Public Library in Lisbon and the circular road around the capital had to wait another 10 years for its completion; the Customs House in Oporto was still functioning in its old premises and the Bar of the Douro would remain the focus of innumerable protests, reports and Parliamentary debates on the most effective means to make it navigable. Despite some attention paid to road construction in some parts of the country\(^1\), particularly in the northern Minho province\(^2\), it was generally accepted at the beginning of the 1850s that the only good road was the short Lisbon to Sintra stretch connecting two royal residences "and another just commenced to Oporto"\(^3\). In the end, it became obvious that the company was not a contracting scheme for public works; "it was merely a bank which administered the works on behalf of the State. Its object was to obtain the capital necessary for the works which it converted into roads, on the cost of which the State was to pay a six per cent interest on capital and allow the company a proportion of the tolls raised on the road"\(^4\).

With the failure of the Companhia de Obras Públicas de Portugal, whose accounts were finally settled in 1851, road construction remained in a limbo until the 1850s. Thereafter, it progressed remarkably with 2,377 kilometres being constructed between 1849 and March, 1866 at a cost of £2.6 million\(^5\). Twenty years later there were 8,680 kilometres of road in operation, of which 5,800 kilometres were first class roads and 2,880 kilometres second class roads. Still, there remained 8,301 kilometres to complete the original road network and it was estimated that it would take at least 50 years to complete it at an average cost of £1,142 per kilometre\(^6\).

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1. "On emploie 11,000 ouvriers dans la construction de nouvelles routes; 600 ouvriers sont occupés dans le vale d'Azambuja, et 2,000 dans les travaux publiques exécutés par le compte du gouvernement"; Anonymous, Le Portugal Avant et Après 1846. Notes pour servir à l'histoire contemporaine de ce pays (Paris, 1847), p. 68.
5. GBPP (1867-68), LXVIII, 3953, "Report by Consul George Brackenbury on the Trade and Navigation of the Consular District of Lisbon for the year 1866", p. 198.
The growth in road traffic accompanied the impulse given to road construction after the 1850s, but both remained largely dependent on the progress of railway construction. This is to say that, because of government policy, road transport remained second to the railway and it neither stimulated demand nor accelerated the formation of the national market. In the last century it appears that road transport formed neither its own network nor national or regional poles of sustained development. Traffic was concentrated in particular parts of the country, namely the coastal areas around Lisbon and Oporto, but even in a large, by Portuguese standards, city like Lisbon the nature of urban and suburban transport until the turn of the century was largely seasonal. Overall, a large proportion of road traffic originated from the railway once the lines were open to the public. More rarely, road transport represented a complement to river navigation in various areas of the country (the opposite situation being also true), or, an autonomous segment of transport which emerged from internal demand but soon was to be absorbed by the railway.

The Companhia de Messagerias e Malas Postas Portuguesas and the Companhia de Viação Portuense illustrate the general patterns of road transport schemes whose traffic was soon lost to the railway. To their credit, however, one should investigate whether did they not anticipate (and create to a certain extent) demand, thus providing the railway companies with a more mobile population. The first of the two companies was founded in October, 1855 with a share capital of £17,777 of which only £4,444 was to be originally issued at instalments of 10 per cent each at one month interval. The company operated the international route between Lisbon and Madrid through the Alentejo for which it received a daily subsidy from the Government of £9 10s. However, once the "eastern" railway line reached the frontier of Spain at Elvas the service was abandoned and the company was liquidated in 1863.

The Companhia de Viação Portuense lasted longer because it operated in an area of the country where the railway took a long time to arrive.

1. The situation would change dramatically in the 1930s with the motor-bus linking the farther areas of the interior with the more modern centres of the coast and replacing the railway as the dominant form of inland transport. See Vieira, "Os Transportes Rodoviários...".
2. For the structure of transport in Lisbon see António Lopes Vieira, Os Transportes Públicos de Lisboa entre 1830 e 1910 (Lisbon, 1982), pp.36-54.
ve on the scene. It was founded in Oporto in September, 1851 and initially operated a stage-coach service on the Oporto-Braga road. In September, 1856 the company signed a new contract with the Government and extended its network considerably: apart from the original service to Braga, which became a daily route, new daily services were established to Guimarães and Viana do Castelo. In 1860 the company employed 24 cars and 150 horses and mules for its services, the number of passengers rose to 18,788 and traffic receipts amounted to £6,289, on top of which a further £569 was received from the Post-Office for the conveyance of mail. The opening of the Minho railway to Braga put an end to the life of the company. In 1871 the contract with the Government was rescinded and the company's assets were put on sale fetching no more than £2,429. Although a new company was established in the same year - Nova Companhia de Viação Portuense - with a share capital of £20,000, this was not sufficient to offset the impact of the railway which soon covered the area and forced the company to fail. The Companhia de Diligências de Torres Vedras suggests an intimate connection between road and river transport, for it combined steam navigation on the Tagus from Lisbon to Alhandra and the stage-coach from there to the town of Torres Vedras.

Overall, before the creation of an integrated transport network in the 1870s through the development of the railway system, road transport developed very slowly covering only a very small portion of Portugal. As Forrester put it in the early 1850s: "The Government mails between Lisbon and Oporto are still conveyed on horseback at the rate of three miles an hour - that horses are never used for draught (except in the large cities, and only there for carriages) - that there is neither coach omnibus, nor diligence, nor even a carrier's cart in communication between

1. All information on this company was collected from Ferreira, op.cit., pp. 113, 121, 122, 123, 128, 129, 130.
the capital and the second city in the Kingdom - that there is no public conveyance of any kind throughout the whole country except in Lisbon and Oporto - that travellers can only move from place to place on mule or horseback, or in litteiras (sedan-chairs suspended between mules) - that with the exception of the vicinities of Lisbon there is hardly a carriage-road of twenty miles in extent proceeding from any one city, or point in the country - that in the interior not only are there no roads worthy of the name, but the very streets and thoroughfares are converted into mere nurseries for manure - and that the quickest and indeed the only mode of conveying heavy goods from one part to another is in bullock-carts, and, for light goods, on mules, or on the back of Gallegos [migrants from Spain Galicia]. In a word, half a day's journey in any direction from the cities of Lisbon and Oporto towards the interior will acquaint the traveller with the real state of the entire country.

In 1853 and 1854 the Council of Public Works ordered a partial survey of the various roads which still remains the only available source on road transport and road traffic. The roads on which the flux of traffic was monitored, however, did not cover the whole country. Apparently, the most significant drawback of the surveys was the insufficient coverage of road traffic in the Lisbon area, as the other areas not included were small fringes where economic life and the conditions of mobility were of low levels. Overall, it appears that the Portuguese population in the mid-19th century displayed a degree of mobility within the pattern of a pre-industrial society, with around 1.7 journeys per year per person.

---
Table 5. The Mobility of the Portuguese Population in 1853-1854

<table>
<thead>
<tr>
<th>People on the road</th>
<th>1853</th>
<th>1854</th>
</tr>
</thead>
<tbody>
<tr>
<td>On foot and on horseback</td>
<td>4,727,991</td>
<td>4,853,322</td>
</tr>
<tr>
<td>In a vehicle (a)</td>
<td>1,074,412</td>
<td>1,038,264</td>
</tr>
<tr>
<td>Total</td>
<td>5,802,403</td>
<td>5,891,586</td>
</tr>
<tr>
<td>Population (b)</td>
<td></td>
<td>3,471,199</td>
</tr>
<tr>
<td>Number of journeys</td>
<td></td>
<td></td>
</tr>
<tr>
<td>per person per year</td>
<td>1.67</td>
<td>1.69</td>
</tr>
</tbody>
</table>

Notes: (a) given the high percentage of bullock carts on total vehicles, it was assumed that each vehicle transported at least two passengers

(b) no census are available until 1864 and the 1850 military census was considered herein161.51.

There are, however, regional variations worth noticing. Three areas may be drawn which reveal different patterns of mobility.
<table>
<thead>
<tr>
<th>District</th>
<th>Area in sq. km (a)</th>
<th>Population in 1850 (b)</th>
<th>Density (c) = (2) : (1)</th>
<th>Travelling population (d)</th>
<th>Ratio of mobility (e) = (4) : (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viana do Castelo</td>
<td>2,238</td>
<td>187,791</td>
<td>83.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Braga</td>
<td>2,730</td>
<td>299,640</td>
<td>193.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oporto</td>
<td>2,338</td>
<td>368,913</td>
<td>155.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vila Real</td>
<td>4,451</td>
<td>183,894</td>
<td>41.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bragança</td>
<td>6,650</td>
<td>125,437</td>
<td>18.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aveiro</td>
<td>2,925</td>
<td>242,991</td>
<td>83.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Area 1</td>
<td>21,347</td>
<td>1,408,666</td>
<td>66.0</td>
<td>3,780,890</td>
<td>2.7</td>
</tr>
<tr>
<td>Coimbra</td>
<td>3,383</td>
<td>256,798</td>
<td>75.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Viseu</td>
<td>4,978</td>
<td>298,917</td>
<td>60.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guarda</td>
<td>5,562</td>
<td>193,632</td>
<td>34.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Castelo Branco</td>
<td>6,628</td>
<td>138,867</td>
<td>21.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leiria</td>
<td>3,490</td>
<td>138,414</td>
<td>39.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lisboa</td>
<td>7,603</td>
<td>455,217</td>
<td>59.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Santarém</td>
<td>6,864</td>
<td>154,830</td>
<td>22.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Area 2</td>
<td>38,508</td>
<td>1,636,675</td>
<td>42.8</td>
<td>1,113,350</td>
<td>0.7</td>
</tr>
</tbody>
</table>
Table 6. Road Traffic in Portugal in 1853 (continued)

<table>
<thead>
<tr>
<th>District</th>
<th>Area in sq.km (a) (1)</th>
<th>Population in 1850(b) (2)</th>
<th>Density (3) = (2) : (1)</th>
<th>Travelling population (c) (4)</th>
<th>Ratio of mobility (5) = (4) : (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portalegre</td>
<td>6,441</td>
<td>80,212</td>
<td>12.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Évora</td>
<td>7,097</td>
<td>83,286</td>
<td>11.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beja</td>
<td>10,873</td>
<td>121,333</td>
<td>11.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Faro</td>
<td>4,858</td>
<td>141,027</td>
<td>29.0</td>
<td></td>
<td>1.7</td>
</tr>
<tr>
<td>Total Area 3</td>
<td>29,269</td>
<td>425,858</td>
<td>14.5</td>
<td>370,957</td>
<td>0.9</td>
</tr>
<tr>
<td>Grand Total</td>
<td>89,124</td>
<td>3,471,199</td>
<td>38.9</td>
<td>5,802,403</td>
<td>1.67</td>
</tr>
</tbody>
</table>

Source: (a) MOPCI (October 1868), "Superfície do Reino de Portugal, avaliada em hectares, por districtos e conceitos", pp. 551-56;

(b) Relatório do Ministério do Reino apresentado às Câmaras Legislativas em 22 de Fevereiro de 1850 pelo Ministro Secretário do Estado dos Negócios do Reino (Lisbon, 1850), Documento Justificativo numero 8;

(c) Table, V pp. 51.
The north of Portugal (area 1) combined the highest density with the highest mobility. Apparently in this area there was concentrated the largest portion of road traffic although had there been a more complete coverage of the Lisbon area by the surveys no doubt its overall position would be different. The city of Oporto appears to have been the core of an enterprising micro-economy the limits of which extended to the southern districts of the Minho and, to a lesser extent, the southbound thoroughfare towards Ovar and Aveiro, and eastwards to the valley of the Douro up to the town of Régua. This area, with a density of 66.0, contained 40.6 per cent of the Portuguese population and represented no less than 71.8 per cent of the travelling population. The district of Oporto, where the coverage of road traffic appears to have been very complete, had a ratio of no less than 5.8 journeys. This area also had the highest number of vehicles on the road, four times as many as that of the other areas combined.

Table 7. Number of Vehicles on the Portuguese Roads in 1853-1854

<table>
<thead>
<tr>
<th>Number of vehicles</th>
<th>1853</th>
<th>1854</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area 1</td>
<td>432,744</td>
<td>383,958</td>
</tr>
<tr>
<td>Area 2</td>
<td>70,939</td>
<td>86,014</td>
</tr>
<tr>
<td>Area 3</td>
<td>33,523</td>
<td>49,145</td>
</tr>
</tbody>
</table>

The central part of Portugal (the area between the rivers Douro and Tagus, or area 2) seemed to have a less mobile population, although the adjustment of road traffic around Lisbon (particularly the vital northwest link with Mafra and Torres Vedras) would certainly change its relative position. But this area enclosed, too, large tracts of the country (the mountainous districts of the Beira province) whose population was practically isolated from the consuming markets of the coast. Overall, area 2 had a

1. In his pioneering and massive study on the formation of the national market David Justino pointed out, rightly, that the conditions of inland transport to the industrial area of Covilhã (in the Beira province) were such that no steam engines were used, the woollens manufactures being forced to turn to water-power, because of high freight costs; David Justino, "A Formação do Espaço Econômico Nacional - capitalismo, mercado e autoconsumo nas disparidades de crescimento regional em Portugal no século XIX", unpublished Ph.D. Thesis, quoted by courtesy of the author.
density of 42.8, contained 47.2 per cent of the total population, but only 21.1 per cent of the travelling population with a ratio of 0.7 journeys. Finally, the southern provinces of the Alentejo and Algarve (area 3) had the lowest proportion of the travelling population, although the ratio of mobility was very similar to that of area 2. Accounting for 12.2 per cent of the total population, with a density of 14.5, it represented no more than 7.1 per cent of the travelling population but the ratio reached 0.9 journeys. (Interestingly, a typical rural district like Faro, in which the coverage appears to be very reliable, had no less than 1.7 journeys, a ratio higher than the national ratio).

If the amount of traffic on the Portuguese roads is open to discussion, the cost of inland transport is also difficult to establish with any precision. The following table contains, perhaps, the very few available statistics with an acceptable coverage of a large portion of northern Portugal. It was drawn with the purpose of showing the striking gap between road and rail transport. It appears that a railway journey was reduced by 30 per cent compared with road, along the same route, and cut the cost by about 30 per cent less on shorter routes and 300 per cent on longer routes.

1. This reinforces the assumption that the tables on road traffic of both 1853 and 1854 reveal a poor coverage of the Lisbon area.
Table 8. Comparative Costs and Times of Journey Between Rail and Road Transport in 1888

<table>
<thead>
<tr>
<th>Route</th>
<th>Road Transport</th>
<th>Rail Transport</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Time spent on the journey in hours</td>
<td>Cost of the journey in Reis</td>
</tr>
<tr>
<td>Guarda-Mealhada</td>
<td>19</td>
<td>3,500</td>
</tr>
<tr>
<td>Guarda-Mangualde</td>
<td>10</td>
<td>1,700</td>
</tr>
<tr>
<td>Mangualde-Mealhada</td>
<td>9</td>
<td>1,800</td>
</tr>
<tr>
<td>Oporto-Famalicão</td>
<td>4</td>
<td>1,000</td>
</tr>
<tr>
<td>Oporto-Póvoa de Varzim</td>
<td>3 1/2</td>
<td>1,200</td>
</tr>
<tr>
<td>Oporto-Guimarães</td>
<td>6</td>
<td>1,500</td>
</tr>
<tr>
<td>Oporto-Barcelos</td>
<td>6</td>
<td>1,500</td>
</tr>
<tr>
<td>Oporto-Viana</td>
<td>9</td>
<td>2,500</td>
</tr>
<tr>
<td>Oporto-Valença</td>
<td>13</td>
<td>4,000</td>
</tr>
<tr>
<td>Oporto-Penafiel</td>
<td>4 1/2</td>
<td>1,500</td>
</tr>
<tr>
<td>Oporto-Regua</td>
<td>10</td>
<td>3,500</td>
</tr>
<tr>
<td>Oporto-Carregado</td>
<td>36</td>
<td>13,500</td>
</tr>
<tr>
<td>Oporto-Braga</td>
<td>6</td>
<td>1,500</td>
</tr>
</tbody>
</table>

Notes: (i) The cost of the journey by road is that of the stage-coach; the cost of the journey by rail is that of a second class ticket;

(ii) Whenever transport by diligence and stage-coach were given, only the latter was considered;

(iii) £ = 4,500 Reis

Map 5. Road Traffic in Portugal, 1853-54
II - Vehicles on the Road
The short period covered by the road traffic surveys, coupled with the shortcomings mentioned above, do not provide a basis for the structure of road transport and the movement pattern of the population for the whole of the last century. The available qualitative data, notwithstanding, appears to reinforce the basic features shown by the conditions of road traffic in both 1853 and 1854. After the 1860s it is possible that railway development (particularly in the Alentejo and Algarve) might have accounted for an alteration (the dimension of which is beyond the scope of this study) in the relative position of each survey area, although the high population density of the northwest probably maintained the area in a leading position.

2.4 RIVER AND COASTAL NAVIGATION

In a country that, for structural economic reasons, took a long time to develop an inland transport network, it is clear that the movement of both people and goods had to rely for a long period in the 19th century, on a more 'primitive' means of transport, one in which investment in infrastructure was minimal. River navigation was responsible for the flow of traffic from the interior to the coast. The historian Jaime Cortesão was the first to show the overall economic significance of river (and coastal) navigation in Portugal, which he dated from the 12th century. Cortesão noticed that the concentration of population along the main rivers and the western and Algarve coasts acted as the principal factor in the formation of a Portuguese separate identity. Further, he characterised Medieval Portugal as an agrarian society with a vital component based on fishing, shipbuilding and coastal trade - the latter, in turn, being the result of the flow of river traffic up and down stream.

In the first half of the 19th century river navigation, and coastal navigation to a certain extent, serviced the economic life of large areas of Portugal. For reasons which have already been referred to, the development of road transport did not mature, so rivers remained the basic form of conveyance to and from the interior, with roads securing the complementary link to the producing areas. The flow of traffic which originated from river navigation, however, did not spread significantly across the interior of Portugal. Unreliable navigation conditions, the permanent silting of bars, and the absence of canal building made for hazardous journeys and erratic traffic on most Portuguese rivers. In 1868, the French Revue Contemporaine, in a long article on the economic state of Portugal commented: "La prodigieuse accumulation des sables que l'incurie des siècles a laissé se former, les barres énormes qui se trouvent aux embouchures rendent inutiles ces moyens naturels de communication. Les voies fluviales sont devenues très imparfaitement navigables, et cet état a été l'une des principales causes de l'isolement complet de l'Espagne et du Portugal en dépit de leur voisinage et de leur communauté d'intérêts". The following table clearly illustrates the obstacles caused by river navigation. Overall, of the 885 kilometres of navigable water only 260 kilometres were permanently navigable (that is, all year round) to boats of over 40 tons. In other words, less than one third of the navigable waters of Portugal were able to carry goods by vessels whose unladen weight could be considered profitable for the traffic they were involved in. Vessels of lesser tonnage could only be used on 50 per cent of the navigable rivers, while only vessels of up to 10 tons unladen weight were able to exploit 60 per cent of the navigable network.

Table 9. Permanent (P) and Temporary (T) Navigability on Portuguese Rivers

<table>
<thead>
<tr>
<th>River</th>
<th>Extend of total navigation</th>
<th>Extend of navigation according to the unladen weight of the ships involved</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>40 tons</td>
<td>20-40 tons</td>
</tr>
<tr>
<td></td>
<td>P.</td>
<td>T.</td>
</tr>
<tr>
<td>Minho</td>
<td>45</td>
<td>-</td>
</tr>
<tr>
<td>Lima</td>
<td>40</td>
<td>-</td>
</tr>
<tr>
<td>Câvado</td>
<td>6</td>
<td>-</td>
</tr>
<tr>
<td>Ave</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>Douro</td>
<td>200</td>
<td>2</td>
</tr>
<tr>
<td>Vouga</td>
<td>50</td>
<td>-</td>
</tr>
<tr>
<td>Mondego</td>
<td>85</td>
<td>-</td>
</tr>
<tr>
<td>Tagus</td>
<td>160</td>
<td>80</td>
</tr>
<tr>
<td>Sado</td>
<td>70</td>
<td>60</td>
</tr>
<tr>
<td>Mira</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>Guadiana</td>
<td>72</td>
<td>52</td>
</tr>
<tr>
<td>Arade</td>
<td>15</td>
<td>-</td>
</tr>
<tr>
<td>Ria de Aveiro</td>
<td>50</td>
<td>35</td>
</tr>
<tr>
<td>Tagus Estuary</td>
<td>65</td>
<td>6</td>
</tr>
<tr>
<td>TOTAL</td>
<td>885</td>
<td>260</td>
</tr>
</tbody>
</table>

The situation was very similar on the two principal rivers of Portugal. On the Douro, Crawfurd reported to London in September, 1866: "The Bar at the entrance of the River Douro is generally considered to be one of the most formidable impediments to commerce in the world". He further commented that the condition of the bar was "particularly a source of delay and loss to ships under our own flag, which are more largely engaged in the trade with Oporto than those of all other foreign nations put together". Consul Crawfurd also made remarks on the poor level of entrepreneurship as works on the river "were stopped four years ago, partly from want of funds, partly from an absence of any encouraging expectation of bringing them to an early or useful issue. They have not been resumed". Consequently, Crawfurd categorically maintained that the bar of the Douro "in its present state offers ... almost as many impediments to commerce as it did fifty years ago, probably as it has done at all times". The conditions of navigability on the Tagus, too, presented serious shortcomings; two years later, Brackenbury, British Consul at Lisbon, observed in his annual report: "The foreshores of the river are silting up so fast that there is only landing-place where a moderately sized boat can land passengers at low water in the spring tides, and there are no docks or other facilities for loading or unloading the vessels which frequent this magnificent harbour, and which are therefore compelled to employ lighters for these purposes, always with delay and difficulty, and often at considerable peril to the cargo".

Although having low freight costs compared with road transport, the difficult navigation conditions on Portuguese rivers were a major impediment to the formation of sound riverine shipping schemes. Those scrutinised by the Council of Public Works during the second half of the 1850s and the early 1860s have the common feature of requiring an annual government subsidy. This, in turn, gives first, a clear picture of the scarcity of funds available for investment in these sort of schemes, and second, the uncertainty regarding the developmental prospects of traffic. Such was the case with the Companhia de Navegação do Tejo which, in July, 1855 applied for a

3. There is no certainty that all companies were recorded by the officials of the Council of Public Works, As in many other aspects of 19th century economic life Portuguese government statistics were by no means reliable.
government subsidy of £333 per year. The combination of the two factors mentioned above led to the condition of the boats employed by the company on the Tagus to be quite deficient: "Les petits bateaux à vapeur qui naviguent sur le Tage n'ont reçu aucune amélioration, malgré tous les avantages que pourrait offrir une entreprise bien dirigée". Another annual subsidy of 160,000 Reis (£356) was granted in April, 1864 to Pedro José Malheiro for river navigation on the Minho, from Caminha to Valença. Further, of the eight navigation companies registered at the end of 1858 only two were for river navigation; however, the Almadense (navigation on the Tagus) was not in operation, and the Despertadora (navigation on the river Minho) was in the hands of the receiver. Finally, these two companies had an aggregate nominal share capital of only 60 million Reis (£13,333).

The lack of canal building also contributed to the pattern of river navigation which has been described. Taking into account that north of the Tagus all rivers run east-west, parallel to one another, and south of the Tagus the plains of the Alentejo were suitable for the construction of a canal link between the Tagus and the Sado, canals could have provided a vital connection so spurring the growth of river traffic which would have both maintained existing and created new regional markets. Long-standing debates on canal construction continued throughout the 19th century but led nowhere. Thus, despite the complaints of the Oporto Commercial Association no canal linking the Douro with the Vouga near Ovar was built. A project to link the rivers Tagus, Sado and Guadiana by means of canals and railways was abandoned in the mid-1830s. The promising Companhia dos Canais de Azambuja on the Tagus, created in April, 1844 with a share capital of 20 million Reis (£44,444), of which the Government was to take 10 per

2. MOPCI (August 1855), pp. 43-44 and (May 1864), p. 477.
cent, because of the Civil War, was unable to complete the envisaged works and was forced to suspend operations.

Overall, until the coming of the railway and despite its shortcomings, river navigation predominated as the cheapest form of transport in Portugal. It is a matter open to debate whether roads had more traffic than rivers, because available data has a poor coverage of the country and is concerned with only a handful of years. However, it is hardly questionable that goods conveyed up or down the rivers had lower freight costs and subsequently lower wholesale prices than those sent by road. In the Minho, for example, the transport of agricultural produce, mainly grain and wine, to the coast by river cost ten times less than that sent by road on bullock-carts.

In his Essay, Forrester showed the important function of the Douro, both for the conveyance of wine down to Oporto and Spanish produce brought from Castille for re-shipment. For the latter, Forrester estimated that no less than £22,726 was collected by the Portuguese authorities in transit taxes between 1841 and 1850 on cereals, beans, flour, cork-wood, wool, skins, and fruits.

1. AHMOP, MR 2D-IR; 2; 3: 1-153, A Direcção da Companhia ao Ministro e Secretário de Estado dos Negócios do Reino, 27 July 1847. According to Matos (op.cit., p. 301) the works were not resumed and in 1873 the canal "was in a deplorable condition".

Table 10. Duties Charged on Spanish Produce Brought Down the River Douro in the Years 1841-1850 for Re-Shipment at Oporto (amounts in 000s Reis)

<table>
<thead>
<tr>
<th>Item</th>
<th>1841</th>
<th>1842</th>
<th>1843</th>
<th>1844</th>
<th>1845</th>
<th>1846</th>
<th>1847</th>
<th>1848</th>
<th>1849</th>
<th>1850</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transit Duties</td>
<td>356</td>
<td>1,024</td>
<td>327</td>
<td>100</td>
<td>319</td>
<td>4,633</td>
<td>456</td>
<td>1,048</td>
<td>799</td>
<td>533</td>
<td>9,595</td>
</tr>
<tr>
<td>Anchorage Duties</td>
<td>33</td>
<td>96</td>
<td>31</td>
<td>10</td>
<td>42</td>
<td>386</td>
<td>46</td>
<td>105</td>
<td>80</td>
<td>54</td>
<td>883</td>
</tr>
<tr>
<td>Boat Freights</td>
<td>1,979</td>
<td>5,542</td>
<td>1,731</td>
<td>573</td>
<td>1,731</td>
<td>20,156</td>
<td>2,777</td>
<td>5,515</td>
<td>5,640</td>
<td>2,380</td>
<td>48,024</td>
</tr>
<tr>
<td>Porterage</td>
<td>252</td>
<td>703</td>
<td>211</td>
<td>59</td>
<td>220</td>
<td>2,552</td>
<td>351</td>
<td>676</td>
<td>718</td>
<td>289</td>
<td>6,031</td>
</tr>
<tr>
<td>Ware Housing</td>
<td>126</td>
<td>413</td>
<td>111</td>
<td>37</td>
<td>110</td>
<td>1,282</td>
<td>175</td>
<td>347</td>
<td>359</td>
<td>146</td>
<td>3,106</td>
</tr>
<tr>
<td>Meterage</td>
<td>40</td>
<td>113</td>
<td>34</td>
<td>11</td>
<td>34</td>
<td>362</td>
<td>57</td>
<td>111</td>
<td>112</td>
<td>46</td>
<td>920</td>
</tr>
<tr>
<td>Duties on Reexportation</td>
<td>447</td>
<td>714</td>
<td>346</td>
<td>50</td>
<td>182</td>
<td>677</td>
<td>203</td>
<td>674</td>
<td>423</td>
<td>546</td>
<td>4,262</td>
</tr>
<tr>
<td>Duties on Consumption</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>45</td>
<td>747</td>
<td>12</td>
<td>-</td>
<td>66</td>
<td>870</td>
</tr>
<tr>
<td>Port Charges</td>
<td>575</td>
<td>1,794</td>
<td>564</td>
<td>188</td>
<td>562</td>
<td>6,540</td>
<td>894</td>
<td>1,770</td>
<td>1,820</td>
<td>744</td>
<td>15,541</td>
</tr>
<tr>
<td>Commissions</td>
<td>642</td>
<td>1,530</td>
<td>462</td>
<td>137</td>
<td>430</td>
<td>4,382</td>
<td>862</td>
<td>1,487</td>
<td>1,536</td>
<td>655</td>
<td>12,123</td>
</tr>
<tr>
<td>TOTAL</td>
<td>4,450</td>
<td>11,929</td>
<td>3,817</td>
<td>1,165</td>
<td>3,630</td>
<td>41,015</td>
<td>6,568</td>
<td>11,745</td>
<td>11,487</td>
<td>5,459</td>
<td>101,265</td>
</tr>
</tbody>
</table>

Source: Forrester, op.cit., p. 178, adapted
Note: 1£ = 4,500 Reis
Therefore, not surprisingly, the Douro was the main, perhaps only, outlet for the produce from the interior. In 1846, it was observed in a report issued to analyse the comparative advantages between river and rail transport: "The roads in the North are in such a deplorable condition that the river Douro, despite its dangerous and unreliable navigability, is the only means of communication between Oporto and the northern provinces". The report, further, stressed the volume and amount of traffic involved in the Douro navigation as shown in the following table.

**Table 11. Traffic on the Douro in 1846**

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount in 000s Reis</th>
</tr>
</thead>
<tbody>
<tr>
<td>54,975 pipes of wine brought down yearly from the Douro (province) to Oporto (x)</td>
<td>105,552</td>
</tr>
<tr>
<td>100 daily loads, 50 of which leave Oporto and 50 arrive at that destination</td>
<td>58,400</td>
</tr>
<tr>
<td>200 daily passengers arriving and leaving Oporto</td>
<td>109,500</td>
</tr>
<tr>
<td>Freight charged upon 400 million Reis that are sent up the river every year</td>
<td>2,495</td>
</tr>
<tr>
<td>Freight charged upon salt, iron and other metals</td>
<td>2,230</td>
</tr>
<tr>
<td>Freight charged upon olive oil, wool, grain vinegar and fruits</td>
<td>3,000</td>
</tr>
<tr>
<td>Total amount of money involved in the traffic on the Douro</td>
<td>281,177</td>
</tr>
</tbody>
</table>

Note: (x) annual average of the last five years

Source: AHMOP, Mr, 2D-1R, L3: - 155-249, no 156, Memória sobre a construção de um caminho de ferro do Porto à Régua de Luís Pinto de Soferal, 25 April 1846.

In the 1850s the role of the Douro as an international waterway was limited by the Spanish internal political situation and by fears, the nature of which remains to be clearly analysed, of the Portuguese Government of Spain's predominance over, and eventual annexation of, the Portuguese economy, if Spanish goods were given free and rapid access to the Portuguese ports of the western coast via the rivers which ran from Castille, na
mely the Douro, the Tagus, and the Guadiana. Portugal's fear of annexation ran in conjunction with its current submission to Britain on political affairs. Pakenham did not disregard the issue in his report to London: "The [Portuguese] Minister of Foreign Affairs told me a few days ago that it was his intention to propose to the Queen to answer the Spanish Government by saying that his Government would be guided in the ulterior management of the question [the international navigability on the Douro] by the opinion and advice of the British Government". This explains, perhaps, the delays on the part of both Iberian Governments in signing a commercial treaty in the 1850s. However, once the Douro railway was open to traffic after the 1870s, an Oporto syndicate, with Government support, engaged in railway building in Spain to connect the grain producing areas of Zamora and Salamanca with the railway, in order to make Oporto the outlet for Spanish produce.

The river Tagus never had the same international potential as a waterway as the Douro. However, the question of its navigability had been an open debate since the 16th century when Antonelli presented a project to King Felipe to enable barges to sail up the river to Toledo. Other projects were discussed but abandoned in the following centuries - Luís Carduchi's in 1641 and Simon Pontero's in 1755. In the early 19th century Cabanes revived the original plans and tried to persuade the Spanish Government to become involved in a scheme to clear the sand banks and establish a shipping line on the river. According to Cabanes, once the works were completed, then, the economic influence of the Tagus would cover an area of no less than 3,000 square leagues with a population of more than two million the fiscal charge of which would amount to about 100 million reales, for the benefit of the Treasury. He further estimated the costs of making the river navigable up to Aranjuez, wherefrom a canal was to be built in order to link Madrid and Lisbon, at 20 million reales. His efforts, however, were in vain and throughout the 19th century there was no intercourse between the two Iberian countries via the Tagus.

1. PRO, F063/956/63, Packenham to Palmerston, 18 April 1852.
2. See chapter 3, pp. 141-43.
3. Francisco Xavier de Cabanes, Memoria Relativa a la Navegación del Rio Tajo (Madrid, 1830), pp. 5-10.
4. Ibid, p. 44.
Although limited to a national dimension, the Tagus formed the main economic support for vast areas of central and southern Portugal. Following Silbert's study the following map presents a clear picture of the areas of geo-economic influence of the Tagus which was reinforced by the complementary role of road transport in districts other than the Alentejo. Large portions of the Beira-Baixa and Beira-Alta provinces relied on the Tagus as their outlet for agricultural produce and even industrial output. The northern and western fringes of the Beiras, however, also relied on the river Mondego. In a brief but suggestive study of coastal navigation Rui Cascão observed that the small and silted port of Figueira de Foz at the mouth of the Mondego exported agricultural produce from the Beiras - wine, brandy, olive oil, beans, oranges and timber - while in return codfish, linen, iron ore, fruit, and salt were sent up the river\(^1\).

In the 1850s, and for reasons which had more to do with the impact of railways on the cost of transport rather than any development policy of river navigation, several estimates were made of the volume of traffic on the Tagus. Moreover, from 1853 to 1860 the Council of Public Works ordered yearly, sometimes half-yearly, surveys of river traffic at economically relevant check-points. There were year to year alterations in the number of check-points, all of which were to the north of Santarém and so did not survey a significant share of the traffic, with the result that an overall estimate of the river-carried traffic cannot be established. Notwithstanding, some guidelines are worth noting. The first aspect to be stressed is the competition caused by the railway on long-distance routes, with the result that "after the completion of the line in the valley of the Tagus there will be no room for river navigation at great distances; all produce whose destination is farther than Santarém will certainly be shipped by railway"\(^2\). River navigation with any economic significance thereafter was restricted to cross ferry freight and to the conveyance of produce south of Santarém down to the mouth of the river at Lisbon. If, on the one hand, it was estimated that in the area above mentioned "navigation is easy and unexpensive",

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2. MOPCI, (March 1856), "Relatório do engenheiro Francês Monsieur Wattier sobre a construção de caminhos de ferro em Portugal", p. 90. On Wattier see chapter 6, pp. 259-60.
Map 6. The Geo-Economy of the River Tagus

Source: Gaspar, op. cit., p. 156
on the other hand, "the transport on the Tagus is erratic and slow in the summer and goods are subject to many more damages than if carried by rail". Accordingly, "the goods of great value on the one side, and the transport of heads of cattle and the products of immediate consumption such as fruits, cabbages, dairies, fresh meat, fish, etc., on the other, will look for the railway". In the 1850s, then, the prospects for shipping on the Tagus were particularly gloomy. In his contemporary survey of river navigation on the Tagus, however, Jorge Gaspar contradicted this forecast concluding that in several river ports north of Santarém (Abrantes, Barquinha and Constância among others), it was only in the 1930s with the development of the motor-bus network that river traffic lost its status, with some of the shipmasters becoming railwaymen or involved in the newly bus companies. But there was a decrease in the volume of traffic north of Santarém after successive sections of the "eastern" line were open to traffic. Between 1855 and 1860 river traffic fell by no less than 57.4 per cent to 21,802 tons but with sharp year to year variations.

Table 22. Volume of Goods Traffic on the Tagus Northward of Santarém (Abrantes, Vila Velha, Alvega), 1855-60

<table>
<thead>
<tr>
<th>Year</th>
<th>Volume of traffic on tons</th>
<th>remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1855</td>
<td>50,718</td>
<td></td>
</tr>
<tr>
<td>1856</td>
<td>26,731</td>
<td></td>
</tr>
<tr>
<td>1857</td>
<td>30,569</td>
<td></td>
</tr>
<tr>
<td>1858</td>
<td>18,547</td>
<td></td>
</tr>
<tr>
<td>1859</td>
<td>11,950</td>
<td>Second half only</td>
</tr>
<tr>
<td>1860</td>
<td>21,802</td>
<td></td>
</tr>
<tr>
<td>...</td>
<td>...</td>
<td></td>
</tr>
<tr>
<td>1865</td>
<td>15,007</td>
<td></td>
</tr>
</tbody>
</table>

Source: MOPCI (various years), "Mapas do Movimento da Navegação do Rio Tejo e Canal de Azambuja...".

1. MOPCI, (May 1859), "Relatório sobre os resultados da exploração do caminho de ferro de leste no ano decorrido desde o 19 de Novembro de 1856 até 31 de Outubro de 1857, acompanhado de 32 mapas estatísticos contendo os resultados principais da exploração daquele ano, feito pelo engenheiro João Crisóstomo de Abreu e Sousa em Maio de 1859", p. 183.

The overall volume of traffic was estimated by Wattier in 1856 at 80,000 tons; at no less than 40,000 tons in 1857 between Lisbon and Santarém by the Portuguese engineer in charge of the "eastern" line; at 239,000 tons by Thomas Rumball; and at no less than 290,000 tons by a railway committee appointed in early 1852 to survey the route along the river. There is a significant difference between Rumball's figures and those of Abreu and Wattier which deserve some attention. The survey of traffic held in 1854 for the area north of Santarém estimated a total volume of 61,445 tons involving no less than 6,444 ships. If Abreu's estimate of at least 40,000 tons south of that city is accepted, then, a total volume of traffic of about 100,000 tons is easily reached. It appears, however, that this is still an underestimate. Rumball's figures are based on the returns of the Lisbon Customs Houses (the Municipal and the Grande) which reinforces the assumption that he was closer to the real situation than his colleagues.

3. MOPCI, (December 1855), "Relatório enviado à Companhia Central Peninsular em 7 de Dezembro de 1852 pelo engenheiro Thomas Rumball", p. 354.
4. O Progresso Industrial (11 December 1852).
Table 13. Rumball's Estimate of the Volume of Goods Traffic on the Tagus

<table>
<thead>
<tr>
<th>Produce Brought Down the River</th>
<th>Volume in Tons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wine, vinegar, brandy, olive oil</td>
<td>41,500</td>
</tr>
<tr>
<td>Fresh meat, honey, wax, tallow</td>
<td>8,000</td>
</tr>
<tr>
<td>Straw, timber, coal</td>
<td>15,000</td>
</tr>
<tr>
<td>Skins, leather, miscellaneous</td>
<td>1,500</td>
</tr>
<tr>
<td>Fruits, cabbages</td>
<td>14,000</td>
</tr>
<tr>
<td>Cereals</td>
<td>25,000</td>
</tr>
<tr>
<td>Vegetables</td>
<td>3,000</td>
</tr>
<tr>
<td>Total produce controlled by the Municipal</td>
<td>108,000</td>
</tr>
<tr>
<td>2/3 of the produce controlled by the Grande which are shipped up the river</td>
<td>131,000</td>
</tr>
<tr>
<td>Total produce brought up/down the river</td>
<td>239,000</td>
</tr>
</tbody>
</table>

The survey of 1854 held by the Council of Public Works, although restricted to the ports north of Santarém, presents two important conclusions: first, there was no significant contrast in the volume of traffic handled between the ports of the north bank as opposed to that of the south bank, which reinforces Caspar's conclusions on the areas of influence north of the river, according to the map of page 69; second, it clearly showed a high proportion of grain, both as a percentage of total traffic and as a percentage of the total number of ships, conveyed through the ports which formed the headpoints of the inland grain routes from the Alentejo. This, in turn, reinforces Sibert's conclusion of the significance of the Tagus as an outlet for the grain produced in the northern districts of the Alentejo.
Table 14. Goods Traffic on the Tagus North of Santarém in 1854

<table>
<thead>
<tr>
<th>Town</th>
<th>Volume of traffic in tons (Imports + Exports)</th>
<th>Number of ships involved</th>
<th>Grain in percentage of total traffic</th>
<th>Grain in percentage of total ships</th>
</tr>
</thead>
<tbody>
<tr>
<td>Santarém</td>
<td>20,729</td>
<td>1,359</td>
<td>9.3</td>
<td>26.9</td>
</tr>
<tr>
<td>Chamusca</td>
<td>5,452</td>
<td>327</td>
<td>10.7</td>
<td>19.9</td>
</tr>
<tr>
<td>Barquinha</td>
<td>8,189</td>
<td>1,399</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Constância</td>
<td>2,337</td>
<td>404</td>
<td>31.8</td>
<td>46.0</td>
</tr>
<tr>
<td>Rio de Moinhos</td>
<td>985</td>
<td>276</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Abrantes</td>
<td>16,449</td>
<td>1,769</td>
<td>18.6</td>
<td>32.3</td>
</tr>
<tr>
<td>Alvega</td>
<td>5,520</td>
<td>810</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Vila Velha</td>
<td>1,784</td>
<td>100</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>61,445</td>
<td>6,444</td>
<td>16.3</td>
<td>19.2</td>
</tr>
</tbody>
</table>

Source: MOPCI (August 1855), "Estatística da navegação em diversos portos do Rio Tejo referida ao 2º semestre de 1853 e 1º semestre de 1854, feita segundo as instruções do coronel Manuel José Júlio Guerra superintendente das obras de melhoramento do mesmo rio", pp. 45-64; MOPCI (August 1855), "Mapa da navegação no rio Tejo relativo ao 1º semestre de 1855", pp. 81-90.

Briefly, river navigation was the predominant form of transport in pre-railway Portugal but lost its economic vitality once the railways came on the scene - this certainly appears to have been the case with regard to shipping on both the Douro and the Mondego. The navigation on the Tagus appears to be the exception to the rule, as it managed somehow to preserve its trading functions until the coming of the automobile.

Coastal navigation did not have the same importance as river navigation. The hazardous Portuguese coast - "à cause des vents du nord qui do
minent pendant la plus grande partie de l'année - and the difficult access, because of bars, to many of the harbours, resulted in it being an unreliable service with only modest financial resources. Further, the steamer took a long time to replace sail and when this finally occurred in the 1870s, the railway had already arrived at the principal ports of the coast so placing the steamer second to the train. There were, of course, exceptions and the pre-railway steam service which linked the two principal Portuguese cities from 1821 is a case in point. Consequently, there were not many companies engaged in coastal shipping and the troubled state of their affairs made them short-lived ventures, always relying on government subsidies. In 1859, the condition of the operating companies was as follows.

<table>
<thead>
<tr>
<th>Year of constitution</th>
<th>Name of company</th>
<th>Nominal share capital in £</th>
<th>remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1854</td>
<td>Algarviense</td>
<td>6,666</td>
<td>coastal navigation to the Algarve; in liquidation</td>
</tr>
<tr>
<td>1854</td>
<td>Llyod Lusitano</td>
<td>20,000</td>
<td>coastal navigation to the Algarve; not in operation</td>
</tr>
<tr>
<td>1855</td>
<td>Empresa Portuense</td>
<td>24,867</td>
<td>coastal navigation between Lisbon and Oporto</td>
</tr>
<tr>
<td>1858</td>
<td>Lusitânia</td>
<td>19,556</td>
<td>coastal navigation between Lisbon and Oporto</td>
</tr>
</tbody>
</table>

Source: MOPCI (February 1859), "Mapa das Companhias aprovadas pelo Ministério das Obras Públicas Comércio e Indústria até 31 de Dezembro de 1858", p. 206.

Moreover, of the £8.2 million invested in private and public companies by the end of the 1850s, the eight shipping companies (river, coastal, and two long-route companies - the Luso-Hamburguesa and the União Mer-

cantil) shared a mere 2.6 per cent with an average nominal share capital per company of £52,951, as opposed to £147,756 the average nominal share capital of the 56 companies that were surveyed.

The modest dimension of the coastal trade is well illustrated in the following table which shows the number of ships built in Portugal for coastal shipping between 1850 and 1858. Such a short period cannot yield firm conclusions. The nine years above mentioned, however, appear to indicate that the first half of the 1850s was a period of substantial annual variations in tonnage launched while the second half of the 1850s was a period of sustained growth. The complicated and speculative railway schemes of these years explain, perhaps, the different features mentioned above. Thus, it seems plausible that after the first unsuccessful railway proposals and then when the option for a rail connection to Spain rather than Oporto prevailed, this situation attracted available capital for investment in ships. But the table also reflects that available funds were not very abundant, or, alternatively, the growth of trade was not very significant. Between 1856 and 1872, for example, the number of ships cleared in all the Portuguese ports (Madeira and the Azores included) fell by 11 per cent, while their tonnage increased by no less than 51 per cent. The growth of tonnage, however, may not reflect a substantial improvement in coastal shipping, or even its resistance to the spread of the railway network, as the proportion of ships, as well as their respective tonnage, engaged in the trade with both Madeira and Azores is not accounted for separately. Perhaps these two factors worked together, but the important point to retain is that the average size of ship built actually fell by 14.3 per cent between 1850 and 1858.

Table 16. Number of Ships Built in Portugal for Coastal Trade Between 1850 and 1858

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of ships</th>
<th>Total tonnage (in tons)</th>
<th>Average tonnage per ship (in tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1850</td>
<td>32</td>
<td>5,528</td>
<td>172.8</td>
</tr>
<tr>
<td>1851</td>
<td>26</td>
<td>4,732</td>
<td>182.0</td>
</tr>
<tr>
<td>1852</td>
<td>36</td>
<td>4,969</td>
<td>138.0</td>
</tr>
<tr>
<td>1853</td>
<td>42</td>
<td>6,398</td>
<td>152.3</td>
</tr>
<tr>
<td>1854</td>
<td>63</td>
<td>9,816</td>
<td>155.8</td>
</tr>
<tr>
<td>1855</td>
<td>74</td>
<td>12,194</td>
<td>164.8</td>
</tr>
<tr>
<td>1856</td>
<td>80</td>
<td>13,653</td>
<td>170.7</td>
</tr>
<tr>
<td>1857</td>
<td>89</td>
<td>14,794</td>
<td>166.2</td>
</tr>
<tr>
<td>1858</td>
<td>41</td>
<td>6,072</td>
<td>148.1</td>
</tr>
<tr>
<td>Total</td>
<td>475</td>
<td>77,977</td>
<td>164.2</td>
</tr>
</tbody>
</table>

Source: MOPCI (various years), "Mapa das construções Navais Mercantes nos Portos do Reino no ano de ...".

Moreover, it is also important to stress the geographical distribution of the ships built: between 1850 and 1858 the coastal districts of the north (Viana do Castelo, Braga, Oporto and Aveiro) accounted for about 50 per cent of the total ships built and between 60 to 70 per cent of the respective tonnage.

Among the routes involved it is worth noticing Lisbon-Oporto on which steamers were introduced in 1821 marking the first use of the steam engine in Portugal. The concession for the service had been granted to João Batista Angêlo da Costa & Companhia, fares varied from 4,800 to 9,600 Reis, and the journey lasted two days with a half-way stop at Figueira da Foz. However, this service did not last long and Balbi commented on the motives which led to the suspension of the service: "la machine s'étant dérangée, et le propriétaire trouvant que la barque n'était pas assez forte pour s'ex

poser sur une mer aussi orageuse que l'est l'Océan pendant l'hiver le long des côtes du Portugal, a suspendu son entreprise. In the end, the entrepreneur converted his scheme into a river service and operated the steamer on the Tagus from Lisbon to Valada near Santarém, charging 960 Reis for the round journey. The river service was operated, erratically, for the rest of the decade and during the early 1830s. After the end of the Civil War, in 1835, the Empresa Portuense de Navegação por Vapor was founded in Oporto and two steamers were used for the journey between the two cities. Again, the company had a difficult life and was dissolved in May, 1854. A new company with the same name was then created but its promoters were not capable of attracting a significant sum of money and were consequently forced to use the existing ships as the £24,867 nominal share capital of the company. The Lisbon-Oporto sea route took the major share of the passenger traffic along the Portuguese coast. In 1845 and 1850 this route accounted for 56 to 58 per cent of the total number of passengers that used the port of Lisbon coming from or going to the other sea ports of Portugal, whereas each of the other routes accounted for less than five per cent of the total traffic.

The coastal routes to Oporto and the Algarve attracted the largest portion of the passenger traffic within the coastal trade, although the available data is quite insufficient to make a quantitative approach to the dimensions of the traffic involved. The interesting point to stress is that while the former route shared the largest portion of the service it was also the first to suffer from rail competition, to the extent that passenger services between the two cities were abandoned after the 1870s. The latter route, in turn, and because of the late arrival of the railway in the Algarve, remained the link between Lisbon and that province until the last decade of the century, with steamers taking over from sailing ships after 1875.

1. Balbi, op.cit.
2. Ibid.
3. Matos, op.cit., p. 452
2.5 PREMATURE RAILWAY SCHEMES

The mid-1840s was a period when new conditions were created for a revival of railway building in England. It has been claimed that the depression of the late 1830s was overcome by massive investment in railways at home and abroad which, in turn, were the result of, or combined with, the "acceleration towards free trade". The disposition for investing on the part of capitalists, coupled with a new institutional framework, generated an annual surplus available for investment of about £60 million. This, in turn, "crowned the second great phase of railway construction in Britain, bringing the virtual completion of the main-line system".

In 1846, however, new signs of depression were apparent and Checkland labelled that year as "the classical culmination of a domestic investment boom". Hobsbawm, who considered the period as "the gigantic railway mania of 1845-47", further observed that "many of the railways actually constructed were and remained quite irrational by any transport criterion, and consequently never paid more than the most modest profits, if they paid any at all". McCulloch, a contemporary economist who was "publicly sceptical about all but a limited number of main lines or lines of specially heavy goods traffic", commented on the railway boom: "The summer and autumn of 1845 and the earlier portion of 1846 witnessed the rise and development of a most gigantic railway speculation or mania. Most branches of industry were in a more than ordinary prosperous condition; and large dividends (whether really derived from profits is questionable) being paid by some of the principal lines, their stock rapidly rose to a high price. These circumstances inflamed the cupidity of the public, who began to imagine that speculation in railway shares afforded the shortest and easiest means of

3. Checkland, op.cit., p. 36. Between 1844 and 1849 mileage in operation in Britain rose from 2,148 to 6,031 with total capital authorized amounting to £262.6 million; Leland H. Jenks, The Migration of British Capital to 1875 (1971), table p. 129.
6. Ibid., p. 111
7. Ibid.
acquiring wealth... Such was the disposition of the public to take omne in-
cognitum promagnifico that shares in those swindling devices were greedily
bought up at high premiums, which, of course, went into the pockets of the
members of parliament, attorneys, and engineers, by whom the traps had been
set, and the hooks baited. It is difficult to imagine any more disgraceful
exhibition of fraud and quackery on the one part, and folly and voracity on
the other, than was displayed by the manufacturers and layers of railway sha-
res".

Not surprisingly, the mania spread across the Channel to France,
beginning with the Paris-Rouen railway, and continuing from 1844 to 1847,
to Belgium, and, but on a much smaller scale, to the Iberian Peninsula. In
Portugal, Costa Cabral's short tenure of power coincided with the railway
boom in Britain. This explains, perhaps, his success in combining internal
peace with attracting the confidence of both Portuguese and foreign inves-
tors, and the British in particular among the latter. Portuguese funds were
quoted in London at 60-65 between 1842 and 1846 and this favourable condi-
tion of the money market, coupled with the peculiar Anglo-Portuguese rela-
tions and the involvement of English capitalists in Spanish railways, ma-
de Portugal a fertile area for financial speculation in railway ventures.
So large were the number of promoters applying for concessions of the lines
to be built that this period can best be described as the Portuguese ver-

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1. J.R. McCulloch, A Dictionary, Practical, Theoretical, and Historical of
Commerce and Commercial Navigation (1854), p. 1092, quoted by José Joa-
quim Rodrigues de Freitas, Páginas Avulsas (Oporto, 1906), p. 311. For
further reading see, D. Morier Evans, The Commercial Crisis 1847-48
(New York, reprint 1969) and H.G. Lewin, The Railway Mania and its After-
math (1936).

2. See chapter 4, p.152-54.

3. 50,000 shares of £20 each, half of the total issued capital of the Cen-
tral of Spain Railway (Madrid to Càdiz), were reserved to be subscribed
for in England. The £750,000 of the Barcelona Railway were floated in Lon-
don by Messrs. Martin, Stones and Martins; Hyde Clarke (editor), The Rail-
way Register and Record of Public Enterprise, for Railways, Mines, Patents,
Inventions (1845), I, 1844-45, pp. 41-42 and 43. In the mid-1840s there
were three lines under construction which were open to traffic in 1848,
1851 and 1855. Further, The Royal Decree of 31 December 1844 established
the basic guidelines for future railway development in Spain; Jaime Vi-
cens Vives, Historia Economica de España, (Barcelona, fourth reprint,1977),
pp. 618-19.
sion of a 'railway mania' - one which, however, did not go beyond the stage of promoters' expectations. It successfully combined the speculative nature of the schemes proposed to the Portuguese Government by money-jobbers with the inefficiency and ignorance of Portuguese officials, with the result that not a single kilometre of track was opened to traffic, let alone built. As Howard put it in the summer of 1845: "It is difficult to understand on what ideas any confidence in the success of any of these lines of road is based. Hitherto no estimate of the expenses attending any one of the works has been formed; and not even a most superficial survey of the country through which they are to pass has been made. As to the amount of possible increase of traffic not a semblance of calculation is attempted".

Not unexpectedly, Howard did not share the general optimistic atmosphere, but he was too critical of the capacity of some of the promoters involved. Some of the schemes which were proposed to the Government contained accurate estimates of the amount of capital required for construction, while one had a detailed technical survey of the routes to be followed and forecasts of traffic development. Such was the case with the line applied for by the Portuguese Companhia das Obras Públicas de Portugal (Lisbon to the frontier of Spain) and, to a certain extent, the English Alto Douro Railway Company which was to build a line from Oporto to the frontier of Spain, along the river Douro. But they were, perhaps, the exception to the rule. Generally, the applications made to the Government were obscure in their very outline; very often the amount of capital and the number of shares to be issued was not disclosed, and many of them showed little acquaintance with the country which was to be traversed by the projected railway, with the result that the routes proposed were simply unreliable and the lines doomed to certain loss if they were opened to the public. The combination of these factors appears to reinforce the speculative nature of the promoters. Count Tojal, Minister of Finance and Foreign Affairs, himself involved in an abor-

1. PRO, FO63/604/103, Howard to Lord Aberdeen, 24 June 1845. It is only fair to say that some expenditure had been made by the Government in these days. Various papers, still waiting payment, were presented to Parliament in June, 1850 which concerned "surveys and material (rails and wagons for levelling)"; Frederico Pimentel, "Influência da Viação na Riqueza Nacional", ROPM (May-June, 1891), p. 96.
tive railway scheme at the time, bitterly commented to his cousin in London: "It is wonderful where all the money was, that has freely come to light here and at Oporto, since the instalment of these several Companies". Howard observed on the planned survey to be carried out on the country through which the Madrid and Lisbon railway was to pass: "It is certain that he [the engineer who was to make the survey] can have no data by which to calculate the expense attending the purchase of property, which would be enormous near Lisbon; and it would appear evident that he cannot have contemplated the great expense which would attend the carriage and cutting of stone, for the necessary bridges and other works requiring arches. Nor can he have taken into consideration the impediment he would meet with, occasioning delays, when employing a vast number of English, from the rain and floods of Spring and Winter, the heats of Summer, and the well known local pestilential diseases of the Autumn".

The Government attitude towards railway development which, apparently, was independent of the involvement of some of the ministers and politicians in various schemes, did not contribute either to establish the patterns of railway building or the nature of the network. Howard reported to London in June, 1845 that the Portuguese Minister Gomes de Castro had plainly admitted to him that "the Portuguese Government had no expectation of any railway answering in this country as a profitable undertaking". Further, some of the projects contemplated river and rail transport which shows, on the one hand, the prevailing functions of the waterways as a form of transport and the dramatic shortage of feeder roads on the other. Alternatively, and the following case is typical, they merely ignored the potential demand for railways in the areas of economic and demographic significance. Count Tojal's ideas of a rail connection between Lisbon and Oporto clearly illustrate what has been said: "There is no advantage whatever to

1. "Count Tojal to Benjamin Oliveira, 18 March 1845", in J.C. Bridgewater (editor), Notes and correspondence upon the introduction of railways into Portugal which formed the subject of negotiation between His Excellency the late Count Tojal, Minister of Finances and Foreign Affairs, and his agent and representative in London, Benjamin Oliveira, Esq. M.P., with subsequent details (1853), p. 22.
2. PRO, F063/604/104, Howard to Lord Aberdeen, 27 June 1845.
3. Ibid.
be derived from a Railroad between this and Oporto, the whole of the communication between these two points is effected by water by two steamers, and a great number of coasters; consequently, it would be vain to pretend competing with them. The only line where a Railway might pay would be from Alentejo to Alcácer do Sal, and thence by water to Lisbon. Finally, it seems interesting to notice that the ultimate target of some of the railway schemes, at least those sponsored by English capitalists, was the international connection to the Spanish and French network, and the English Channel. The international factor of the Portuguese network would remain throughout the 1860s and 1870s dictated by the financial interests among the companies involved in railway building in the Peninsula. In the mid-1840s, however, it appears to have been dictated by the capital surplus available in the London market, the optimistic attitude among the business community towards railway building at home and abroad, and, perhaps, by the necessity of exporting grain and foodstuffs to Britain. As Checkland pointed out "heavy grain imports were necessary, especially in 1838 and 1839, with consequent loss of gold abroad and monetary stringency at home", the import of which was the result of successive food-shortage years. Further, the rapid adoption of a free trade policy in the mid-1840s removed the barriers in the way of substantial food imports.

In short, the Portuguese "railway mania" of the mid-1840s was the product of both internal and external factors nearly all of which had a speculative nature. If the international dimension of the Portuguese lines planned might have been an instrument with which to supply Britain with food, it also reflected the modest dimension of the domestic market and the subsequent uncertainty over the development of traffic receipts if the lines were limited to Portugal and an international connection left to a future stage of railway development.

2. Checkland, op.cit., p. 17.
3. Portugal's speculative spurt of railway activity at this time was similar to that which occurred in neighbouring Spain, where no less than 25 concessions were granted between July, 1843 and August, 1846 of which 22 had no further development and only one was completed by 1850; Gabriel Tortella Casares, Los Orígenes del Capitalismo en España, second edition (Madrid, 1982), p. 168.
The following table contains the various applications which were submitted to the Portuguese Government. Interestingly, 10 out of the 13 proposed schemes were international railways and they appear to have been sponsored either by foreign promoters or combine schemes of Portuguese and foreign capitalists.

The table speaks for itself. It is sufficient to stress that by the early 1860s Magenis, British Minister at Lisbon, reported to London on a royal visit to Oporto: "Their Majesties the King and Queen of Portugal, attended by the Ministers of the Interior and Marine, and a numerous suite left Lisbon this morning for Oporto. Their Majesties travelled by railroad as far as Carregado [56 kilometres north of Lisbon], and were to proceed from thence to Oporto by post, sleeping three nights on the road".

1. PRO, F063/900/132, Magenis to Lord John Russel, 18 November 1863.
<table>
<thead>
<tr>
<th>Applications</th>
<th>Proposed Scheme</th>
<th>Capital and number of shares to be issued</th>
<th>Government subsidy</th>
<th>Remarks</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jacinto Reis? Ruas? Damazo</td>
<td>Combine service of railways and steamboats from Evora to Lisbon through Alcácer do Sal and Aldeia Gallega</td>
<td>Not disclosed</td>
<td>Not disclosed</td>
<td>No further development</td>
<td>AHMOP, MR 2D-IR, 2, L3 1-153, Jacinto Damaso to the Queen, 23 January 1845</td>
</tr>
<tr>
<td>António Cabral de Sá Nogueira and Benjamim Oliveira on behalf of the Companhia das Vias Ferreiras do Norte</td>
<td>Railway from Lisbon to Santarém and Tomar</td>
<td>Not disclosed</td>
<td>Five per cent interest on paid-up capital until completion of the works</td>
<td>Works to start within two years. No further development</td>
<td>Ibid, proposta de António Cabral de Sá Nogueira e Benjamim Oliveira, 31 March 1845</td>
</tr>
<tr>
<td>Luís Augusto Pinto de Soveral (secretary to the Portuguese Embassy in London and future ambassador there)</td>
<td>railway from Oporto to Régua along the river Douro</td>
<td>An estimate of 2,800 thousand Reis (£622,222) divided into 70,000 shares of 40,000 Reis each</td>
<td>Not disclosed</td>
<td>To be extended into Spain to attract the grain producing area of Castile. No further development</td>
<td>Ibid, Memória sobre a construção de um caminho de ferro do Porto a Régua, 25 April 1846</td>
</tr>
<tr>
<td>António Cabra de Sá Nogueira and Benjamim Oliveira on behalf of the Companhia das Vias Ferrreiras Transtaganas</td>
<td>railway from Cacilhas to Setúbal, Évora, Estremoz and the frontier of Spain, with branches to Beja and Portalegre</td>
<td>Not disclosed</td>
<td>five per cent interest on paid-up capital until completion of the works</td>
<td>Works to start within two years after the contract being signed; to be completed in nine years the remaining portion</td>
<td>Ibid, proposta de António Cabral de Sá Nogueira e Benjamim Oliveira 21 February 1845</td>
</tr>
<tr>
<td>Applications</td>
<td>Proposed Scheme</td>
<td>Capital and number of shares to be issued</td>
<td>Government subsidy</td>
<td>Remarks</td>
<td>Source</td>
</tr>
<tr>
<td>------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------</td>
<td>------------------------------------------</td>
<td>-------------------</td>
<td>------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td>M. Huguin (administrator of the Paris-Strasbourg railway) and Nuno Augusto Garvella</td>
<td>Railway from Lisbon to Oporto with a branch to Bragança and Spain</td>
<td>Not disclosed</td>
<td>Not disclosed</td>
<td>The company to be formed by the major shareholders of the Paris-Strasbourg railway; Total length 373 kilometres. The route planned was very circuitous and costly to build</td>
<td>Ibid, Proposta de Monseur Huguin e Nuno Augusto Garvella, 10 November 1845</td>
</tr>
<tr>
<td>Samuel Clegg, William Law, Jose Street D'Arriaga e Cunha, Fernando de Souza Botelho</td>
<td>Railway from Oporto to Régua and the frontier of Spain</td>
<td>Not disclosed</td>
<td>Not disclosed</td>
<td>Absorbed by the Alto Douro Railway Company</td>
<td>Ibid, Proposta de..., undated</td>
</tr>
<tr>
<td>Hardy Hislop</td>
<td>Railway from Lisbon to Sintra and from Oporto to Valença</td>
<td>Not disclosed</td>
<td>Not disclosed</td>
<td></td>
<td>Ibid, undated</td>
</tr>
<tr>
<td>Brigadeiro António Barroso on behalf of an English Company</td>
<td>Railways in the north and south of Portugal leading to the frontier of Spain</td>
<td>Not disclosed</td>
<td>Not disclosed</td>
<td></td>
<td>Ibid, undated</td>
</tr>
<tr>
<td>Applicants</td>
<td>Proposed Scheme</td>
<td>Capital and number of shares to be issued</td>
<td>Government subsidy</td>
<td>Remarks</td>
<td>Source</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------</td>
<td>----------------------------------------</td>
<td>-------------------</td>
<td>-------------------------------------------------------------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>&quot;George Knox, William Law, Edward Carrer, Samuel Clegg, Sir William Young, Joseph Brown, William Feckney Black, in conjunction with other persons members of parliament capitalists and proprietors, and directors of railways, on behalf of the Lisbon and Oporto Railway Company&quot;</td>
<td>Railway from Lisbon to Oporto</td>
<td>Not disclosed</td>
<td>Not disclosed</td>
<td>Security of £20,000 to be deposited in the Bank of England; 99 years concession; directors to have entire control of the tariff charges of the railway for 40 years; works to be completed within three years. No further development</td>
<td>Ibid, undated</td>
</tr>
<tr>
<td>Jean Charles Jucqueau.</td>
<td>Railway from Lisbon to Oporto with a branch to Bragança and the frontier of Spain</td>
<td>Not disclosed</td>
<td>Not disclosed</td>
<td>Jucqueau had contracted the Madrid-Cádiz railway for 15 million francs. The Portuguese line would be the extension of a line from Valladolid to France. Total cost of the main line with additional costs 72 million francs for 422 kilometres; Bragança branch (142 kilo-</td>
<td></td>
</tr>
<tr>
<td>Applicants</td>
<td>Proposed Scheme</td>
<td>Capital and number of shares to be issued</td>
<td>Government subsidy</td>
<td>Remarks</td>
<td>Source</td>
</tr>
<tr>
<td>------------</td>
<td>----------------</td>
<td>------------------------------------------</td>
<td>-------------------</td>
<td>--------</td>
<td>--------</td>
</tr>
<tr>
<td>Benjamin Oliveira and other on behalf of the Alentejo Railway Company</td>
<td>Railway from Lisbon to the frontier of Spain; first section to be built Evora to Alcácer do Sal (40 English miles)</td>
<td>£400,000 divided into 16,000 shares of £25 each</td>
<td>Nil</td>
<td>No further development due to the monopoly contract for the constructions of railways by the Companhia de Obras Públicas de Portugal.</td>
<td>Ibid, undated.</td>
</tr>
<tr>
<td>Companhia das Obras Públicas de Portugal</td>
<td>Railway from Lisbon to the frontier of Spain</td>
<td>Forecast presented by the engineer in another report (8 April 1846): £1.6 million for 260 km metres</td>
<td>Nil</td>
<td>Only the section Lisbon to Sacavém appears to have been thoroughly surveyed, but works never started. No further development.</td>
<td>Bridgewater (editor), op.cit., p. 12.</td>
</tr>
</tbody>
</table>

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<th>Applicants</th>
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<td>Alto Douro Railway</td>
<td>Railways from Oporto along the Douro valley, to be extended &quot;to the ancient and populous city of Salamanca, and the very heart of Spain&quot;</td>
<td>6 million Reis (£1,350,000) in 60,000 shares of 100,000 Reis (£22.10s) each</td>
<td>Nil</td>
<td>&quot;It is a line which may be considered of paramount importance to the wine-growers, the agricultural, trading and manufacturing communities of Portugal&quot;. No further development</td>
<td>Hyde Clarke (editor), The Railway Register and Record of Public Enterprise, for Railways, Mines, Patents, Inventions (1845), pp. 545-46, and appendix, &quot;Railway register advertising sheet&quot; pp. 21-22</td>
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CHAPTER 3

GOVERNMENT POLICY AND THE FINANCING OF THE RAILWAYS
"The Right Honourable Member is happy with one railway; to me, I find it hard to confine ourselves to two railway lines; I only feel too sorry for not dividing my country back and forth with means of communication of such nature".

Fontes, Minister of Finance, to Parliament (25 February 1852).

"Os caminhos de ferro, facto impreterível (e ainda bem que o é) da civilização moderna devem produzir incalculáveis benefícios para o paiz: mas por isso mesmo que importam uma revolução; que são um remédio salvador, um remédio heroico, trazem consigo o perigo de um danno também imenso. Apon tar ao poder esse perigo: perguntar-lhe, não em nosso nome, mas em nome da Pátria, quaes são os meios que tem para obviar a elle, é ou não um dever e um direito daquelles que estão convencidos da existência desse perigo?".

Alexandre Herculano, "O Caminho de Ferro e a Nacionalidade", O Portuguez (22 April 1863).
Now that the Portuguese Treasury was exhausted, the different factions of the ruling class managed to reach a compromise. As long as they could all share the privilege and benefit of power there would be no violence. The manner in which they governed the country throughout the second half of the 19th century brought about too much agony and frustration, mainly because of the corruption and inefficiency involved. Nonetheless, by 1890 Portugal had somehow built 2,000 kilometres of railways, of which less than 40 per cent was operated by the state. The context within which such railway development took place is the object of the present chapter.
3.1 POLITICS AND RAILWAYS - THE DELICATE BALANCE

Once the long catalogue of revolutions had come to an end with the Duke of Saldanha's Government in 1851, Seymour's apprehension that "[the financial condition] will not run much longer without carrying away with it the last remains of Portuguese nationality and independence" appeared doubtful. Apparently, conditions had been created possibly to avoid, or at least to postpone, such a dramatic event for a long time. The reaction of the British Government to the new political situation in Portugal was cautious and somewhat patronising. A report forwarded to the British Minister at Lisbon by the Foreign Office in the summer of 1851 was a good reminder that any further alterations in Portuguese politics could not jeopardise the existing relations between the two countries: "The interests of Great Britain are so much connected with those of Portugal, both on account of the Treaty Engagements and on account of the great number of British subjects who in various ways are creditors of Portugal, that Her Majesty's Government are persuaded that Marshall Saldanha will take these friendly suggestions in good part; and Her Majesty's Government are the more encouraged to make them because they seem to be in accordance with the loyal intentions proclaimed by the Marshall, and with the determination which he has expressed, that the Power with which he is invested shall be used for no other purpose than to consolidate the Throne and maintain the Constitution of Portugal, and to contribute to the happiness and promote the welfare of the Portuguese Nation." The Duke of Saldanha had neither the wisdom nor the statesmanship to alter the long-standing relations between the two countries. He was far more concerned with internal political strife and backbiting, from which he always hoped to emerge untarnished, than with the economic and

1. PRO, F063/740/237, Seymour to Palmerston, 18 May 1856.
2. PRO, F063/736/2, Malmesbury to Pakenham, 24 June 1851.
financial affairs of the state. For that purpose, he acted simply as a figurehead, leaving complicated matters to a young army lieutenant, Antônio Maria Fontes Pereira de Melo, whom he appointed Minister of Finance and Public Works. Saldanha had emerged from the military coup of 1851 as a national hero and a man capable of leading the country into a new age of peace and prosperity. Significantly, when his Cabinet was formed they called themselves Regenerators and promised the people stability and progress. If peace and stability were taken for granted, not the least because the country itself was exhausted by internal strife and Civil War, the context within which progress was promised was yet to be devised and explained.

The promises made by a Government which was doing its best not to be considered "quite so impervious to conviction and necessity as the world was inclined to consider [them]" took a long time to fulfil. On the one hand, "most of the elements required for the commencement of such enterprises are wanting in the country itself, and, unfortunately, political

1. Towards the end of the 1850s and throughout the following decade the participation of Saldanha "in nearly every commercial and industrial undertaking that has been promoted in recent years in this country, his position at this moment of a board member of the Portuguese Committee of the Royal Portuguese Railway Company, his resignation as Commander-in-Chief of the armed forces, and the uneasiness that this created among the Government of the day, made Saldanha a ready and dangerous leader in the midst of conspiratorial and jealous factions", PRO, F063/873/34, Magenis to Lord Stanley, 16 March 1861. Although the Bank of Portugal had originally refused his request for a loan amounting to 20 million Reis (£4,444), a similar sum was granted later through the intervention of the King Pedro V, who offered to stand surety; PRO, F063/804/299, Howard to the Earl of Clarendon, 21 December 1856. Oliveira Martins (Portugal Contemporâneo (Lisbon, reprint, 1976), II, pp.227-37) had a somewhat different opinion of Saldanha: "a man devoid of ideas; parties and programmes are for him opportunities and nothing more" (p. 227), and looked on him as a symbolic figure of whom everyone made use: "he that was the forerunner of revolutions has become a company label... He had always wavered at the mercy of events; it was they that carried him into the arena of contention" (p. 237).

2. The Railway Times (17 April 1852), p. 402.
and financial discredit prevents their importation from abroad\textsuperscript{1}, while on the other hand, rumours of an "Iberian Union" emerged as an obstacle to the fulfillment of progress (namely the construction of railways), given the geographical position of Portugal in relation to its larger neighbour. Such rumours, though having very little, if any, impact in Portugal\textsuperscript{2} were widespread in Spain, and an influential Madrid newspaper commented that "a railroad from Lisbon to Madrid...would be... in the second place, to unite in this fashion our interests, and to bring together our languages in such a manner that in the course of a few years by the natural course of things, and without any effort whatever, the indissoluble union of the two countries would spontaneously come to pass"\textsuperscript{3}. On top of this, the appalling state of public finances and the general corruption among government officials made things even more difficult for the fulfillment of all promises. At the beginning of 1856, only five years after the Regenerators had started making their promises, Howard reported to London "the unfortunately too notorious venality and corruption which exist in all branches of the administration, and the little chance there appears to be of such a timely reform of that administration as would preclude a misappropriation of the Public Funds similar to what which has hitherto prevailed"; and following King Pedro's

1. PRO, F063/756/69, Pakenham to Malmesbury, 28 April 1857. The King of Portugal (Pedro V) was well aware of such dramatic situation: "Unfortunately there is nobody here with whom I can share my ideas or ask for some advice..."; "Letter to Prince Albert, 7 November 1855", in Ruben Andre-sen Leitão (editor), Cartas de Dom Pedro V ao Príncipe Alberto (Lisbon, 1954), p. 84.

2. Apart from the issue of an anonymous pamphlet on the matter (which in any case was the translation of a Spanish original), the British Minister at Lisbon reported to London that he had "never yet met with a Portuguese who has avowed himself to be in favour of this project"; PRO, F063/771/98, Pakenham to Malmesbury, 28 July 1852. The development of the situation did not concern the leading British newspaper of the time: "If the inhabitants of the Iberian Peninsula chose to present themselves to Europe under a new political organisation, they will be cordially received"; The Times (29 July 1854). For a different approach see Manuela Mascarenhas, "A Questão Ibérica 1850-1870", Bracara Augusta, XXXIV (July-December 1980), pp. 7-50.

3. Heraldo, (23 October 1852).
reasoning he concluded that "Portugal possesses no doubt great internal re-
sources but the impartial observer looks around in vain for administrators,
whether in the older or younger generation, capable of developing them"¹. 
The situation described by the British Minister in the mid-1850s was by no
means an exception to the rule. In 1867, the British Secretary of Legation
at Lisbon, Mr. Paget, in a long report on the financial situation of Portu-
gal wrote categorically: "the whole administrative and bureaucratic communi-
ty in Portugal, taken as a whole, is corrupt - and there is scarcely anyone
connected with it who does not profit in some way, either directly or indi-
rectly, in the existing abuses"². In the following decade, unfortunately,
things remained very much the same. In 1877, for example, when the Government
was applying for yet another foreign loan to recover from the banking specu-
lation of the previous year, the Lisbon agents of Baring Brothers & Company
wrote to London: "As we are intimately connected with a person of high in-
fluence and enjoying the entire confidence of the Government, and this per-
person is as willing as possible to act in your favour, and in a position to
keep us fully aware of all the more intimate phases of the business, we have
all the facilities in introducing the matter to the Government, but at the
same time we cannot refrain from indicating that we shall have to share with
our friend the commission you may allow us on the business"³.

The 'younger generation', to which Howard was referring in his
despatch, frequently with the British Minister's help, was not capable of
bringing about a dramatic change of the Portuguese economy and society.
Their anxiety for material improvement, their ignorance of state affairs,
and their unreliability as administrators and politicians, was responsible
for the political instability throughout the second half of the 19th centu-
ry and, ultimately, for the fall of the Monarchy and the subsequent success
of the Republican Revolution of October, 1910.

One of the primary concerns of the new ruling class in the pur-
suit of material progress was some sort of political stability, which could

¹. PRO, F063/800/39, Howard to the Earl of Clarendon, 28 February 1856.
². PRO, F063/935/25, Paget to Lord Stanley, 28 March 1867.
³. BBP, Ms. 18,321, HC 14.3, Torlades & Co. to Baring Brothers & Co., 23 Fe-
bruary 1877.
preserve peace and prevent the return of internal strife. This was achieved by a rotation of cabinets very much on the British style; only the Portuguese Parliament (Cortes) bore little resemblance to the House of Commons. Its members were merely figureheads of pressure groups, rather than representatives of the people and had little, if any, impact on both public opinion and the Government. The political and peaceful solution aspired to by both Regenerators and Progressives was a "steady and quiet replacement of the men in power, with the subsequent damage to public affairs". A French sociologist who studied the country thoroughly at the turn of the century summarised the situation in a brilliant, though somewhat sarcastic, piece of literature: "Bel exemple de la piperie des mots, car les faits prouvent que ces deux clans, qui se sont succédés aux pouvoirs durant de longues années, n'ont procuré au pays, au lieu de progrès et de regeneration, que le déficit, les dettes, la fiscalité excessive, l'inquiétude, et parfois le désordre. Il ne pouvait être autrement, car chaque clan, pour se maintenir au pouvoir durant un certain temps, devait procurer à ses partisans des faveurs, des emplois, des avantages de toute sorte. Après une certaine période, les abus devenaient si criants que, pour en atténuer le scandale, il fallait passer la main à l'autre clan".

Once the question of power-sharing was definitely settled, it remained to decide how material progress was to be promoted. By the mid-19th century railways had become the most important new technique in the Euro-

1. "Never in Portugal has a Ministry been forced to resign by action of the Chamber of Deputies. It has always been revolution or intrigue that has expelled Ministers from their posts"; "Letter to Prince Albert, 28 August 1856", in Ruben Andresen Leitão (editor), op.cit., p. 128.
2. Carneiro de Moura, História Económica de Portugal (Lisbon, 1913), p. 291. "The parties contending for power during many years attained their ends by extensive bribery of the garrison of Lisbon, to the great demoralisation of the army, which instead of being the mainstay of the Throne and the national institutions, was the main cause of bringing both to the brink of destruction in 1847. Since my arrival here a regiment has been removed for reported disaffection"; PRO, F063/860/89, Magenis to Lord John Russell, 28 June 1860.
pean industrial societies. They had stimulated industrialisation and urbanisation in the more advanced areas of Europe and they now attracted the attention of peripheral countries, anxious to use them to overcome their economic and social backwardness. The absence of railway development in the first half of the 19th century constituted one of the major factors responsible for Portugal's economic backwardness. Further, during those 50 years Portugal was invaded in 1807-11 by the French who destroyed its emerging manufactures; was involved in a Civil War (1832-34) and subsequent rebellions, and suffered another invasion in the 1840s; and had lost, after 1810, the control of the important Brazilian market to the English. (Brazil became independent in 1825). War, political instability and social unrest, and its effects upon the economy (commercial depression, industrial stagnation, and lack of investment) made the railway a factor of paramount importance for the development of Portugal.

Within this political and economic framework the state had to play a substantial part in railway financing. After the speculative and hopeless policies of the 1840s, conditions were now created for a new approach to the transport issue. Such was the case of Portugal whose quest for progress was summarised by the British Consul at Lisbon in a retrospective report he forwarded to London in 1883: "This period embraces the commencement and developing of the policy of devoting considerable sums annually to the construction and maintenance of roads, the subsidizing, in one form or another, of railways, and the carrying out of other public works. The money for these purposes has been obtained from credit, but in this country they could have been achieved in no other way".2

The Government, then, was not inventive enough to devise an economic policy very different from that which Costa Cabral had formulated in the previous decade. The advent of the Fontismo (named after Fontes) was only different from Cabral's policies because it relied totally on foreign ca-

1. "Parmi les grandes questions industrielles qui occupent aujourd'hui le public, aucune sans contredit n'est plus importante que celle des chemins de fer"; Auguste Perdonnet, Traité Élémentaire des Chemins de Fer (Paris, 1858), p. 1. "Railways have long been considered among the most important, if not the most important of all the inventions made available to producers in the nineteenth century"; Patrick O'Brien, The New Economic History of Railways (1977), p. 19.
2. FOCR (1883), "Report by Consul Brackenbury on the Trade and Commerce of Lisbon for the Year 1882", p. 1210.
pital, whereas the former's attempts to stimulate the construction of a
transport network were largely concentrated on a handful of purely specula-
tive ventures largely supported by Government subsidies. Cabral had tried
to achieve material progress by using national capital and failed; Fontes
was also concerned with material progress but sought support from the fi-
nancial markets of Europe¹. On the one hand, he succeeded because his poli-
cies were initiated during an age of aggressive capitalist expansion. Conse-
quently, Portugal "appeared to be a good country to exploit for a long time
and the European Bourses, putting aside bad memories of past bankruptcies,
opened up their safes [and] in 40 years the Portuguese Treasury managed to
obtain loans for an amount of approximately £90 million"². On the other hand,
however, Fontes and his successors 'built' the railways "ahead of time, out
of harmony with the economic stage of development", with the ultimate result
that, as in all peripheral Europe, "they remained enclaves and frequently a
heavy burden on the government and economy"³. Railway development in Portu-
gal also suffered from the symbiosis which prevailed between the state's
official liberal economic doctrine and the actual protectionist - orientated
government policy, after the early 1850s⁴. Sideri has pointed rightly,
that liberalisation "tends to increase imports faster than exports when
the domestic economy is unable to increase production and absorb most of
the demand that even a small increase in income is bound to produce"⁵. A
railway system was considered to be the cure for Portuguese economic back-
wardness, but the economic and political context within which it developed
not only delayed industrialisation but also distorted the economy.
In a peripheral country like Portugal this led "to an increase in
the propensity not merely to import but also to consume. This

¹. "Costa Cabral, the initiator of the new Portuguese age, became the vic-
tim of the Regeneration which, by other words and other means, carried
out his original programme"; Oliveira Martins, op.cit., (Lisbon, reprint,
². Ibid, I, p. 12.
³. Sidney Pollard, Peaceful Conquest; The Industrialisation of Europe 1760-
⁴. See chapter 7, pp. 327-28.
⁵. Sandro Sideri, Trade and Power - Informal Colonialism in Anglo-Portugue-
se Relations (Rotterdam, 1971), pp. 152-53.
leads to a maldistribution of income and further slows down progress".1

The appointment of Fontes as Minister of Public Works and Minister of Finance in 1852, marked the beginning of a long period in which railway concessions were disbursed; however, most of them were granted without any prior technical or financial surveys regarding their feasibility and profitability. Further, Fontes inaugurated an age in which the Government often took decisions without Parliament approval, let alone discussion, with the result that, politically, instability was permanent and, financially, the money required by the Government either to subsidise or to guarantee an interest rate on the capital of the companies was 'illegally' negotiated by the Government in the European money markets at heavy discounts. In his annual financial report for 1860 the British Secretary of Legation at Lisbon, Mr. Barron, observed that "Ministries do not publish their accounts till some years have elapsed. The last published by the Ministry of Public Works is that of 1856"; and he further remarked that "the last two Budgets have never been voted at all, for want of time, and, consequently, had no legal force. At the end of the session a hurried law is passed, authorising the Government to raise taxes, and to pay expenditure, in accordance with the Law of 1857, regulating the Budget for 1857-58 - the last which has been voted".2 This state of affairs prevailed in the following decades. From 1869 to 1875, for example, about £765,000 had been spent by special authorization, and nearly £870,000 without any authorization at all. Further, "in the year 1878-79 more than £650,000 was again legalized by the Chambers after being spent".3

It seems important to review Fontes' ideas because, first, railways were his own child and sole objective of his political life; and second, in the absence of a sound government policy, he became the only politician and Cabinet member to know precisely what he wanted, though he

2. GBPP (1860), LXVI, 2716, "Report by Mr. Barron, Her Majesty's Secretary of Legation at Lisbon, on Finances and Public Credit, 3 April 1860", pp. 49-50. Two years later, a Lisbon newspaper sarcastically proclaimed: "The Budgets are not made for the Nation, but for the Ministry. The State is the Cabinet"; Gazeta de Portugal (7 December 1862).
proved to be hardly aware of the means required for the fulfillment of his aspirations. The King was, perhaps, the only public figure who had an accurate view of railway development in Portugal. But he was not directly involved in Government, and his power was very much circumscribed by the Cabinet's decisions. In a letter he wrote to his uncle Prince Albert on the state of public finances, he clearly admitted his limitations with regard to his Ministers' policies: "My Ministers, fearing the consequences of telling the truth, decided [to write on the Annual Speech of the Crown to Parliament] that our finances are in a satisfactory condition (despite of a deficit of nearly £200,000). I could not agree with this point of view. I amended it and wrote exactly the opposite, but I was compelled to swallow the true facts because the Ministers, always fearing discussion, found them dangerous."¹ The King, notwithstanding his limitations, was a stern opponent of Fontes' policies and he left an interesting portrait of his Minister's personnel and political temperament: "There was something brilliant in his fast ascendency from army lieutenant to ministerial category. His first measures were good, but he gradually started to commit error after error, and he ruined our credit. He made a terrible mess of the railway question. He is too proud to admit his faults and nobody dares to give him advice, as he considers himself the only person who knows how to run the Treasury. Not even I can speak to him without exposing myself to insult to which it is not always possible to face. Despots like him - who call themselves liberals - are intolerable.²

Fontes' policies can be seen as the Portuguese segment of the wave of economic liberalism that swept across western Europe during the 1850s and 1860s. Apparently, his economic and financial measures were related to Michel Chevalier's political economy. Although this was not recognised by this contemporaries, it was later observed that "he [Fontes] came to power along with Michel Chevalier's [book of] political economy."³ In Chevalier's lectures on political economy the author's fascination for rail-

¹ "Letter to Prince Albert, 8 February 1857", in Ruben Andresen Leitão, (editor), op.cit., p. 153.
² Ibid, "Letter of 8 March 1856".
³ Anselmo de Andrade, Relatório e Propostas de Fazenda (Coimbra, 1911), p. 7. See also Oliveira Martins, op.cit., II, p. 287.
ways is displayed\(^1\) and they, apparently, directed Fontes in three ways:

First, "Les voies de communication perfectionnées sont appelées à charger les conditions et l'équilibre politique du monde"\(^2\) — that is, railways could preserve both internal (the memories of the Civil War were still fresh) and external peace (given the political instability of neighbouring Spain, annexation whether by force or by political union was viewed favourably by pressure groups in both countries). Second, "Quels sont les nations les plus civilisées et les plus libres? C'est la France, c'est l'Angleterre, la Belgique, la Hollande, une partie de l'Allemagne, ce sont enfin les États-Unis de l'Amérique, c'est-à-dire de tous les pays de la terre ceux qui pos­sèdent les communications les meilleures"\(^3\) — that is, railways could preserve and consolidate civilisation and freedom - the most respected and cherished ideals of the Portuguese Regenerators. Third, "Examinez plutôt quels sont les États dont la puissance productive est parvenue au plus haut point, où la richesse abonde, où les produits sont à bon marché. Ce sont les États bien pourvus de voies de communications"\(^4\) — that is, railways represented the means to increase both agricultural and industrial output and subsequently increase national wealth.

Unfortunately for Fontes, Chevalier never lectured on the means required to build railways and hardly mentioned the role of the state in railway development. (The only references were made in his 14th lecture in which he compared English and Belgian railways, but he did not approach the issue from the financial point of view)\(^5\). Fontes was left to his own devices with respect to this particular part of his railway policy and his lack of finance expertise soon became apparent. When the Cabinet of which he was a member resigned in 1856, because of the scandal over the English contractors of the 'eastern' line, of which not a single kilometre of track was open to traffic, it was already clear that railway development was a means for those directly involved in its financing to reach power and wealth, rather than an instrument of progress. A contemporary economist commented on the fall of the Cabinet: "The Ministry resigned because their members could not

\(^{1}\) "L'industrie des transports est une des plus considérables de la société";


\(^{2}\) Ibid, p. 184.

\(^{3}\) Ibid, p. 172.

\(^{4}\) Ibid, p. 136

\(^{5}\) Ibid, pp. 229-49.
fulfill their financial plans; and the new Cabinet has already declared
that it will pursue the same objectives, although by other means. In short,
this is the statement made by the present Cabinet on economic and financial
problems. The ends, officially and solemnly declared, are: to traverse the
country with railways and to develop other means of communication. What are
the means to secure such ends?" 1

Fontes' policies are clearly laid out in his speeches to Parlia­
ment in the 1850s. They reflected his anxiety for improvement, rather
than any comprehensive and positive combination of general principles
which could be framed into a consistent economic policy. In September,
1852 he revealed his awareness of the state of backwardness of the country:
"It is certain that we, here in Lisbon, have news from either London, Paris
or Brussels far ahead than those we can receive from Chaves or Braganza" 2.
To close the gap he decided that railway development was the only solution:
"The Government has realised that in the present state of Europe, with re­
spect to the development of means of communication in nearly each and every
country, we should not restrict ourselves to build ordinary roads which
could but leave us far behind other countries where the conditions of mo­
tility have become particularly advanced... I have decided, therefore, to
follow the example of other nations and create the means to establish rail­
ways in our country" 3. If he was aware of the state of backwardness of the
country, he later proved to be quite unaware of the means required to change
the situation. The role of the state, for example, remained yet to be out­
lined: "Whatever the system to be adopted for the pursuit of such ventures,
the State will spend a considerable amount of money" 4. His only positive,
and frequently quoted, statement was that "in this country we do not possess
the required amount of capital for the public works which we now envisage" 5.
Fontes' alternative to this state of affairs was to apply for foreign loans 6,
because "nations only apply for credit when they can no longer expand ta­
taxation" 7, given the scarcity of resources in the domestic market. Con­

1. Carlos Morato Roma, Reflexões Sobre a Questão Financeira Em 1856 (Lisbon,
2. Diário do Governo (1 September 1852).
4. Ibid, (1 September 1852), our italics.
5. Ibid, (9 February, 1856).
6. See Ibid (25 February 1852), (15 July 1852), (6 February 1856), (9 Febru­
ry 1856).
sequently, "any Government which relies solely on taxation without making use of the benefits of credit will leave all the [financial] burden of material improvements upon the present generation, while it will be their children who will enjoy all these improvements". Like Chevalier, fascinated by railways, Fontes received further support in his unrealistic approach to the question, unrealistic when applied to the financial condition of Portugal at the time, from a contemporary economist. Writing in 1856, paradoxically the year in which Fontes resigned, Lopes de Mendonça commented: "To remove a large amount of capital from the market would seriously disturb the economic physiology of the country. On the contrary, by importing capital from abroad to be consumed in public works, regardless of the further results which they will produce when applied to means of communication, we are, perhaps, promoting a useful competition between foreign and national capital, by preventing a rise of the interest rate, and by stimulating our own industries, namely mining". And he reinforced Fontes' statement of March, 1860 when the latter was Prime Minister by further pointing out: "The trivial objection that it is always dangerous to charge future generations is to be rejected, when we analyse the nature of taxation, debt, and credit, and how intimate, just and providential is the economic solidarity among generations".

The argument prevailing throughout the second half of the 19th century, then, was to allow present indebtedness to rise so as to finance the improvement of the country's transport network with future generations reaping the benefit and so being able to redeem the debt. This argument followed the main guidelines of the classical doctrine. All peripheral European economies displayed policies of 'unsound finance' with heavy internal and external borrowing throughout the 19th century. The classical argument maintained that this unbalanced situation disturbed the financial and monetary system. As Joan Robinson later put it, "an unbalanced budget was not just unsound, it was immoral". However, there was no apparent damage to a

1. Ibid.
2. A.P. Lopes de Mendonça, A Questão Financeira Em 1856 (Lisbon, 1856), pp. 34-35.
national economy if government borrowing was confined to internal debt. In this case the classical argument was that the cost of the government's current use of resources could not be transferred to future generations and that the national debt was no burden on them. Subsequently, internal borrowing did not reduce the real productive capacity of the nation in a direct way - "the citizens of the state, as a whole, are paying themselves". Portugal, however, had a substantial portion of its state debt contracted abroad and it is clear that the financing of its early railways was undertaken by loans issued on behalf of the Portuguese Government in either London or Paris.

An interesting theoretical approach to the practice of 19th century peripheral European borrowers, of which Portugal was a member, is given by Franco Modigliani. Writing in 1961 he attacked the classical view of the 'no-burden' argument and underlined that "an expenditure financed by debt, whether internal or external, as a rule places no burden on those present at the time of the expenditure in that, and insofar as, the resources acquired by the Government are surrendered in a voluntary exchange by the savers, who thereby acquire Government bonds (in lieu of some other asset)". He further commented that "through deficit financing the expenditure of the Government is being "paid for" by the future generation". Put it in another way, "only through external borrowing is it possible to benefit the current generation and to impose a burden on the future". Modigliani finally observed, and this applies perfectly to 19th century Portugal, that the burden of deficit financing consisted not in the increased taxes as such, but "rather in the fall in income generated by the reduction in the stock of capital". Briefly, Fontes and his colleagues adopted the leading financial doctrine of the time, although its application to the Portuguese economy displayed some distinguishing features which deserve further attention. By borrowing abroad for the financing of its railways within a

4. Ibid, p. 110
context of speculation and corruption, the Portuguese Government was really contradicting the classical argument of state neutrality in economic affairs, balanced budgets, and the 'no-burden' argument. In effect, not only the present generation was charged with heavy taxation which was an attempt to balance the accounts, but also the future generation, because of the uneconomic feature of the network, was not capable of reaping the benefit and possessed very little financial resources with which to redeem the debt. Debt financing through external borrowing in the second half of the 19th century represented a heavy burden for both present and future Portuguese generations which is well reflected in the political and financial crisis of 1891, subsequent default of the Portuguese Treasury and the conversion of the external debt of 1902.

Both the Regenerator and Progressive Cabinets devoted their energy solely to the development of railways - like the ostrich, politicians buried their heads and forgot that railways without a substantial agricultural and/or industrial foundation cannot produce structural changes in the economy. The structural changes caused by railway development in 19th century European economies - the 'forward linkages' to take O'Brien's terminology - have been widely debated among economic historians. At this stage it appears relevant to consider those scholars who underlined the multilateral effects of railway construction within the scope of both national and world economy. Landes, for example, discussed the "quickening of the pace of a remarkable conjuncture of endogenous, and exogenous stimuli to growth". He further observed that this 'remarkable conjuncture' was "the result of improvements in transport (namely railways); new sources of energy and raw materials; a sharp increase in the supply of money; and a creative entrepreneurial response to this combination of long-run opportunity and short-run facility". For the "underdeveloped" nations, however, Landes did not fail to point out that their "own industrial revolution" was a process in which they "assimilated only pieces of modern technology, and those advances, achieved at discrete points of the economy, were slow to break down the tenacious backwardness of most branches of economic activity". He further added that "in these countries industry accounted for so small a fraction

2. Ibid, p. 201.
of material wealth and income that even rapid gains in this sector did relatively little at first for total output or the standard of living. Rostow identified the 'take-off' with "une nouvelle technique (notamment dans le domaine des transports), rendant possible toute une série d'expansions sécoudaires dans des secteurs récemment ouverts à l'exploitation et exerçant sur l'économie extérieur de puissants effets dont la société saura tirer parti". Rostow further stressed that "la construction des chemins de fer constitue dans l'histoire économique l'agent le plus puissant des démarrages". O'Brien himself, though assuming the cliometric approach to economic (transport) history, thus criticising Rostow's stages of economic growth and the 'old' economic history of transport, concluded that "within the history of transport we now understand more clearly the mechanisms through which a decline in the cost of haulage saved real resources, widened markets, promoted local and regional specialisation and provided producers with access to natural resources. In all these ways railways carried forward a process that probably achieved a decisive breakthrough with canals."

This relationship between the coming of the railway and the quickening of economic growth, in the case of Portugal, has to be considered in terms of the political economy of a dependent peripheral state. Oliveira Martins, in his brilliant survey of this period, the second half of the 19th century, bitterly asked: "Is it necessary to mortgage the future to liquidate the past? Then, let it be done. Let everything be done, let everything be accepted for that purpose, as long as there will be money and railways." In a country which was an economic satellite of the world's leading power, which had subsequently accepted the free-trade policy and adopted the gold-standard, the abundance of foreign loans only maintained its dependent economic structure and further aggravated its financial situation. By maintaining its economic dependence and so further aggravating its financial prospects, capital accumulation in areas other than the export sector hardly existed. Since exports were largely in the hands of foreigners "its increased productivity generated either higher profits or lower prices for foreign consumers. Both higher profits and/or lower prices for foreigners were an addition which they received for capi

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1. Ibid., p. 236.
3. Ibid., p. 91.
tal loaned to the Portuguese Government". Oliveira Martins clearly realised the situation in a series of articles he wrote for the Oporto newspaper A Provincia in the mid-1880s. In one of those articles he analysed the critical financial situation of the country in the following terms: "The causes of our financial ruin are to be found in the economic doctrines which prevailed after 1852. The causes of our financial ruin are based on the idea that to a country with neither capital nor exporting manufactures, free trade is convenient and railway development is sufficient... We have devoted too much attention to circulation and we systematically forgot production. We built railways but we forgot to produce the goods which they were supposed to convey".

The advent of this 'policy of circulation' in the mid-19th century, based on foreign capital to construct new means of communication both within the country and to link it to the rest of Europe, did not produce any major alteration in the Portuguese economy. After all, the Fontismo was essentially "a policy of circulation destined to facilitate the mobility of merchandise and the commercialisation of the country", but in no way did it attempt "to increase national production, or to push industrial expansion... Production was sacrificed to commerce". The 'policy of circulation' relied to a very large extent on the export of agricultural surplus (live-stock included). Accordingly, it is not difficult to accept the reasons why its application did not bring about structural alterations in the economy. First, it affected mainly the suburbs of only three great cities (Lisbon, Setubal and Oporto), which were also the export ports of the produce connected with the agricultural spurt. Second, the increase in agricultural output was basically the product of foreign demand. Third, these commodities

suffered from serious competition in the European markets, and in the English market in particular. The competition was further aggravated by the fact that other export countries had both a larger productive capacity and higher productivity levels. Such was the case of Spain (fruits, namely oranges), Canada, Australia and Argentina with live-stock. Fourth, the range of the Portuguese exports was largely concentrated in one consuming market (England) and this further reinforced Portugal's submission to the prices stipulated by the English importers and to the freight costs charged by the English-owned shipping companies. Consequently, Portuguese agricultural exports soon lost their competitiveness in the foreign markets: port wine as early as 1860-65, oranges and olive oil after 1874-77, heads of cattle by 1885-86, wine (other than port) after 1889 so that "the export flow was considerably reduced by 1889-91".

There have been historical experiences of countries which have modernised their economy through the development of the agricultural sector and yet maintained a liberal policy. Sidney Pollard showed how Denmark had, within a generation, "switched from exporting grain to exporting meat and dairy products, while importing grain, used in part as cheap feed". Pollard further observed that Denmark succeeded in this policy by "technical innovation, rising yields, and quality control. These in turn rested on co-operation, particularly co-operative dairies (the first in 1882), abattoirs (1887), and egg-packing stations(1891), as well as co-operative purchasing societies, and on education". In Portugal, however, this supporting infrastructure never existed. The conditions within which the 'policy of circulation' developed not only restricted its duration and impact upon the economy but also prevented the 'take-off' of the 'policy of production'.

1. For Argentina, however, Christopher Platt observed that "the Republic did not export live cattle to Europe until the 1890s, while the real boom in beef exports had to await the first shipments of chilled beef in commercial quantities in 1901"; Christopher Platt, "Dependency in Nineteenth-Century Latin America: An Historian Objects", LARR (1980), pp. 121-22.
By favouring state-induced investment in commerce rather than in industry Fontes drove the country into increasing financial difficulties with national and foreign creditors and perpetuated Portugal's peripheral position in Europe. In other words, the policy which was pursued in the second half of the 19th century aimed at the development of the transport network (namely railways) in the hope that this would set-up the necessary conditions for the overall development of the economy. This was a typical situation of all European peripheral states where railways were built 'ahead of time'. As Godinho rightly observed, the problem was complicated because Portugal "was only very slightly affected in the 19th century by the full and clear development of modern capitalism; a situation of dependence on England and the exposure to certain forms of capitalism combined with speculative and bureaucratic activities without the support of a strong expansion of mechanisation and industry". Oliveira Martins had written his sharp surveys in the 1870s and early 1890s; Godinho formulated his arguments in the early 1950s. But both their positions benefited from historical hindsight. In the 1850s Fontes was fully confident of his policy and hardly anyone in Portugal was in a position either to criticise his ideas or to present a serious alternative to his 'railway mania'. To Fontes, "railways are progress turned into reality, rather than a symbol [of progress]."

The financing of the Portuguese railways was a direct result of party political rivalries which reflected in government policy and the structure of the network developed accordingly. The delicate balance between Portuguese politics and the building of the railways had been erected. Because of his failure in the 'eastern'

2. "On ne cite en Portugal que M. Fontes parmi les politiques qui se sont occupées de la construction des chemins de fer"; Perdonnet, op.cit., p. 57.
3. Oliveira Martins, op.cit., II, p. 310. Fontes behaved similarly to other political leaders of the European periphery. As Berend and Rââni observed, "every modern reforming statesman was also an apostle of the railway. Italy's Cavour, Sweden's Nils Ericson, and Hungary's Széchenyi and Kossuth all had their plans for railway building"; Iván T. Berend and György Rââni, The European Periphery & Industrialization 1780-1914 (Cambridge, 1982), p. 95.
line affair, Fontes and his party fell in disgrace and were forced to resign in 1856; however, he returned to Government in 1859, in 1865, in the seven years from 1871 to 1877 and in 1878-79, and, finally, in the six years from 1881 to 1886. The rotation worked smoothly and promised to hold on for as long as the resources of the Treasury were sufficient to meet the interest on loans, to negotiate further advances, and to redeem the debt.

3.2 THE PATTERNS OF RAILWAY FINANCE

The development of Portugal's railways during the second half of the 19th century was partly financed by foreign capital. The context within which this financial practice developed was derived from Portugal's dependence on foreign money markets - a direct dependence from both the creation of enterprises and their indirect financing through the public debt. It was a very specific type of dependence which was sustained by prevailing Portuguese Government economic policy, which was particularly concerned with the financing, construction and operation of the railways.

The resort to credit obtained in foreign money markets became a major component of the development of the Portuguese railways. Spurred by monetary difficulties Portugal established a policy of generous reward for those willing to invest in state bonds. The overall aspects of Portugal's public debt have already been dealt with in the introductory chapter of this thesis. With respect to the financing of the railways, and given the considerable proportion of capital invested in this sector, it seems appropriate, now, to give this issue further reflection.

The high rates of interest on Portuguese state bonds negotiated abroad raised interest rates in Portugal. Consequently, the capital market of Portugal, already small, lost its specific function of assisting local productive forces and was largely diverted into purely speculative investments. Because of the prevailing limitations of the domestic capital market, the state was forced to search for financial support and credibility from foreign financial houses. The London money market at the time appeared to be the most respected financial centre in the world and the issue of Portuguese loans there gave Portuguese capital its sound supporting basis that they required in order to invest their savings which, as has been shown, they possessed to a very considerable amount. In other words, the
Portuguese state relied on foreign money markets, but only to a certain extent. They provided the confidence, stability and credibility which did not exist in the domestic capital market, and which was essential to attract those who were eager to invest in Portuguese railways. The Portuguese state depended on the financial support of the London Stock Exchange and the Paris Bourse, and as much on their image of prestigious financial institutions as the finance they supplied. Both the English and French Exchanges accepted their role, but they demanded a very high price - thus, the actual seven to 10 per cent interest rates which were paid to investors on three per cent nominal loans. An increasing fraction of the investors were Portuguese and, given the convertibility of the foreign debt into the home debt, it is not difficult to accept that they subscribed and subsequently held no less than half of Portugal's funded debt. This, in turn, means that the railways of Portugal were financed by the Portuguese themselves to a very large extent. The role of British and French investors in the financing of the Portuguese railways has to be considered in two different, though complementary, objectives: the actual investment in the equity capital of the companies, and the supporting role of their respective money markets to allow the Portuguese state both to obtain the loans required and attract the savings of both foreign and Portuguese investors. The latter objective, of course, applied to private companies as much as to the state-lines.

All in all, foreign investors set up the finance of the Portuguese railways directly, through an actual initial investment, and indirectly, through their money markets where they obtained a rate of return on capital which they could hardly get in any other railways, domestic or foreign.

The nature of the network, the means required for the construction of the lines, the rules to follow for the operation of the service illustrate, beyond any doubt, the design of the state to supervise the construction and working of the railway system. Further, railway construction led to a very considerable amount of capital investment which would have not occurred without state intervention. The state created the legal environment for companies to raise their share and loan capital, while such paper was often subscribed for by the Government. It also issued state bonds and obtained their quotation on the home and foreign money markets. Subsequently, the state supervised the allocation of financial resources which were the product of foreign loans and which were destined to be subsidies to the
railway companies, for the construction of state railways, and also for the redemption of private-operated lines whenever the case occurred. Share capital, loan capital and government subsidies, then, constituted the financial resources of the private railway companies. However, the amount of share capital always accounted for the smaller portion of the total equity capital with bonds and debentures sometimes representing more than 10 times the amount of share capital. Thus the other two financial resources proved vital for the survival of the railway companies—government subsidies during the construction of the lines, loan capital for the operation of the service. In practical terms, then, a very small portion of the total investment in Portuguese railways came from abroad in the form of share capital. Once the companies had somehow managed to have their share capital paid-up, it was left for the state to take an active role in the financial needs of the companies, and often the state became a debenture holder of the bonds issued by the companies.

In 1852 a new government body—the Council of Public Works—was established to investigate the applications made by the railway companies, to supervise the works, and to create the basic conditions under which the service would operate. The Council, however, never had the chance to make a comprehensive survey of the country in order to discover which were the most suitable areas for railway development. In 1854, the Council reported to the King that "the geographical surveys of the Kingdom are far from collecting all the necessary elements to evaluate thoroughly the course of internal communications of different sorts, the advantages to obtain and the sacrifices to achieve them." The Council, then, operated as an ordinary bureaucratic state department but failed to become the enterprising body that had been expected of it. While most of the railway legislation emanated from the Council, through the Ministry of Public Works Commerce and Industry, there was no basic law covering the railway system as a whole. In the first place, there was no such thing as an overall planned railway system in the 1850s; laws were promulgated according to the preferences of the concessionnaires and contractors and referred simply to a particular line. Such

1. Such was the case with the Royal Portuguese Railway Company and the Compagnie des Chemins de Fer Portugais de la Beira-Alta. See chapter 6, pp. 282 and 304.

2. MOPCI (March 1854), "Relatório do Conselho de Obras Públicas e Minas de 17 de Janeiro de 1854", p. 221.
laws stipulated, amongst other things, the obligations of the chartered companies to the state, but left to the companies themselves the ultimate decision for the course of the route. The Law of May, 1852, for example, apart from the trivial assumption about the necessity of railway development "in order that the immeasurable benefit which can only be obtained by the railways can be gained", merely contemplated one line of railway which, starting in Lisbon, would connect Portugal with Spain and the rest of Europe. The Law in itself was the result of an application made by English railway promoters, rather than an initiative from the Government. Further legislation was passed in 1864 with regard to the relations between the state, the railway companies, and the landholders whose plots of land would be traversed by the railway, but it was only in 1871 that the state, which originally had devoted so much care to railway development, legislated on the construction of state railways. Even so, and despite additional legislation in 1872 and 1877, it was only in 1898 that a comprehensive law on the reorganisation of state railways was passed.

The legislation promulgated between 1852 and the early 1870s illustrates the huge gap between theory and reality. The state never oversaw operations and was only able to respond, usually with inefficiency, by submission to private foreign enterprise, the power and financial connections of which forced the current laws to follow its aims, the original provisions of the Government being simply either discarded or ignored. The role of the state, therefore, was that of a milk cow; in a report which was forwarded to the Minister of Public Works in 1868 it was observed that "very few Governments have helped the railway companies with such sound amounts of subvention money and provided them with such advantageous con-

1. Ibid, (May 1852), Law of 6 May 1852, pp. 3-12.
tracts, as the Portuguese Government has done.¹

Following Chevalier's plans for railway development, Fontes, and his colleagues after him, tried to apply the French model of railway concessions to Portugal.² In France, a national railway programme was drawn up as a result of the Law of June, 1842. "The government was to find the land, local authorities furnishing two thirds of the cost, and to construct the road-bed (the infra-structure), including bridges and tunnels. Companies were to furnish the super-structure, i.e. rails and ballast and station equipment, rolling stock and working capital. The local authorities disliked their share of the burden, which was removed in 1845. There remained the State and the companies."³ The practical results of the application of the French model to a weak state with a Government whose Treasury was perpetually empty, which was served by men "whose chief object is to identify their short tenure of office with some present benefit, however minute, to some existing interests, however insignificant, or to meet small immediate necessities by small immediate resources,"⁴ were disastrous.

Railway construction started in 1853 and proceeded very slowly, caused by substantial corruption and inefficiency, with the result that Lisbon was not connected with Oporto by rail until 1877. Further, the

2. "Railways in Portugal were entirely under the control and protection of the government; the method of granting concessions, as well as the general supervision over the works during construction, being similar to the French system"; The Railway Times (13 November 1858), p. 1341.
4. PRO, F0425/84, Correspondence Respecting Commercial Relations Between Great Britain and Portugal, March to May 1866, Lytton to the Earl of Clarendon, 19 May 1866. Lytton further commented in his despatch: "To statesmen thus situated, a sparrow in the hand is worth more than an eagle in the air".
southern province of the Algarve was not reached by the railway until 1889. Until then, contacts with the rest of the country were only possible by sea, with steamships only appearing on these routes after 1875. The northeastern provinces were equally isolated from the rest of the country, partly because of the mountainous terrain of the region. They were not connected with the rest of Portugal by rail until after the First World War. As for rail connections with the rest of Europe, Lisbon was linked with Madrid in 1864, but the route was very circuitous, ran through thinly-populated areas in both countries, and there were no feeder roads. Consequently, no great benefit was gained from either passenger or goods traffic. A new line was contemplated in the late 1870s but a more direct route to France and Europe was not opened to traffic until 1883. The policy adopted by the Government at the early stages of railway development further suggests that the intimate relation between population distribution and allocation of resources was not properly accounted for. It has been demonstrated that the two above factors are considered as a basic starting point for railway construction. As soon as 1852, the Portuguese Government opted for, or was compelled to accept, the connection to Spain, rather than building the railway between Portugal's two largest cities, Lisbon and Oporto. The construction of this line, together with the areas which were to be traversed by the railway, combined population distribution and allocation of resources to very high standards. Then, as later with the disastrous Spanish affairs of both the Royal Portuguese Railway Company and the Oporto Syndicate, the political argument prevailed over the economic argument and the operation of the lines suffered accordingly.

Originally, the state was not directly involved in railway construction, although it participated in the financing of the building of the private lines. This policy continued until the 1870s when the state finally realised how prohibitive were the terms of the contracts negotiated with foreign promoters and speculators. Further, the Government was forced to take over the 'southeastern' line from an English company after the latter had failed to fulfill its obligations towards the Government. Between 1852 and 1874 the state was nothing but a second rate version of King Midas by providing contractors like Shaw & Waring Brothers, promoters like Sir Morton Peto, and companies like the Royal Portuguese with no less than £4.70 million.

to which a further £0.32 million accounting for financial charges should be added. This represented a cost to the state of no less than £6,924 per kilo-
metre. This extraordinary amount of money was partly the result of dubious contracts negotiated with private companies and foreign contractors. The pattern was established by Portugal's experience with Shaw & Waring Bro-
thers: the contract, the non-fulfillment, and then the claim for damages, with the ultimate result that the line was put up for sale which, in turn, forced the state to purchase the whole undertaking.

This period also reflects the uncertainty, and ignorance to a certain extent, of the Government regarding the most suitable policy for railway development. When Fontes presented his proposals to Parliament in 1852, the prevailing argument was that railway construction, given the critical state of public finances and the poor credit of the country in foreign money markets, should be left to private companies. The opinions which had previously been voiced by several civil engineers on the issue made their impact on the Government. Not unexpectedly, many civil engineers became members of the Council of Public Works and Fontes himself was an army engineer. It is hardly questionable, therefore, that the measures Fontes took after 1852 were very much the outcome of his colleagues' current positions. In 1851, Almeida, a reputed civil engineer trained in France, stated categorically: "The Government cannot be in charge of such undertaking [railway construction] with hardly any hope of success; therefore, such undertaking should be left for the private companies under the inspection and supervision of the Government. It would be very convenient that the State would find itself in a position to become engaged in the construction of the lines; but the scarcity of money in the Public Treasury and the disor-
ganised state of the finances of the country make it an unsurmountable obstacle. Whatever the advantages to be obtained, should the undertaking be carried out by the State, they would not be achieved because the latter is not equipped with the necessary means for its fulfillment. To leave the construction of the lines to the Government is to reject their accomplish-
ment". Almeida's comprehensive financial and technical survey on railway development, the first ever to be carried out in Portugal, eventually became a leading manifesto for the French model of railway development applied

1. Albino Francisco de Figueiredo e Almeida, Vias de Comunicação (Lisbon, 1851), pp. 31-32.
to Portugal.

Fontes' policy for the financing of railways soon proved to be a vicious cycle whatever the ideology of the time. The state did not wish to intervene in either devising a railway system or building up the lines, because it was short of cash. But in a country in which "credit is poor and the interest rate is very high", to leave construction to private entrepreneurship made promoters and contractors apply for a financial aid from the Government. To fulfill its commitments towards the companies (either a portion of the share capital, a guaranteed interest rate on capital, or a subvention per kilometre), the Government, like France, had to secure credit in order to raise the money required by the companies. However, the early railway schemes, though sponsored and partly financed by foreign capital, made the state a major supplier of financial resources to the companies. Apart from the subvention money, the state became a shareholder of the Central Peninsular, and later reimbursed contractors and promoters and purchased the remaining portion of the share capital in private hands. The cost of railway construction during the 1850s, although restricted to only two stretches of railway with about 100 kilometres in all, was around 30 per cent above what it might have been, had the state carried out the works directly. In the early 1860s the total amount of capital invested in the 'eastern' and 'northern' lines totalled £6.62 million, of which only £3.16 million, or 47.7 per cent, was attributable to the company. The total cost of construction of the lines, including the £2.18 million of government subvention, amounted to £5.34 million. Bearing in mind that the state invested £3.39 million on both lines, no less than £1.28 million might have been saved, to which £0.25 million corresponding to interest on the capital invested by the state should be added: a total amount of £1.53 million, or 23.1 per cent of the total investment on the lines and 28.7 per cent of the total cost of construction could have been saved.

1. Ibid, pp. 33-36. Almeida, like many other Portuguese civil engineers, graduated in France and later became a member of the Council of Public Works. He travelled extensively throughout Europe in the 1850s and 1860s, reporting to the Council railway development on the Continent.

Fontes was probably right when he raised his voice in Parliament proclaiming the scarcity and the expensiveness of money in Portugal and the necessity of importing it from abroad. But he opted to attract foreign entrepreneurs rather than economic advisers. Fontes and his colleagues did not realise that railways probably would have cost less if financial resources had been directly obtained by and for the Government, instead of using the Government as an intermediary between the money markets on the one hand, and the speculators and the companies on the other. In the late 1860s, after all the unhappy experiences with Shaw & Waring Brothers, Peto and Adolphe Prost, to mention just a few, a government report admitted plainly that "the big profits are made by the contractors and the directors of the companies; they are responsible for the unprofitable operation of the lines". A good example of the state's intermediary position in railway development is the case of the 'eastern' line. In 1852 Fontes promised to Parliament that the railway "will bring big profits as a return on the capital invested. The Government expects not to spend an important sum of money and, later, it will not spend any money at all. The eastern line is considered by everybody - nationals as well as foreigners - an excellent investment". Five years later, only 36 kilometres of track were open to traffic, the company was bankrupt, the Government had to refund the contractors over £200,000, was compelled to buy the outstanding shares, and was obliged to continue the works. In 1859 with 68 kilometres completed and partially open to traffic, the state had already spent the astronomic sum of £1.5 million on the line.

The 'eastern' line affair left too many scars which took a long time to heal - Fontes and his Cabinet were forced to resign in the spring of 1856 and the works on the line stagnated until the beginning of 1860. Carlos Roma, in his study of the financial condition of Portugal and the development of railways, published in 1856, still rejected Government involvement in railway construction, the only exception that he accepted being a close relation between railway construction and the issue of loans in foreign markets. The Council of Public Works, too, was not sure about which policy to follow. The Government engineer appointed by the Council to su-

2. Diário do Governo (1 September 1852), "Relatório sobre o Caminho de Ferro de Lisboa a Santarém".
pervise the works on the 'eastern' line wrote an extensive report in 1857, which clearly illustrates that the Government had not learnt from the bitter events of late 1855 and 1856. The attitude was still to allow foreign contractors to do as they pleased. The report was typical of Portuguese rhetoric - long theoretical considerations followed by the indication of the state of affairs nearly everywhere in Europe, but no positive leads as to where and how the state should act in the question of railway finance. Being as it was a report on a troublesome affair (the 'eastern' line) its contents do not reveal that the lesson had been learnt and that the Government was firm in rejecting any further adventures with foreign speculators. The report emphasized theoretical considerations on the financial resources applied to railway development which can be best illustrated in the following statement: "The amount of capital required for railway construction depends on credit, basically; but the most convenient way to raise that capital is different, according to time and circumstances of each country. Whether capital is supplied by taxation, by loans, or by the financial companies to which the concessions are granted, it is certain that the country ultimately pays for it and it is the country which will carry that burden. The financial system which is convenient to follow in the construction and operation of railways has been largely debated and it assumes a paramount importance, whenever nations have preferred this means of transport to any other. This problem, the solution of which is linked to far-reaching social and political considerations, has not produced a regular resolution based on mutual principles and ideas. Railways are built by the state and by the companies and both operate the service. The system of subvention, either in cash or work-force, that of a guaranteed interest on capital, and that of profit-sharing all have been used, and they will continue so for a long time, because they all offer advantages, according to the country, time, and circumstances. It is obvious that where private initiative is less enterprising it is not possible to dispose of its energy with great benefit and confidence, and in such occasions the Government is compelled to handle the situation by giving an impulse to certain companies and by taking an active part in the administration of such affairs".

Between 1852 and the early 1870s the state subsidised the companies with a proportion of their share capital, or a guaranteed interest ra-

1. MOPCI, (December 1857), "Relatório sobre os Resultados...", pp. 199-200.
The guarantee of a minimum interest rate (usually around five per cent on top of which one per cent for amortisation was allowed) was part of the earlier contracts like the one negotiated with the successive parties engaged in the 'eastern' line. In 1856, however, the English company which had obtained the contract for the line went bankrupt and serious doubts began to emerge regarding the efficacy of the guaranteed interest system, when applied to a country which was nothing, politically and which was ruined, financially. King Pedro V commented to his uncle on the issue: "We need to look at the present economic climate of Europe seriously. Russia is going to build a great number of leagues of railway; India, too, will start construction soon and both these undertakings, which I do not hesitate to accept as more productive than our railways, are securing an interest of seven per cent. This makes it hard to believe in the honesty and seriousness of the proposals which are applying for a moderate guaranteed interest rate but do not augment their capital\(^1\). The facts proved the King right in his suspicions. Had everything 'run on wheels' with the 'eastern' line the state would have invested no more than £266,666 (one third of the total amount of the share capital) and a further £240,000 to £288,000 accounting for the six per cent interest on capital paid until completion of the works\(^2\). It turned out that the total cost to the state (financial charges and subvention included) came to £2.2 million, or £8,074 per kilometre.

The guaranteed interest on capital was abandoned in 1856 in favour of a mileage subsidy allowed to the English contractor and railway pro-

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1. "Letter to Prince Albert, 27 October 1856", in Mendes dos Remédios, (editor), Cartas Inéditas de El-Rei Dom Pedro V (Coimbra, 1903) p. 213.
2. The estimate is based on a total period of construction of five to six years.
moter Morton Peto. It was generally admitted that the subvention system was "less onerous and above all it does not imply the immediate availability of such a sound amount of capital as that required by the system which favours the guaranteed interest rate on capital." The reasons for the alteration in the state subsidy were given in a long report presented to Parliament in 1857, when the provisional contract with Peto was signed. The report basically focused on the following guidelines: "The Government has put forward this system because it defines in a positive manner the charges upon the State, and also because it lessens those charges, particularly in the early years when the receipts of the line cannot be very considerable. It also presents the advantage of concerning the company in a sound construction and operation of the lines, which in turn makes a better service for the public and for the State. For the former it turns the service more efficient; for the latter it releases the State from the difficulties of a rigorous inspection, which nearly always produces disputes and it can never be executed with promptness. In more advanced countries, where the State disposes of a more efficient inspection, and where the conditions of mobility and other economic conditions make it possible a larger circulation of both passengers and goods, which in turn means the highest possible net revenue to the companies, or, alternatively, a reduction in the payment of interest, the system of a guaranteed interest is more convenient. In our country, however, circumstances are diverse as everybody knows. The guaranteed interest, therefore, could be used advantageously in the countries above mentioned; but this does not necessarily mean that we should apply it ourselves. It happens, however, that in France, Germany, and even in the United States, the subvention system has been adopted lately - and in some

1. A subsidy per kilometre had been formerly granted to a 70 kilometre line south of the Tagus, but the line was envisaged by both the Government and the private investors within a different economic and political framework than that of the 'eastern' line. It was contracted for by a Portuguese company whose shareholders were likely not in a position to make strong demands upon the Government. This explains, perhaps, the reason why a subvention of only £1,777 per kilometre was allowed. See chapter 5, pp. 205-206.

2. Diário do Governo (14 April 1857), "Discurso do Deputado Carlos Bento da Silva no Parlamento em 14 de Abril de 1857".
cases the amounts of subvention reach half the cost of construction... The system of a guaranteed interest, particularly when it offers a high rate of interest, is not good because the company will not be concerned with economy and a rational operation, as it takes for granted the regular interest above which the net revenue of the line will hardly increase. Further, it presents another disadvantage because it does not help the rise of the public funds, which represent the credit status of the nations, for it offers to the invested capitals the same income with a double guarantee - that of the State, and the mortgage of the railway.¹

Throughout the 1860s the subvention per kilometre was the subsidy adopted by the Government, of which the 'eastern-northern' and 'southeastern' lines were good examples. One of the consequences of the subvention system, however, was the disproportion between the actual cost of construction and the subvention paid by the state to either the contractor or the company. Gabriel Casares showed that for Spain the amount of subvention allowed to the private companies depended on political aspects, rather than on the actual cost of the works.² The Salamanca contract for the 'eastern' and 'northern' lines in Portugal is a striking example in which the disproportion between the amount of subvention and the cost of construction to the company was substantial, with the result that the contractor misused a large amount of public money for his own benefit.³ In the following decade the state was involved in railway construction which was financed through the public debt. At the turn of the 1870s the mileage subvention prevailed in the construction of the 'Beira-Alta' line, but in both the 'Oeste' and 'Beira-Baixa' lines, which were contracted for by the Royal Portuguese in the 1880s, the guaranteed interest prevailed once again. All in all, it appears that the subsidising of companies was based less on a consistent policy which should serve the aspirations of the country, than in private entrenched interests of promoters and contractors. It paid more to

². Casares, op.cit., p. 169.
³. See chapter 6, pp. 278-79.
Shaw & Waring Brothers to have a six per cent interest than a mileage subvention which would have compelled them to build the line properly and which would only be paid to them whenever a section of the line was open to traffic. But the subvention paid later on the same line to the Royal Portuguese was equally not satisfactory for the state. Total subvention amounted to no less than £2.1 million; should the Government have paid, say six per cent interest on capital, the cost to the state of both the 'eastern' and 'northern' lines would have reached about £500,000 on top of the one third of the share capital, financial charges not included.

For the lines built by private companies and which were subsidised by the state the following table indicates how very rarely the mileage subsidy or, alternatively, the rate of return on capital worked to the benefit of the state. It appears that the state usually had to, or was forced to, adopt the more costly procedure of a subsidy, with the result that the lines may have cost much less than the actual cost of construction to the companies plus the subsidy granted by the state. Such was the case with the lines built in the 1850s. This was due, perhaps, to strong pressure from private capitalists upon the Government, who otherwise would not have submitted tenders. In the 1880s, however, the state had already gained some experience with the construction of its own railways and this may account, perhaps, for the stronger position taken by the Government which, in turn, explains why the rate of return on capital prevailed over the subvention system in the cases of the 'Oeste' and 'Beira-Baixa' lines.
Table 18. State Subsidies Allowed for Railway Construction of Private Companies (amounts in £)

<table>
<thead>
<tr>
<th>Line</th>
<th>Government Subsidy</th>
<th>Additional expenditure incurred by the State</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>guaranteed interest on capital (1)</td>
<td>mileage subvention</td>
</tr>
<tr>
<td>Eastern and Northern</td>
<td>504,000</td>
<td>2,178,000(^{a)})</td>
</tr>
<tr>
<td>Southeastern(^2)</td>
<td>93,000</td>
<td>124,390(^{a)})</td>
</tr>
<tr>
<td>Southeastern(^3)</td>
<td>270,000</td>
<td>440,888(^{a)})</td>
</tr>
<tr>
<td>Beira-Alta</td>
<td>144,000</td>
<td>1,032,422(^{a)})</td>
</tr>
<tr>
<td>Oeste</td>
<td>806,707(^{a)})</td>
<td>1,197,900(^{4})</td>
</tr>
<tr>
<td>Beira-Baixa</td>
<td>674,672(^{a)})</td>
<td>1,049,400(^{5})</td>
</tr>
<tr>
<td>Total additional expenditure incurred</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: a) - subsidy actually allowed to each line;
1 - based on a six per cent annual rate of return on capital until completion of the works;
2 - the first 70 kilometres built by the Portuguese company;
3 - the 124 kilometres built by the English company;
4 - based on an average subvention of £4,950 per kilometre which was the subvention allowed to the 'eastern' and 'northern' lines;
5 - same as 4.
In 1855 the state had taken over a railway when Shaw & Waring Brothers, the contractors of the 'eastern' line, had suspended the works. This caused the Central Peninsular Railway Company, which they controlled, to fail, with the result that the Government was forced to take over the line. The state continued the works until 1859, when a contract was signed with the Spanish railway promoter and contractor José de Salamanca. With the failure of the South Eastern of Portugal Railway Company in 1865 and the settling of its accounts in 1870 the Government was, once again, in possession of a railway line. In 1869, with a critical financial situation in which annual budget deficits were running around £1.0 million and the 'funds' were quoted in London at no more than 34, there was no alternative but to keep the line, complete the works and operate the service - permanent state railways were born at last. The 'southeastern', along with new lines in the north of Portugal (the Douro and Minho lines), which were directly undertaken by the state, completed the state network which reached 828 kilometres in operation by 1890.

The direct involvement of the state in railway construction became the focus of a long lasting argument between pro- and anti-state railway factions which, at the turn of the 1870s, shifted to a further stage involving the redemption of the lines operated by private companies. Men like Jayme Larcher and Miguel Paes now proclaimed the virtues of government construction, contradicting themselves and their colleagues on the Council of Public Works, by criticising the routes of the 'eastern/northern' lines which they had previously approved, or at least had not rejected, in the mid-1850s and early 1860s. Government engineers who had strongly supported private entrepreneurship in those years were now fiercely crying out over the dangers brought about by private companies. Jayme Larcher, for example, indicated that all of the last four sections of the Douro line had been built at a lower cost per kilometre than that offered at the public tender. This had resulted in a saving of no less than £32,450 in the building of

1. Jayme Larcher, O Resgate dos Caminhos de Ferro do Norte e Leste e a Rede do Estado (Lisbon, 1883), pp. 77-82.
3. An interesting debate appeared in the railway press in the late 1880s. See GCF (1 May 1888), pp. 50-51; (16 May 1888), pp. 65-67; and (1 June 1888), pp. 81-83.
the last 61.3 kilometres of the line. Subsequently, Larcher maintained that railway construction undertaken by the state was more economic and technically superior than the efforts of private enterprise.\^1

However, it took nearly 20 years for the Council of Public Works, and the Government, to arrive at the conclusion that in a country like Portugal railway construction should have followed a course other than that so enthusiastically advanced by Fontes in the 1850s. But nothing could be changed by the late 1880s as the main network had been completed and there were entrenched private interests: in 1877 while the state railways represented as much as 44.2 per cent of total mileage they only accounted for 26.2 per cent of total traffic receipts; the construction and operation of the 250 kilometres of the 'Beira-Alta' line in 1877 was contracted to a French company; the Royal Portuguese extended its network considerably, amounting to over 1,000 kilometres in 1890, or half of the total mileage of the system. In 1889, with the extension of the Royal Portuguese network, the proportion of the mileage owned by the state dropped to 38.6 per cent although its share of the traffic receipts had increased slightly to 28.4 per cent. In 1907 the state's shares of mileage operated and total traffic receipts were only 36.6 and 29.3, respectively. In 1890 the mileage had reached just over 2,000 kilometres, the railways were carrying over five million passengers a year, and traffic receipts amounted to £1.22 million. It had taken more than 30 years to build 2,000 kilometres of track at the impressive cost of about £23 million, over £11,000 per kilometre.

There is no reliable estimate of the cost of construction of the Portuguese railways for the period which forms the scope of the present study. The few available do not distinguish between the cost attributable to the companies and the subsidies allowed by the state, nor do they provide an indication of either the direct cost of construction or that part accounted for as financial charges incurred by the issue of loan capital on the part of the companies, and state bonds on the part of the Government. The combination of all these factors makes the question of the overall total cost of railway building in Portugal liable to very wide discussion. A clear and indisputable estimate of the total cost, therefore, appears entirely beyond grasp, given the nature of government budgets, in which the proportion of railway costs was not separated, in either the ordinary or extraordinary expenditure, from that of other public works, and also because the loans nego

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1. Larcher, op. cit., p. 20.
tiated by the state for railway development were never redeemed until the completion of the works and very often became part of the consolidated debt. However, it is possible to make some estimates, as the available sources contain sufficient quantitative and qualitative data with which to calculate, with not a very significant margin of error, the total cost of construction. Further, this can be broken down as between that borne by the private companies, the volume of state subsidies, and the cost of state railways.

As the following tables show clearly the state bore the largest portion of the cost of construction; overall, its share represented no less than 58.2 per cent of the total direct cost of construction. Further, it appears that state railways cost around 26 per cent less than the lines built by the private companies with a government subsidy. The cost per kilometre of the state lines amounted to £8,723 whereas that of private lines averaged no less than £10,992. This reinforces the conclusion already drawn that Fon­tes' policy was not the most compatible with the financial conditions of Portu­gal during the second half of the last century. The total cost to the companies at £7,000 per kilometre not only reflects the favourable financial conditions that they were able to obtain from the Government, but it also reinforces the suspicion that a proportion of the £5,043 per kilometre allowed by the Govern­ment to the private companies was diverted by contractors and directors to purposes other than the construction of the lines.

1. Between 1852-53 and 1863-64 the cost of harbour works, river navigation and other public works, amounted to £1.0 million (roads not included), whereas the cost of railway building reached £3.4 million"; J.J. Rodrigues de Freitas, Notícia Acerca de Portugal (Bombay, 1873), p. 103. In 1867 there were 722 kilometres of track in operation at a cost of £3.7 million, fi­nancial costs excluded; José da Silva Mendes Leal, Discurso Acerca da Actual Situação Econômica e Financeira pronunciado na Câmara dos Senhores Deputados na Sessão de 14 de Março de 1867 (Lisbon, 1867), pp. 20-21. "Les som­mes dépensées par le gouvernement pour la construction des chemins de fer, jusqu'en 1864, s'élèvent à Reis 15,835,281,367, ou 87,973,785 francs [£3.5 million]"; Alphonse de Figueiredo, Le Portugal: Considérations sur l'état de l'administration, des finances, de l'industrie, et du commerce de ce royaume (Lisbon, 1873), p. 205. In March, 1878 the state had applied £7.3 million in railways, or 34.9 per cent of the total amount applied to public works; The Statist (27 September 1879), p. 97, quoting ex-Minister Barros Gomes. The sum spent by the state in surveys and subsequent construction, together with the subventions allowed to the private companies, amounted to 48.8 billion Reis (£10.8 million) between 1852 and 1887; Frederico Pimentel, "Influência da Viação na Riqueza Pública", ROPM, (May-June 1891), p.100. Sideri (op.cit., p. 164) puts the total cost of railways in 1880 at £10 million.
Table 19. Cost to the State in Setting-up Private Railway Lines, 1852-1890

<table>
<thead>
<tr>
<th>Line</th>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) 'Eastern'</td>
<td>cost of two thirds of the share capital of the Central Peninsular Railway Company</td>
<td>£600,000</td>
</tr>
<tr>
<td>2) 'Northern'</td>
<td>survey paid to the Crédit Mobilier</td>
<td>£5,000</td>
</tr>
<tr>
<td>3) 'Southeastern'</td>
<td>subsidy to the Portuguese company</td>
<td>£124,390</td>
</tr>
<tr>
<td>4) 'Beira-Alta'</td>
<td>subvention to the French company</td>
<td>£1,032,422</td>
</tr>
<tr>
<td>5) 'Oeste'</td>
<td>subvention to the Royal Portuguese Railway Company</td>
<td>£806,707</td>
</tr>
<tr>
<td>6) 'Beira-Baixa'</td>
<td>subvention to the Royal Portuguese Railway Company</td>
<td>£674,672</td>
</tr>
</tbody>
</table>

**TOTAL COST TO THE STATE**

£7,222,214
Notes: (a) based on Roma, op.cit., pp. 58-60;
(b) based on official figures. In a letter to General Loureiro the King estimated the cost per kilometre at no less than 54 million Reis (£12,000); quoted by Abragão, op.cit., p. 215;
(c) this was the net revenue to the state according to the provisional contract signed with Salamanca;
(d) based on data from the Ministry of Public Works. See chapter 6, p. 260;
(e) based on the correspondence of Sir William Napier who acted as Peto's adviser in Lisbon. See chapter 5 p.203.
(f) according to the contract the subsidy was £1,770 per kilometre. See chapter 5, p. 206.
(g) according to the contract the subsidy was £3,555 per each of the 124 kilometres. See chapter 5 p. 206.
(h) this was the market value of £1,850,000 which, in turn, was the product of a loan negotiated in London in 1869;
(i) the state only subsidised 202 kilometres because the last 50 kilometres were in dispute between the Société Financière and the Royal Portuguese. See chapter 6, p.304.
(j) this was a five per cent guaranteed interest on capital up to a cost of £6,667 per kilometre until completion of the works. The return on capital is based on £1,613,414, that is, £6,667 x 242 kilometres, for a period of 10 years;
(l) same as the previous line, up to a cost of £7,956 per kilometre. The return on capital is based on £1,686,672, that is, £7,956 x 212 kilometres for a period of eight years.
Table 20. Cost to the State in the Construction of State-Railways (1874-1890)

<table>
<thead>
<tr>
<th>lines</th>
<th>cost in £</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) 'Southeastern' line (255 kilometres)</td>
<td>1,415,250</td>
</tr>
<tr>
<td>2) 'Minho' line (149 kilometres)</td>
<td>1,652,606</td>
</tr>
<tr>
<td>3) 'Douro' line (204 kilometres)</td>
<td>2,235,840</td>
</tr>
</tbody>
</table>

TOTAL COST TO THE STATE IN THE CONSTRUCTION OF STATE RAILWAYS 5,303,696

Notes: (a) based on PRO, FO63/1142/25 (Commercial), Wyke to the Earl of Granville, 11 April 1883. This, in turn, is based on Diario do Governo (29 March 1883). See also Relatório da Comissão... p. 4;
(b) according to Pimentel, op.cit., table pp. 128-29;
(c) based on the cost of the four last sections of the line; Larcher, op.cit., p. 20. Sousa (op.cit., p.10) puts the cost of the whole line at 8 billion Reis (£1.8 million). Pimentel estimates no less than £2.7 million (op.cit.).
Table 21. Cost of Railway Construction to the State
(private lines and state lines), 1852-1890

<table>
<thead>
<tr>
<th>lines</th>
<th>Total cost (£)</th>
<th>mileage in kilometres</th>
<th>cost per kilometre (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private companies</td>
<td>7,222,214</td>
<td>1,432</td>
<td>5,043</td>
</tr>
<tr>
<td>State lines</td>
<td>5,303,696</td>
<td>608</td>
<td>8,723</td>
</tr>
<tr>
<td>Total</td>
<td>12,525,910</td>
<td>2,040</td>
<td>6,140</td>
</tr>
</tbody>
</table>

Table 22. Cost of Construction to the Companies, 1852-1890

<table>
<thead>
<tr>
<th>lines</th>
<th>mileage in km</th>
<th>direct cost of construction (£)</th>
<th>cost per km</th>
<th>financial costs</th>
<th>total cost (£)</th>
<th>total cost per km (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eastern &amp; Northern</td>
<td>506</td>
<td>2,387,573</td>
<td>5,451</td>
<td>777,813</td>
<td>3,165,386</td>
<td>7,227</td>
</tr>
<tr>
<td>Southern</td>
<td>220</td>
<td>1,219,934</td>
<td>8,133</td>
<td>426,977</td>
<td>1,646,911</td>
<td>10,979</td>
</tr>
<tr>
<td>Beira-Alta</td>
<td>252</td>
<td>1,611,170</td>
<td>6,394</td>
<td>197,010</td>
<td>1,888,180</td>
<td>7,493</td>
</tr>
<tr>
<td>Beira-Baixa</td>
<td>212</td>
<td>1,686,672</td>
<td>7,956</td>
<td>101,200</td>
<td>1,787,872</td>
<td>8,433</td>
</tr>
<tr>
<td>Oeste</td>
<td>242</td>
<td>1,613,414</td>
<td>6,667</td>
<td>96,805</td>
<td>1,710,219</td>
<td>7,067</td>
</tr>
<tr>
<td>Total</td>
<td>1,432</td>
<td>8,518,763</td>
<td>5,949</td>
<td>1,555,465</td>
<td>10,074,228</td>
<td>7,035</td>
</tr>
</tbody>
</table>

Notes: (1) according to the report and accounts of the Royal Portuguese, in JCF (13 January 1866), p. 23
(2) based on a seven per cent interest paid to share and bondholders between 1860 and 1865
(3) see chapter 6, p. 304.
(4) and (5) based on a six per cent interest on bonds issued for the construction of both lines; bonds were issued at 50 at nominal rate of three per cent.
<table>
<thead>
<tr>
<th>Line</th>
<th>Mileage in Kilometres</th>
<th>Cost to the Company (£)</th>
<th>Total Cost (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eastern &amp; Northern</td>
<td>506</td>
<td>2,387,573</td>
<td>5,788,708</td>
</tr>
<tr>
<td>Southeastern</td>
<td>220</td>
<td>1,249,934</td>
<td>2,537,212</td>
</tr>
<tr>
<td>Beira-Alta</td>
<td>252</td>
<td>1,611,170</td>
<td>2,643,592</td>
</tr>
<tr>
<td>Oeste</td>
<td>242</td>
<td>1,613,414</td>
<td>2,420,121</td>
</tr>
<tr>
<td>Beira-Baixa</td>
<td>212</td>
<td>1,686,672</td>
<td>2,361,344</td>
</tr>
<tr>
<td>Total</td>
<td>1,432</td>
<td>8,518,763</td>
<td>15,740,977</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Line</th>
<th>Mileage in Kilometres</th>
<th>Cost to the Company (£)</th>
<th>Total Cost (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private Lines</td>
<td>1,432</td>
<td>8,518,763</td>
<td>15,740,977</td>
</tr>
<tr>
<td>State Lines</td>
<td>608</td>
<td>-</td>
<td>5,303,696</td>
</tr>
<tr>
<td>Total</td>
<td>2,040</td>
<td>8,518,763</td>
<td>12,525,910</td>
</tr>
</tbody>
</table>

Table 23: Total Direct Cost of Construction of Private Railways, 1858-1890

Table 24: Total Direct Cost of Construction of Railways, 1858-1890
Although financial costs attributable to the companies are available (they are included in table 22 and amount to £1,555,465) the financial charges incurred by the state remain a dark area in railway development. It has already been pointed out that loans issued abroad were never redeemed until the completion of the works and very often most of them were converted into consolidated debt. It is likely, however, that the interest rates at which loans were negotiated in the London money market (and those are the relevant ones for the purpose of determining railway costs) were no less than seven per cent, given the average annual quotation of the Portuguese funds between 1852 and 1890 and the actual interest rates on the consolidated foreign loans issued in London between 1862 and 1884\(^1\). Applying this rate to the cost to the state (£12,525,910) the interest paid would come to £876,814 which, in turn, represents a total cost to the state of £13,402,724. This amount combined with the total cost to the companies (£10,074,228) represents a total cost of railway construction of £23,476,952, or £11,508 per kilometre.

\[3.3 \text{ THE PERIODISATION OF RAILWAY DEVELOPMENT}\]

In order to simplify the analysis it seems reasonable to divide the period of study - 1852 to 1890 - into four shorter periods which, in turn, illustrate the different patterns of railway financing and the subsequent growth of the system.

The first period, the 1850s, was inaugurated by the Law of 1852 for the 'eastern' line, was not interrupted by the fall of Fontes and his cabinet, but ended in 1859 with the provisional contract signed with Salamanca for the 'eastern' and 'northern' lines. It was a period of too many hopes, very little achievements, and too many frustrations. Some of the frustrations were the result of the Spanish railway policy regarding the rail connection between the two Iberian countries\(^2\). Cameron has suggested

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2. "The crucial question of linking Spain to Portugal by rail has reached such a momentum in the neighbouring kingdom [Portugal], that not only it dictates the life of the Ministries but also affects the country as a whole"; GCH (17 April 1859), p. 225.
that the Spanish Government was not sympathetic to the idea of a railway between Madrid and Lisbon as it might have affected the development of the Spanish port of Cádiz. Miguel Artola takes a completely different point of view, which had been developed in his extensive study of Spanish railways. According to Artola, it is beyond any doubt that the primary concern of the Spanish Government throughout the 1850s was the development of railway transport between the Mediterranean and Atlantic coasts, in an attempt to unite the interests of the two largest railway companies involved in railway construction in Spain - the M.Z.A. and the North of Spain. Until such a connection was completed, any further railway development, including the line to France and, for more obvious reasons, the line to Portugal, came second in the aspirations of the Government. This, of course, does not deny Portugal's dependence on Spain in international railway connections; it merely suggests that the delay in linking the two countries by rail was due less to a premeditated Spanish policy of isolating Portugal than to the specific conditions of Spain's railway development. Contemporaries, however, seemed obsessed with the prospect of Lisbon becoming isolated from Europe, once the lines from Madrid to Vigo and Cádiz were completed. The King typified his compatriots' point of view when the categorically sustained: "It is pure foolishness or blindness if we do not understand all the efforts that the Spanish Government is presently taking to make Vigo [in northwestern Spain] the terminal of the railway which links Spain to Europe. It is even a greater blindness if we fail to realise that the development of Vigo is the decay of Lisbon". As far as Portuguese international railway links were concerned Barron rightly observed in his annual report that "it is evident that in this matter Portugal is entirely in the power of Spain".

Thus, in 1856 the Portuguese Government was compelled to direct its attention towards the construction of a railway to Oporto and the subsequent negotiations with Morton Peto were carried out accordingly. It was only in 1859 that the railway connection between the two countries was finally completed.

3. "Letter to Prince Albert, 26 December 1858", in Ruben Andrensen Leitão (editor), op.cit., p. 216.
4. GBPP (1860), LXVI, 2716, "Report by Mr. Barron...", p. 56.
negotiated. Bearing in mind that the contractor of the 'eastern/northern' lines was the Spanish José de Salamanca whom, in turn, was backed by influential shareholders of the M.Z.A., it is not difficult to understand why the route to Madrid through Badajoz and Ciudad Real (whose Spanish section was controlled by the M.Z.A.) prevailed over the straighter line to Paris through Salamanca, Valladolid and Burgos (which was controlled by the North of Spain). Barron further remarked in his report: "A great mistake has been made, I conceive, in the direction selected for the international line which is to connect Portugal with Bayonne. That line ought to have passed through Coimbra, Beira [the Beira province], and Salamanca, instead of Badajoz, Ciudad Real and Madrid, which is that now in prospect. This latter line will be sixty leagues longer, will only traverse a small deserted part of Portugal, and will place this port [Lisbon] at a great disadvantage as compared with Cádiz." 

This was also a period in which three important surveys of the network were made and adopted, indirectly, by the Government as the plan of the future railway system of Portugal. They deserve, therefore, some attention. The first survey was made by a Government engineer before 1851 (probably 1850) and it devised basically a network with two main lines: one from Lisbon to Oporto, the other from Lisbon to Spain. The former line was given preference, taking into account the proportion of population north of the river Tagus as opposed to south of the river, as well as the distribution of agricultural resources and existing internal and external trade of the areas between the two cities. The line to Spain had the particular feature of combining rail with river and coastal navigation, and even a canal linking the rivers Tagus and Sado was considered. Secondary lines were included in the report and they were mainly branches of the two envisaged lines, although no estimate of their total mileage and cost was disclosed. The report further emphasised the coordination to be established between rail, road and river transport, and particular attention was devoted to the improvement of river navigation throughout the country with the ultimate

1. Ibid, p. 238
4. Ibid, p. 22.
object of fostering agricultural output which, in turn, would also be aided by the development of railways\(^1\). A total cost of £2.6 million for the two envisaged lines (463 kilometres, or £5,555 per kilometre) was estimated\(^2\), but no indication was produced as to the proportion of the cost to be sustained by the private companies and by the state. The report finally contemplated the creation of two companies, one for the construction and operation of each of the two envisaged lines. (The company which was to contract for the line to Spain was also to operate, somewhat ambitiously, the river and canal navigation between Lisbon and the railway terminus which was to be located in the small village of Alcācer do Sal, on the right bank of the river Sado)\(^3\). Briefly, the report reflected the influence of the unsuccess-ful railway schemes of the previous decade and also that of the French model of railway financing, with the state sponsoring the formation of both companies and controlling their affairs.

Thomas Rumball's report was forwarded to the Portuguese Government at the end of 1852. Rumball was the engineer and one of the original promoters of the railway to Spain, and it was in this capacity that he made his report. The company which obtained the concession for the line received its charter only for the construction of a single track of line to the frontier of Spain. Thus, Rumball's report and subsequent estimates of the cost of construction of the line were limited to a small area of the country, the economic and demographic dimensions of which were not substantial. In addition, because of shortage of funds, the survey was further reduced to a small section of the line, the first 70 kilometres from Lisbon to Santarém\(^4\). A total cost of around £800,000 was estimated, but serious doubts regarding the soundness and accuracy of the report soon emerged from the Council of Public Works\(^5\). Rumball's report represented a serious setback to

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1. Ibid, pp. 22-23
2. Ibid, p. 29. The cost of the rolling stock was included (Ibid, p. 67).
3. Ibid, p. 68.
4. MOPCI (January 1853), "Relatório do Engenheiro Thomas Rumball da Companhia Central Peninsular dos Caminhos de Ferro de Portugal à mesma Companhia em 7 de Dezembro de 1852", pp. 44-51.
the aspirations of the Government, but his survey of the line prevailed in the construction of the 36 kilometres built by the English contractors Shaw & Waring Brothers. The shortcomings of the report resulted in very poor construction and the subsequent cancellation of the works, with the state being forced to invest no less than £600,000, the two-thirds of the share capital of the English company that the Government was compelled to purchase, and a further £884,000 in works on the line.

After the failure of the English contractors in 1855, Fontes tried to attract French capitalists to invest in railways in Portugal. Several proposals were then forwarded to the Government, either by private capitalists like the Count Claranges-Lucotte or by investment banks. None of the projects materialised so that Cameron makes a terrible confusion when he wrote that the Lisbon to Sintra line (a scheme originally contracted for by Lucotte) "became the first railway actually completed in Portugal". Of all the French investors that came to Portugal in the mid-1850s Pereires' Crédit Mobilier emerged as the more important, and for the purpose of estimating the cost of construction the French engineer Wattier came to Portugal to survey the routes. His report basically returned to the original guidelines established by Almeida in 1850, but no surveys for branch lines were made. The original route of the line to Spain was wisely abandoned, the line now sharing a trunk section and branching off from the Oporto line after 110 kilometres. Wattier's report was the more extensive and accurate of the three surveys mentioned above. His surveys on both lines were carried meticulously, partly because the available maps were "as inaccurate as one could possible imagine". Despite working on behalf of a French investment bank which could largely benefit from the whole affair, should the Portuguese Government have granted it the concession for the whole system (and that was very much in Fontes' mind), Wattier clearly remarked that "railways in Portugal will be very costly and will produce very little". He further commented that "Portugal must apply for a loan to build its railways" and that "twenty years would not be sufficient to complete the network, should construction be left solely in the hands of the Portuguese".

3. Ibid, p. 82.
4. Ibid, p. 81.
5. Ibid, p. 102.
A total cost of 148.9 million francs (£6.0 million) for 413 kilometres was estimated, on top of which a further £640,000 for the railway station and freight yard at Lisbon should be added, bringing the total cost to £7.2 million, or £14,960 per kilometre. For reasons which will be the subject of further comment in this study, the negotiations were cancelled and the Crédit Mobilier's offer was rejected. Until the end of the 1850s no further progress in the works on these lines occurred. In the meantime, the Government contracted out 70 kilometres of railway south of the Tagus to a Portuguese company, although the prospects were not very promising. The track, despite the easy gradients of the area, ran through sparsely populated country and Wattier, who later surveyed the whole area, observed: "I have been all over the place as far as sixty kilometres without finding a single house, with the exception of the poor hamlet of Pegões". Not surprisingly, the company had suspended the works by the end of 1858 and the Government was forced to purchase the whole undertaking for £224,000, after having allowed the company a subvention of £1,777 per kilometre.

The ever mounting bill for railways started in 1855, when the state bought the remaining two-thirds of the share capital of the Central Peninsular Railway Company and became directly involved in the works on the line. By the end of the first period - the 1850s - only about 140 kilometres of track had been built but only 68 kilometres of the 'eastern' line were open to traffic. The cost to the state had reached nearly £1.9 million.

1. Ibid, p. 92.
2. Ibid, p. 131.
### Table 25. Cost of Construction of Private Lines to the State 1852-1859

<table>
<thead>
<tr>
<th>Line</th>
<th>Description</th>
<th>Cost (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) 'Eastern' line</td>
<td>Cost of two-thirds share capital of the Central Peninsular Railway Company</td>
<td>600,000</td>
</tr>
<tr>
<td></td>
<td>Cost of construction (68 kilometres x £13,000)</td>
<td>884,000</td>
</tr>
<tr>
<td>2) 'Northern' line</td>
<td>Survey paid to the Crédit Mobilier</td>
<td>5,000</td>
</tr>
<tr>
<td></td>
<td>Refund to Sir Morton Peto</td>
<td>30,135</td>
</tr>
<tr>
<td>3) 'Southeastern' line</td>
<td>Subsidy to the Portuguese company (70 kilometres x £1,770)</td>
<td>124,390</td>
</tr>
<tr>
<td></td>
<td>Purchase of the 70 kilometres</td>
<td>224,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>(£13,533 per kilometre)</td>
<td>1,867,525</td>
</tr>
</tbody>
</table>

The following period - the 1860s - was really the first in which sustained development took place. In 1863 453 kilometres of track were open to traffic, but over 700 kilometres were in operation by the end of the decade and a further 325 kilometres were in course of construction. The 1860s were also a turning point with respect to the role of foreign investment in Portuguese railways. French capital succeeded in replacing British capital in the financing of the 'eastern' and 'northern' lines, and the Paris Bourse took over from the London Stock Exchange as the centre for most issues of Portuguese railway stock. The bonds were issued by the Royal Portuguese Railway Company which was largely dependent on French capital, and which took over the 68 kilometres from the Government and completed the works on both lines. The Government allowed the company a subvention of £4,500 per kilometre on the 'eastern' line and £5,400 per kilometre on the 'northern' line, which represented a total subsidy of £2,178,000 for both lines. The sale of the 68 kilometres to the contractor of the Royal Portuguese was negotiated at £612,000 (£9,000 per kilometre, but the contractor deducted the amount of subvention - £306,000, or £4,500 per kilometre) which produced a net revenue for the state of only £306,000. Even so, the loss to the state at £578,000 was substantial. On both lines the cost to
the state came to £3,391,135 (financial charges excluded), or £6,702 per kilometre.

British capital in the 1860s attempted to recover from previous failures and £1.2 million were invested in railways in southern Portugal. As usual, the state allowed the company a subvention per kilometre, but the failure of the company in 1865 caused the Government to rescind the contract and to purchase the line for £528,000. By the end of the 1860s, and despite the shortage of feeder roads and poor traffic receipts, the Royal Portuguese emerged as Portugal's major railway operator with annual traffic receipts at around £230,000 and a total mileage in operation of 506 kilometres, which represented over 70 per cent of the total mileage. In the meantime, the cost of railway financing to the state had risen to £4.7 million.

The third period - the 1870s - were marked by the growing involvement of the state in railway construction, with the Government becoming involved in the completion of the 'southeastern' line and building two more lines in the north of Portugal at a total cost of £4.9 million. The Royal Portuguese obtained the contract for railways in Spain, which amounted to over £600,000, but this proved a disastrous affair which caused serious problems and threatened the survival of the company. There were two new English ventures on the scene, both of which were short-lived and fraudulent schemes: the Lisbon Steam Tramways Company (a light railway) and the Minho District Railway Company (a short narrow gauge line in the Minho province). Total capital invested in both companies (share and loan capital) amounted to £382,000 and by the end of the decade not a single kilometre of track remained open to traffic. Finally, in 1877 the Paris-based Société Financière, through a satellite company, contracted for the 'Beira-Alta' line on which the state allowed a total subvention of £1.0 million.

In the last period - the 1880s - railway construction was again dominated by the private companies, that is, by the Royal Portuguese. Two more lines were put out to contract - the 'Oeste' and the 'Beira-Baixa' - both of which were allowed a five per cent rate of return on capital by the state until the completion of the works. The state, too, became involved in a new and fraudulent railway scheme, which was largely the product of banking, financing, and commercial interests of the city of Oporto. The seven Oporto banks involved in this affair had no legal rights in their statutes to invest in foreign railways, let alone to be involved in deals which had nothing to do with their usual banking activities. They further proved not
to have the capacity to raise the £1.7 to £2.0 million required for the construction of the lines\(^1\). Ultimately, the affair illustrates the speculative climate which predominated in railway development in Portugal and the submission to foreign banks and financiers (the Comptoir d'Escompte and the Belgian Henry Burnay), the latter becoming the great benefactor in the whole deal. Burnay only subscribed for £18,400 of the issued capital but, as the representative of the syndicate and agent in Portugal of the Comptoir, was a powerful man. He kept in his hands the surveys of the lines, controlled the finances of the syndicate and was the intermediary in purchasing the rolling stock and in contracting the works. It was estimated that he pocketed at least £180,000 from the whole affair\(^2\).

The issue focused upon two northerly rail connections which were actually in Spain, but were extensions of the Douro and 'Beira-Alta' lines. The extension of the former had not yet been adjudicated and it was estimated that no less than five years were required for the Portuguese Government (which had built the Portuguese section of the line) to complete the 128 kilometres from the frontier to the Spanish city of Salamanca. The construction of the line to be built in Spain, however, was far from being secured by the Portuguese Government and the Société Financière had in any case obtained an optional status to build the line, should it be put up for tender by the Spanish Government. The latter extension, too, had been originally granted to the same French investment bank, partly because it would favour the section that the bank was actually building in Portugal (the 'Beira-Alta' line), and partly because the bank was involved in the construction of the Medina del Campo to Salamanca section, the obvious extension of the 'Beira-Alta' line into Spain\(^3\). Had the concession for both extensions been granted to the Société Financière the French bank would obviously favour the 'Beira-Alta' section, and the isolation of Oporto from the benefits that the city and its harbour might have gained from conveying Spanish grain and other agricultural produce from the neighbouring country appeared to be evident. The intimate connection between the Regenerators, who were then

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1. The seven banks were: Banco Alliança, Banco Comercial do Porto, Banco Mercantil Portuense, Banco União, Banco Portuguez, Banco Comércio e Indústria and the Nova Companhia Utilidade Pública; Fernando de Sousa, "A Salamanca e a Crise Bancária do Porto", Nummus, second series, I (Oporto, 1978), appendix, document n° 1, p. 23. Also The Railway Times (5 August 1882), p. 750.
2. Ibid, pp, 20-21
holding office, and the local financial interests of Oporto worked out smoothly to sustain the plans of the French bank. The Regenerators, with the ultimate target of gaining political dividends, were responding to an old aspiration of the Oporto bourgeoisie: the rail connection with Spain along the Douro\(^1\). By doing so, Fontes and his party managed to neutralise the influence of the Progressive Party\(^2\). They were further reinforced by the neutral position of the Spanish Government to whom the extension of the lines was not viewed with great expectation because they would not seriously damage the development of the ports of both Galicia and the Cantabric coast.

The Portuguese Government, of which Fontes was again the Minister of Finance, favoured the creation of the Syndicato Portuense headed by Burnay, in which £220,000 were invested\(^3\), and to which the construction of the two sections, 202 kilometres in all, was granted by the Spanish Government\(^4\). The syndicate not only received a guaranteed interest on paid-up capital of five per cent from the Portuguese Government, the annual charge of which was estimated at no more than £30,000\(^5\), but also a subvention of 60,000 Pesetas per kilometre from the Spanish Government\(^6\). The influential Lisbon newspaper Jornal do Commercio commented on the concessions obtained by the syndicate: "On sait que c'est un syndicat de Porto qu'a obtenu la concession de ces chemins de fer, lesquels, tout en se construisant sur territoire espagnol, sont d'une importance capital pour le Portugal, par ce fait qu'ils sont destinés à relier doublement notre réseau de voies ferrées avec le réseau espagnol, nous ouvrir une voie en ligne directe dans la direction de la frontière franco-espagnole, et surtout à mettre Porto en communication rapide et directe avec les riches provinces espagnoles de Salamanca et Valladolid... Les travaux de construction du premier de ces tronçons sont déjà passablement avancés; quant au tronçon vers Barca d'Alva, l'approbation définitive de son tracé vient d'être obtenu du gouvernement espagnol, et la

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2. Ibid.
3. Ibid, p. 5.
5. Ibid.
construction va commencer sans retard. L'étendue de cette partie de la ligne n'est pas bien considérable mais les travaux d'art et notamment les tunnels y sont aussi nombreux que difficiles.\(^1\)

The creation of the syndicate so openly favoured by the Government\(^2\) produced a bitter row which divided passionately the public opinion for several months\(^3\). Wike reported to London that the principal argument against the Government decision was that "it is evidently bad policy on the part of the Government to guarantee a profit in favour of Spanish railways, at the very time taxation has been heavily increased in this country"\(^4\). Wike further observed that "on the other hand, the supporters of the Government contend that the lines are essentially requisite for the success of the Douro line from Oporto, and that of the Beira, in order to place them in communication with the rest of Europe through Spain; and moreover that the Spanish Government have hardly any interest in the construction of those lines"\(^5\).

Although the Government allowed the creation of the syndicate in June, 1882, it was only in 1885 that the latter managed to form a company to build the lines. The Spanish extension of the 'Beira-Alta' line was open to traffic in June, 1886 and the Douro branch in December, 1887 more than six years after the adjudication had been made\(^6\). The consequences for

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1. *Jornal do Commercio* (3 August 1882).
2. The Government pressed the Town Councils to vote the project favourably; Sousa, *op.cit.*, p. 7.
3. Ibid.
4. PRO, F063/1119/46, Wike to the Earl of Granville... In the same year the Government sponsored the formation of the syndicate, new taxes on sugar, tea, petrol, and salt were levied. A new additional tax of six per cent on every tax was also established; Sousa, *op.cit.*, p. 11.
5. Ibid. Sousa (op.cit., pp. 9-10) noted that there was a potential development of the commercial relation between the two countries, should the lines be built. He particularly stressed that "if Oporto was to receive from Salamanca 25,000 out of the 38,000 tons of grain which the city needed for consumption, the amount of taxes to be levied on that grain would come to 132 million Reis (£29,300), that is, "the annual subvention the Government is granting to the syndicate".
the Oporto banks were dramatic: they amassed a total debt to the Comptoir d'Escompte (their main creditor, of which Burnay was the agent in Portugal) of £880,000, and the loss on the operation of the lines reached £17,000 annually. Their involvement in this affair, coupled with the effects of the financial crisis of 1891, forced them to lose their power of issuing notes and they were further compelled to merge into two banks, and the operation of the lines was secured directly by the Government.

By the end of the 1880s the railway network, as it is known today, was already in operation with lines at last serving the more densely populated areas of the country, although the mileage in operation was substantially smaller than that which had been planned in the late 1870s by the Ministry of Public Works.

1. Ibid.
2. The estimate was 3,530 kilometres, of which 2,451 would be first class railways and 1,079 second class; Pimentel, op.cit., p. 100.
CHAPTER 4

THE POLICY OF SPECULATION—AN INTRODUCTION TO BRITISH
AND FRENCH INVESTMENTS IN THE PORTUGUESE RAILWAYS
"There were few governments in the world to which the English people did not make a loan, few corners in which some enterprise was not financed from London".

Herbert Feis, *Europe: The World Banker* 1870-1914

"Fermons nos Bourses et n'oublions pas les désastres subis par notre pays, si souvent entraîné par les demandes de crédit de Gouvernements étrangers sans ressources et sans honneur. Ne prêtons rien au Gouvernement Portugais!"

Protestation contre tous les Emprunts Portugais jusqu'à ce que le Portugal ait payé ses créanciers, anonymous pamphlet published in Paris on February 15, 1889
With the return of peace and the adoption of a government transport (railway) policy, the stage was set for foreign promoters and speculators to come to Portugal and apply for railway concessions in the country. The British and the French dominated the scene and set the pace for railway development throughout the period which covers this study. The nature of their investments and the mobility of their financial resources which resulted in an Anglo-French 'financial alliance', is the object of the present chapter.
On November 29, 1889 the Portuguese Foreign Minister, Barros Gomes, ended a long despatch to London in the following terms: "Portugal, who conquered India and created Brasil, has a past exceeded by that of no other nation. That past gives her the right to ensure her hopes of a new and brilliant period for her nationality. Africa alone can guarantee it to her. When she defends her rights in that continent she defends her future." Barros Gomes, for the first time in the 19th century, had challenged Britain on a delicate issue. The growing colonial expansion of the European powers in Africa had started in 1876, when an unofficial conference was held in Brussels. This led to the organization of the International African Association, and further conferences took place in Berlin in 1884-85. The Portuguese Government was convinced that its 'archaeological claims' to Mashonaland, the Highland of Shiré, and Nyasaland, followed by positive statements of Portuguese sovereignty over those territories, would be sufficient to put aside Britain's claims in that area and convince the international community of Portugal's real and effective presence in Africa. By the end of the 1880s, however, British traders and missionaries were active north of the Zambezi river and Cecil Rhodes "had formulated plans for British expansion into the lands of the Matabele, the Mashona, and the Barotse, partly for the purpose of exploiting the country, and partly in pursuance of his scheme for a Cape-to-Cairo railway through all British territory." Hence, the opposition to Portuguese aspirations of enlarging their sphere of interest in that area emerged from many quarters in England, and the ultimate response from London was the humiliating British Ultimatum of January, 1890 and Portugal's subsequent submission to British policy.

3. The limits of the areas in dispute were agreed upon in 1891 and Britain kept the lion's share: "Nyasaland with an area of about 40,000 square miles west and south of Lake Nyasa became a British protectorate and the bulk of the region claimed by Britain in Central Africa, approximately 300,000 square miles, was handed over to the South African Company organized by Cecil Rhodes"; Knaplund, op.cit.
The dramatic events of early 1890 followed by "the violence [against the British] displayed by the mobs of Lisbon and Oporto"\(^1\) were an exception to the rule. For centuries England had directed the important affairs, both political and economic of Portugal, and there appeared to be no alternative to this unequal partnership\(^2\). Forrester asked the right question in the early 1850s in his brief but suggestive survey on Portugal. He asked why this nation which had once "ploughed the ocean with her fleets and traced upon it new routes to conquest" had reached a position where "her flag is seldom seen, while thousands of foreign ships occupying her place convert Portugal into one universal depot for their manufactures and produce"\(^3\).

Portugal's political submission to England and its financial dependence upon the European money markets in the 19th century was the ultimate result of a secular development which can be traced back to the 17th century when the isolation of the country from the rest of Europe became more evident. This was partly due to the end of colonial expansion and partly to the diversion of the international trade from the Mediterranean to the Atlantic with the result that the balance of political and economic power in Europe shifted to the north and consequently Portugal was left in the 'semi-periphery' of the 'capitalist world-economy'\(^4\). The annexation to Spain in the late 16th century and the devastating effects of both the Jesuits and the Inquisition\(^5\) pushed Portugal even further away from the mainstream of western thought and culture. When Portugal regained its independence from

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2. For an accurate account of the secular Anglo-Portuguese relations see Sandro Sideri, Trade and Power - Informal Colonialism in Anglo-Portuguese Relations, (Rotterdam, 1971).


4. See chapter 7, pp. 319-20.

5. For the impact of the Inquisition in 17th century Portugal see Carl A. Hanson, Economy and Society in Baroque Portugal 1668-1703 (1981), pp. 70-107.
Spain in 1640, economic and political help from England was of very considerable importance and constituted a structural change in the long-run relations between the two countries. The commercial and political treaties signed in 1642, 1654, and 1661, consolidated by the famous Methuen Treaty of 1703, placed Portugal at the mercy of the English manufacturers and led to the enormous wealth and power enjoyed by the English community in the country. In the 1690s the capital of English firms established at Lisbon was estimated at £600,000 and after the Methuen Treaty investments reached about £6 million: "the fortunes of the community reached new heights and not less than ninety English merchant houses flourished here". Consequently, Portugal moved into the English economic sphere with the result that its manufactures either stagnated or declined, its foreign trade was in the hands of the English and commercial relations with Britain were "far more highly

1. In 1352 a 'general protection' was granted by the King of Portugal to English merchants and the same was done by the King of England; D. MacPherson, Annals of Commerce, Manufactures, Fisheries and Navigation (1805), I, p. 546. A commercial treaty was signed in the following year between the King of England, Edward III, and the merchants of Lisbon and Oporto, by which the latter were allowed permission to fish on the coasts of England and Brittany. Other privileges were granted in 1367; DHP (Lisbon, 1971), "Comércio Externo", III, pp. 320-22.

2. The effects of the treaty were immediate, though of diverse consequences, upon the economies of the two countries. While British exports to Portugal increased from a yearly average of £295,000 for the period 1697-1700 to £625,000 for the period 1706-1710, Portuguese exports to England rose from £172,000 to £240,000, respectively. Portuguese imports from England increased by 120 per cent during the two above periods, and exports by only 40 per cent; Sideri, op.cit., p. 44.

3. J.A. de Almada, A Aliança Inglesa (Lisbon, 1946), I, p. 76.

developed than with its neighbouring Spain\(^1\).

The subsequent evolution of Anglo-Portuguese relations, despite theoretical assumptions by the English classical economists regarding the benefits which were gained by England's 'oldest ally'\(^2\), did not produce gains for the economic and social development of Portugal. On the contrary, the relations between the two countries after the Methuen Treaty illustrate a premature example of the patterns of the 'informal empire' of the 19th century because they applied "in circumstances where producers [Portuguese wine growers] without benefit of a large home market, were dependent on a single foreign outlet [England] for their staple product, and where that foreign outlet, in turn, was at liberty to buy from alternative supplier [s France or Spain]"\(^3\).

At the beginning of the 19th century the outcome of the Napoleonic wars, England's subsequent victory over France, and the loss of Brasil disrupted the Portuguese commercial system (which had been carefully and somewhat successfully organized by the Minister Pombal in the third quarter of the 18th century)\(^4\), reduced the strategic importance of Portugal and so further increased England's control over the Portuguese economy. Throughout the century, "by informal means if possible, or by formal annexation when necessary, British paramountcy was steadily upheld"\(^5\). The adoption of free

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2. Adam Smith criticised the Methuen Treaty as a mercantilist act, but he claimed that "it was evidently advantageous to Portugal and disadvantageous to England"; quoted by the British Consul at Lisbon, George Brackenbury, in his "Report on the Trade and Commerce of Lisbon for the Year 1883" FOCR (1884), p. 1081. While on a purely theoretical approach, the treaty resulted in a type of specialisation and international division of labour which assisted David Ricardo's comparative advantage principle.
3. Christopher Platt, "Further Objections to an 'Imperialism of Free Trade', 1830-60", EHR, second series, XXVI (February 1973), p. 89. For the 19th century, Platt considered the dependence of the tobacco planters in Colombia on the German market as a "case in point".
trade by Governments in those areas which were not "coloured red on the map" resulted in a general strategy of development which converted these areas into complementary satellite economies, which would provide raw materials and food for Great Britain, and also provide widening markets for its manufactures. In other words, this general strategy combined political action with commercial supremacy - "the former aided the growth of the latter; this, in return, strengthened political influence". This strategy applied, to some extent, to Portugal (and to Spain and Brazil, among other countries) and was reinforced there by the classes whose prosperity "was drawn from foreign trade" who, in turn, "worked themselves in local politics to preserve the local political conditions" which were required for the maintenance of the dependence on foreign trade. Therefore, Britain had a strong influence upon the Portuguese economy. This influence, combined with an amorphous policy on the part of the Portuguese Government in which neither free trade nor protectionism were adopted clearly, prevented Portugal from moving forward to industrialization and maintained its dependent peripheral condition.

England's control over Portuguese foreign trade in the 19th century remained quite impressive despite some diversification in Portugal's trading partners: for the period 1851 to 1890 Portuguese imports from Britain, as a percentage of total imports, averaged 44.8 per cent while Portuguese exports to Britain averaged 49.8 per cent for the same period. In addition, Britain's supremacy was reinforced by the proportion of Portuguese foreign trade borne by British shipping. As late as 1881 the British Consul at Lisbon reported to London that "the movement of our shipping is equal to more than half the total number and to nearly two-thirds of the aggregate tonnage of vessels of all nationalities frequenting Portuguese waters". As

1. Ibid, p. 142.
3. Ibid, p. 150.
for the financial aspect of dependence it is sufficient to point out that until 1891 English money was the legal tender of Portugal, the Bank of Portugal issuing only convertible banknotes. Not surprisingly, the picture presented at the middle of the century by an English port wine producer and exporter who was well acquainted with the country as he had spent most of his life there was that "Portugal is almost unknown in those countries where civilization is so advanced that there is no time to look back on those who have remained two centuries behind".

II

Within the context of such relations the focus of British capital and enterprise in Portugal during the second half of the 19th century was in the field of railway construction. British railway schemes in Europe, particularly in France where the Paris-Rouen was "the first conspicuous effort of British construction enterprise" that had "made the reputations of the contractors and the engineer", were already in operation by the early 1850s. Such schemes had brought enormous prestige to the new engineering firms whose number, according to the census of 1851, had reached 677. Along with the reputation of the engineers, the strong personality and boldness of British contractors whose work "may be more properly thought of as a migration of enterprise and labor and capital", was an important asset to the success of British entrepreneurship abroad. Small wonder, then, that the prevailing idea at the time was that "the English people assume in all economic affairs a superiority to which they are, generally speaking, enti-

1. Sideri, op.cit., p.150
2. Forrester, op.cit., p.xvii.
Not unexpectedly, the British took the lead and became the first railway promoters in Portugal. After all, they still were the 'world's banker' at the time, they possessed the reputation and expertise for railway construction, and Britain was Portugal's major trading partner. As soon as peace and political stability returned to Portugal in the early 1850s the ground was prepared for a diversification (and a subsequent reinforcement) of economic and financial dominance over Britain's 'oldest ally'. Consequently, the British immediately directed their attention to the prospects of railway financing in the country. If in the late 1840s the London bankers were cautious about further advances to the Portuguese Treasury, they were nonetheless hopeful that the political confusion of the first half of the century and its repercussions in the economic field would soon be over. As Mildmay put it to Bates, one the partners of Baring Brothers & Co.: "I am glad to find we are agreed about the advance on Portuguese stock tho' the time may come when a connection with that Government may be worth having".


2. "In the early decades of the 19th century Great Britain was virtually the only important source of capital ... During the [19th] century British capital remained the quickest and freest to move"; Herbert Feis, Europe the World's Banker 1870-1914 (New Haven, 1930), p. 4. "By 1857 British nationals held some £80 million worth of American railway securities"; Checkland, op.cit., p. 38. Feis, however, rightly pointed out that "in the closing decades of the 19th century the British holdings of continental securities declined rather than the contrary. France attained financial sufficiency - became an important lending country, in fact - and Germany moved in the same direction" (p. 18).

3. BBP, Ms. 18,321, HCl.20.2.30, Humphrey St. John Mildmay to Joshua Bates, 16 December 1846.
A great deal has been written about the nature of British expansion in the 19th century; expansion either by formal annexation and subsequent incorporation in the formal empire, or, in those areas "not coloured red on the map", by spheres of interest. If the motive which directed that expansion was very much one of commercial necessity it was also, and not as rarely as one might expect, one of financial intrigue and speculation. The case of British investments in railways in Portugal in the second half of the 19th century appears to fit better in the latter than in the former category. To explain why, it seems appropriate to discuss two points which are intimately related to the issue but only have in common the fact that they are simply academic arguments with very little, if any, historical accuracy. They are first, the danger brought by the railways to the monopoly enjoyed by England in the Portuguese trade; and second, the non-interventionism of British foreign policy throughout the 19th century when applied to Anglo-Portuguese relations.

Taking into account the unsuccessful outcome of British railway investments in Portugal, it seemed reasonable to admit that Cameron was right when he pointed out that the British were not interested "to see Portugal linked by rail to Spain, and then to France, so as to deprive Britain of its virtual monopoly of Portuguese commerce". Cameron's argument, however, can only be sustained if sufficient evidence, which he does not disclose, is found showing a distinct opposition, or at least any serious attempt to prevent railway construction, from those who enjoyed the "virtual monopoly of Portuguese commerce". But such was not the case. The available sources suggest neither a policy of opposition on the part of the British diplomats in Portugal, nor any estrangement from the British business community involved in railway financing and construction in the country. As it has been shown, British railway promoters had been well aware of the railway potential in Portugal since the mid-1840s; furthermore, the chaotic financial situation in the late 1840s was not an obstacle for British railway promoters to direct their attention to railway ventures in Portugal in the early years of the following decade. Finally, there is indisputable evidence of combined interests between the business community involved in railway and steamship companies in England being directly involved in a major railway scheme in Portugal. This shows that what the British had achieved in parts of their 'formal' empire (India) could also be obtained in a small

2. See chapter 2, pp. 78-88
corner of their 'informal' empire (Portugal). As Thorner rightly pointed out in his study on British railway and steamship enterprise in India, "to a very large extent the leading line in India, the East Indian Railway from Calcutta to Delhi, began as little more than an inland extension of the Peninsular & Oriental." The strategic location of Lisbon, "by far the most important port of the Peninsular & Oriental service, being the centre of the Peninsular trade and financial interests," accounted for the fact that neither the Royal Mail Steam Packet Company nor the Peninsular & Oriental Company, which shared the bulk of Portuguese shipping, envisaged the coming of the railway as a major threat to their business. It seems plausible to assume that in the companies' directors' point of view the construction of railways in Portugal (namely those radiating from Lisbon) could bring additional traffic and revenue from both passengers and goods - this explains, perhaps, the reason why the Peninsular & Oriental concentrated in their efforts to obtain a mail contract through the port of Lisbon. Although the Peninsular & Oriental, because of "difficult and even critical phases in the decade of 1850-60," was not involved in railway financing in Portugal in those years, the Royal Mail Steam Packet Company behaved otherwise. The company, which had established the first steam communications between Europe and the West Indies in 1841, had nine years later established the first steam service to South America (Southampton to Rio de Janeiro and the River Plate), with intermediate calls at Lisbon, Madeira, St. Vincent,

3. Ibid.
4. Ibid, p. 153. Cable writes that the critical decade of the 1850s was the result of the following events: the war with the sailing ships and opium interests in the Far East; accusations of high-handed and greedy use of monopolistic powers; enormous and unjustified profits won at the expense of the country in the mail contract; on top of these internal trades came another over which the company had no control - the price of coal jumped, and a shortage of freighters so forced up rates that the cost of supplying Eastern stations went up 50 per cent over the previous year's cost (pp. 133 and 153). In the early 1870s, however, one of the directors of the Peninsular & Oriental, Admiral Sir William Hall, was involved in a small and fraudulent railway scheme in northern Portugal. See chapter 5 p. 244.
Pernambuco and Bahia. The service was so successful that in 1852 the company "stood second to none among the world's shipping companies, both as to prestige and in the size and number of the vessels which comprised its fleet". Charles Edward Mangles who, along with his friends John Chapman, Robert Russell Notman, and George Bernard Townsend, were granted the concession for a £1.2 million railway in southern Portugal (the 'southeastern' of Portugal) acted as director and Chairman of the London and South Western Railway in 1860, and was the Chairman of the Royal Mail Steam Packet Company between 1856 and 1873. Notman was also the Chairman of the Great Southern of India Railway Company and he might have passed on to Mangles and his friends the Peninsular & Oriental's secretary (Rowland MacDonald Stephenson) envisaged framework of British railways abroad: "shipping lines and railways were all part of his plan for a vast communications scheme which would eventually link Britain not only with its greatest eastern empire, India, but also with that other immeasurable market, China". Hardy Hislop, one of the original concessionnaires of the 'eastern' line from Lisbon to the frontier of Spain in 1852 clearly illustrated this idea when he submitted yet another application to the Portuguese Government in 1858: "Several English capitalists, those who belong to the financial aristocracy of London, are willing to build a railway in southern Portugal, which will become a section of the general railway network of Europe, which will have to cross Spain and will connect the port of Lisbon with the principal markets of

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2. Ibid, p. 72.
4. Bushell, op.cit., p. 253. In 1872, one of his directors, Arthur Pratt Barlow, was involved in a small and fraudulent railway scheme in northern Portugal. See chapter 5, p. 244.
5. Thorner, op.cit., p. 45.
the world". The attitudes of the French, too, who became the great financiers of railways in Portugal do not support Cameron's subsequent argument regarding British opposition to railway development in the country. Writing in the early 1880s, Albert Ménadier pointed out that the railway connection between Lisbon and Paris could be made in 36 hours which, added to a further 12 hours for the channel crossing, would make it possible to reach London from Lisbon by rail in only 48 hours, against 95 to 98 hours taken by steamer. This, according to Ménadier, might eventually damage the interests of British steam enterprise on the routes to and from America, India and Australia. But he emphatically concluded: "the English pay such an admirable tribute to the question of time that they will be the first to realise how generous would be the compensation to achieve in saving such time".

Shipping and railway enterprise matched perfectly in the case of the London and South Western, the Royal Mail and the South Eastern of Portugal. They matched so well that they were further extended to banking in 1862, when Mangles and his friends founded the Anglo-Portuguese Bank with a total share capital of £1 million divided into 20,000 shares of £50 each. According to the prospectus published by the English press, the object of the bank was to extend the advantage of a "sound system of joint-stock banking" to Portugal, because "the increase in the trade of the country, and its further development by the opening of its railways renders the introduction of such a system a matter of the utmost importance to Portugal, whilst

1. AHMOP, DGOP-RC, 107, Documentos Relativos às Propostas Feitas para a Construção do Caminho de Ferro de Leste a partir de Santarém, e do Caminho de Ferro de Lisboa ao Porto, 1856-59. In 1872, the British Consul at Lisbon also shared his contemporaries' ideas about the development of railways in Portugal, when he observed that a straight line from Lisbon to Paris "would shorten the time at least twenty-four hours, and, in my opinion, much more. All the mails from South America and the Pacific, and the large number of passengers who would wish to avoid the Bay of Biscay, would follow this route; and if the necessary alterations and improvements in the harbour were made, Lisbon would practically have no rivalry to dread"; GBPP (1873), LXV, 828, "Report by Consul Brackenbury on the Trade and Navigation of the Consular District of Lisbon for the Year 1872", p. 995.

it will afford a legitimate source of profit on the capital invested for that purpose. Cameron's argument about the little cooperation offered by Britain in railway development in Portugal must be put to discussion and eventually dismissed - the British were as much interested in Portuguese railways as anybody else.

The second of the two arguments mentioned above will now be discussed. British foreign policy as expressed by Platt was, with rare exceptions, non-interventionist throughout the 19th century until 1914. It is now known, however, that Anglo-Chinese relations, at least after 1885 (and China was also part of the 'informal' empire), were increasingly dependent on the Foreign Office decisions, partly because of "growing foreign competition and foreign diplomatic backing," which resulted in a "wider anxiety for Britain's commercial future." As has been pointed out, Portugal presents itself as a premature case of an area outside the 'formal' empire which was subject to British intervention from the beginning of the 18th century. Throughout the 19th century such policy was strenuously supported by British diplomatic agents in Portugal whenever the interests of British merchants, bondholders and railway promoters, and speculators were at stake. Platt himself admits that the "good-offices" of British diplomats were often extended to bondholders. As it will be shown, "good-offices" when exercised

1. Bankers' Magazine (January 1863), p. 54 and HR(C)J (3 January 1863), p. 24. The directors of the bank were José Marques Braga (vice-consul for Brazil in Liverpool); John Chapman (director of the Union Bank of London and of the South Eastern of Portugal); Francis Cramp (of Messrs. Offley, Cramp & Co., of London and Oporto); James Farquhar (Deputy-Governor of the Union Bank of London); Sebastian Pinto Leite (of Messrs. Pinto Leite & Brothers, of London); Charles Edward Mangles (chairman of the Royal Mail Steam Packet Company); Robert Russell Notman (Director of the South Eastern of Portugal); George Barnard Townsend (Director of the same company); and Francis Morrogh Walsh (of Messrs. Morrogh, Walsh & Co., of Lisbon). Baster (The International Banks (1953), p. 138) puts the share capital at only £500.000.


by such men as the British Minister Howard or Consuls Brackenbury (in Lisbon) and Crawfurd (in Oporto) "must have been difficult indeed to distinguish from unqualified diplomatic intervention". In a recent study P.J. Cain also noticed that research on Anglo-Portuguese relations has suggested that with respect to the "imperialism of free trade", Portugal "was much dominated by Britain as many African or Asian territories". Even the King of Portugal himself was well aware of the power of British diplomats. In one of his letters addressed to his uncle, Prince Albert, he wrote that "the English ambassadors (and there is no difference whatever on this respect between Sir Henry Seymour, Sir Robert Packenham, Mr. Ward, and now also Mr. Howard) always give protection to an Englishman regardless the fact that he may be a rascal or a thief".

British foreign policy elsewhere might have been different, but, as far as Anglo-Portuguese relations were concerned, the Foreign Office only had to adapt its long-run policy of control to the new demands of a century which had brought the steam machine and the railways. Along with this new technology came a new generation of men whose policies and decisions in no way weakened Portugal's dependence on its 'oldest ally'. As it will be shown, they not only mapped the course of relations between Lisbon and London but also set the pace.

British railway promoters came to Portugal in the early 1850s because of two factors in play at the time: the lack of railway contracts in England, and the improvement of political conditions in Portugal. When

4. "After the 'mania' of the mid-1840s the public railway capital market for domestic issues contracted and its development regressed. In 1855 only ten English companies were paying a dividend of more than 5%, while 28 companies, with an aggregate capital of £22 m., were not distributing any ordinary dividend... only 80 new railway companies were incorporated between 1850 and 1857, and most were small concerns with capitals of less than £0.5 m"; Philip Cottrell, "Railway Finance and the Crisis of 1866: Contractors' Bills of Exchange, and the Finance Companies", JTH, new series, III (February 1975), pp. 21 and 22.
they came a major transformation had taken place in the nature of domestic railway financing: after 1845 the contractor became increasingly responsible for the raising of funds in England, which seemed to form the general pattern of British (and French to some extent) railway construction in Portugal. Despite the sound engineering basis provided by men like Thomas Rumball and Sir John Rennie, it was those who followed them that caused 'the mess'. The nature of British investments in Portuguese railways, therefore, did not differ substantially from that of the domestic market as analysed by Reed and, to some extent, that of British investments in American railways where the bulk of British investments was in bonds rather than in shares. Speculation with the flotation of the companies' securities and state bonds and bribery of Portuguese officials constituted the main features of British railway activity in Portugal.

At the first glance it could be said that the ordinary aspects were there: a certain amount of capital being raised in London, promoters and directors relying on the support of the London Stock Exchange, English contractors making the lines, and English exporters supplying coal, rails and other railway material. When each and every one of the English companies which were engaged in railway construction in Portugal is examined, a very different conclusion is reached. To begin with, all schemes were of a very speculative nature, both in the way promoters managed to raise capital and in the way directors controlled and assisted the works. Railway promoters underestimated both the capital and future revenue with the result that though the scheme might eventually be profitable the degree of commitment was much higher than originally expected. British investments in Portuguese railways were shaped in various ways. By far the greatest part of the investment was in the form of an outright concession, giving the promoters (and the contractors) full control of construction and operation, with the Government granting a subsidy per kilometre or a guaranteed rate of return on capital to be invested by the company during the period of construction. In other cases investment was in the form of bonds issued by both the railway company and the Portuguese Government, or in preferred stock. English holdings of ordinary shares were, in general, small but, however, in one of the schemes British participation did provide all the capital. Despite these diverse arrangements none of the schemes

1. Ibid, p. 20.
2. M.C. Reed, Investment in Railways in Britain 1820-1844 - a study in the development of the capital market (Oxford University Press, 1975), pp. 76-98
managed to survive, let alone to prosper. Finally, on more than one occasion contractors were shareholders of the company which, although quite usual in British investments abroad, often brought about disputes which, in turn, always led to the intervention of the Portuguese Government and the subsequent liquidation of the company.

Secondly, perhaps as a result of their speculative nature, all British schemes were short-lived and some of the companies never completed the envisaged works - all in all, their duration was around three to four years after which time the company either failed or was put up for sale.

In the third place, the English do not seem to have been aware of the potentialities of the country to be traversed by the railway. They usually applied for schemes with little development prospects, with the expectation of subsequently forcing the Government to purchase the line and maintain them as contractors and suppliers until the completion of the works. Naturally, it was British capital that was originally engaged in the main trunk line of Portugal but the company failed shortly after its formation and it was the French that continued the works. They took over the few kilometres built by the English company from the Government and finally completed the 'eastern' and 'northern' lines. The South Eastern of Portugal was, perhaps, the exception to the rule. A poor management which was particularly clumsy in forecasting future developments of traffic, coupled with commercial difficulties in England, rather than speculative arrangements by either contractors or directors were responsible for the company being put up for public auction in the mid-1860s.

Despite Sir John Rennie's surveys on behalf of the Portuguese Government (which, in any case, were not put into practice) and rumours of his appointment as Director General of Public Works, neither first-rate English civil engineers and contractors nor sound promoters and entrepreneurs of the time subsequently became engaged in railway construction in the country. However, it is important to point out that those involved were part of a small and restrictive circle of persons which spread well over 20 years and had close links with the top contractors and promoters. Charles Waring, as Chairman of the Somerset and Dorset Railway Company, was involved with Charles Mangles of the London and South Western in the Royal Mail and the South Eastern of Portugal, to which Waring and his brothers became contractors for part of the line. John Owens of the Central

1. PRO, F063/804/262, Howard to the Earl of Clarendon, 7 November 1856.
Peninsular Railway Company was the secretary to the Eastern Counties Railway, which was dominated by Morton Peto. James Kitson of the same company, was a director of the Leeds Northern, the Northeastern and the Northwestern, of which Ross Mangles (Charles's brother) was also a director. Morton Peto, apart from his engagements in British railways, in association with Brassey and Petts, was also a director of the Western of France (of which John David Barry of the Central Peninsular was also a director), and aided the financing of the Great Western in America contracted to Salamanca. The latter became the great railway contractor in Portugal in association with French financiers who, in turn, were involved with Laing (South Eastern of Portugal) through the General Credit and Finance Company of London. Charles Mangles, along with his brother Ross, and his friends Chapman, Notman, Townsend, and Richard Birley and Samuel Laing after him, joined together capitalists involved in investment banking, with mutual interests in British and Indian railways and steamship enterprising.

Summing up, it was a limited group of clever promoters and speculators that directed their attention to railway schemes in Portugal. They all knew one another and under such circumstances it can be appreciated how dubious methods initiated by Waring Brothers and the Central Peninsular in the early 1850s, were passed on to those who succeeded them at the turn of the decade with respect to the South Eastern of Portugal and then to those involved in the two minor schemes of the early 1870s - the Lisbon Steam Tramways Company and the Minho District Railway Company.

Charles Waring, the driving force of the firm Waring Brothers, typifies the English promoter and contractor involved in railway construction in Portugal: they were part of a "second generation of railway contractors, and this certainly gave them an edge on their competitors". In addition, Waring Brothers can "certainly be numbered with the leading, if elusive figures of the day, with whom they often worked in fluctuating alliances - people like Peto, Brassey, Betts, Wythes and Lucas Brothers". When Charles Waring and his brothers became the contractors to the 'eastern' line in Portugal in 1852 they established patterns of behaviour which would later become the normal procedure in lines which they financed and built: "they often held seats on a number of railway boards and usually they nominated these boards entirely, tolerating only the odd respected figurehead who was installed to give them some credibility and prestige". Not unexpectedly,

2. Ibid.
3. Ibid.
later in the 1860s, W.T. Haly, the independent conservative candidate in the election for the Poole constituency warned the voters of the dangers surrounding the acceptance of Charles Waring as a liberal candidate in the election. He said with regard to Waring's dubious Portuguese railway contracts that "if there is one name in Portugal which is a byword and a reproach, it is the name of Waring". Apparently, the firm's involvement in railway construction in Portugal, in association with William Shaw, a director of the Cork & Bandon Railway in Ireland, was their second contract, the first being the East Lincolnshire railway in 1846, obtained when Charles Waring was only 19. The experience they gained from the whole affair of the 'eastern' line and the money they made at the expense of the Portuguese Government was, perhaps, the foundation of both their success and Charles Waring's increasing wealth in the subsequent years. Charles Waring contracted for the Somerset & Dorset Railway and became its Chairman between 1867-71 and 1873-87, which was very useful for the pursuit of his political aspirations as the M.P. for Poole. In the 1860s the firm built the greater portion of what is known as the inner circle of the Underground in London, and constructed railways in Luxembourg, Bavaria, Hungary and had the contract for the Belgian Eastern Junction Railway from Manage to Wavre, the latter "another very dubious concern". They even extended their activity as far as India, where they were engaged building the Allahabad-Jubbulpore branch. All in all, in the 1860s when Charles Waring constructed the Poole to Bournemouth Railway, he was already a multi-millionaire and succeeded in representing Poole in Parliament.

1. Quoted by Popplewell, op. cit., pp. 60-61. Haly also pointed out that by associating Waring's name with Poole would result in that "no Portuguese or Spanish merchant will consign a cask of wine to your port"; Ibid, p.61.
2. Bradshaw's Shareholders' Guide ... (1855), p. 316.
4. Ibid, p. 58
which averaged 10 per cent of the total amount of his railway contracts.

If Waring Brothers were on their ascendancy to success when they came to Portugal, Samuel Morton Peto, who "had succeeded his father in the building trade and had won a national reputation as builder of the Houses of Parliament"², to which he later added "something of a monopoly of railway construction in Denmark and its Scandinavian neighbours"³, was very much at the end of the road. When Peto made his unsuccessful attempts in the late 1850s to create a company to build the 'northern' line from Lisbon to Oporto, his glorious days as railway promoter and contractor had passed. "His prestige in this country [England] is lost; his fellow-countrymen cannot believe him, cannot have confidence on him; therefore they decline to join in a speculation wherein the benefits will be secured to Sir Samuel, and the loss fall upon those who find the means to carry out his projects."⁴

It then appears that Portugal was a refined example of speculative British railway investments. The country was not worth the effort of direct investments and the grounds were ready for purely speculative and fraudulent schemes. As it has been said, British railway companies applied either for a guaranteed rate of return on capital or a subsidy per kilometre. In any case, as soon as the guarantee was paid by the Portuguese Government, or the subsidy granted exceeded the actual paid up capital, problems developed, and inevitably either the Government was forced to purchase the line or the company failed and its assets were put up for sale. By doing so, British speculators killed two birds with one stone - they were refunded their original capital (plus interest) and they reinvested it by purchasing state bonds which, in the meantime, had been issued in order to raise a sufficient amount of money to redeem the lines and complete the works. Bearing in mind the critical state of Portuguese finance at the time⁵, loans negotiated abroad were normally issued at a heavy discount and investors subsequently enjoyed very high rates of return on their capital: yields on Portuguese funds averaged 7.2 per cent and were no less than 14.5 per cent for the period 1870-1880, compared with 6.1 per cent for all British investments abroad⁶. Faced with a backward country with uncertain deve

4. The Railway Times (28 August 1858), p. 1081.
5. See chapter 1, pp. 12-14.
lopment prospects, in which there was complete ignorance regarding railway construction and its finance, administered by a weak Government and a corruptive public administration, the foreign speculator, and the British in particular, did not hesitate and extended commercial control by financial dominance. As late as 1913 British investments in Portugal (not including investments in the shipping industry) still amounted to £8.1 million, compared to £8.0 million in France and Austria and £6.4 million in Germany, that is, 3.7 per cent of all British investments in Europe.

4.2 FRANCE AND THE PORTUGUESE ECONOMY

Economic relations with France had neither the same importance nor intensity as those between Portugal and Great Britain. France's share of Portuguese trade was frequently exceeded by that of Brasil and Russia (or Germany) and was never more than one fifth of total Portuguese trade. Furthermore, Franco-Portuguese connections were not characterised by the unequal partnership which distinguished Anglo-Portuguese relations. Briefly, France always played a secondary role in Portuguese foreign trade and policy and its share of Portuguese trade only improved whenever there was an attempt by the Portuguese Government (which very rarely occurred) to diversify the country's trade and make British control over its economy less concerted. This explains Saint Priest's disappointment in the late 18th century: "La France faisait autrefois un grand commerce en Portugal. L'Angleterre en a envahi presque toutes les branches, qu'elle a rendu la source de ses richesses".

At the beginning of the 19th century, according to Balbi, the trade between the two countries, because of a reduction in duties which had taken place in 1801, was "very dynamic, very advantageous to Portugal", with

1. Feis, op. cit., p. 23.
the latter enjoying a surplus balance of trade until the 1820s. Although trade was favourable to Portugal, one has to bear in mind that Portuguese exports to France were mostly colonial goods, such as tobacco, sugar and cotton from Brazil, and silk from Asia, which made Portugal "a precious resource [to France] of colonial produce", which France later re-exported. Therefore, there was very little significance of the French deficit in Portuguese trade. In 1806 Portugal's largest suppliers after Great Britain were Russia, France and Italy, but in 1819 the order changed to Britain, Italy, Spain and Germany. Throughout the 19th century the situation did not change significantly - in 1842, for example, French exports to Portugal were four times less than those of Britain. By the turn of the century, in 1890, when the balance of trade was heavily in France's favour, Portugal's total foreign trade amounted to £17.2 million: the British share was 33 per cent, the German and French shares each 12 per cent, the Brazilian nine per cent and the American eight per cent.

Despite the great expectation created by the Franco-Portuguese treaty of July, 1866 the Portuguese Government was well aware that "they could not do much [in the treaty with France], preferring to give the reductions in their tariff as a concession to England, their 'oldest political ally' and 'largest commercial market'". Two years later, it was noticed...

1. Adrien Balbi, Essai Statistique sur le Royaume de Portugal et d'Algarve (Paris, 1822), I, p. 433. According to Balbi, in 1801 and 1819 Portuguese exports to France were four times and twice as much as its imports.


5. Sideri, op.cit., p. 158.

that only "a slight increase in our exports of wine and, above all, ironmongery" had occurred. By contrast, the import of Portuguese wine into France, which allowed the French to reserve "the wines of native growth, and therefore of genuine flavour and 'bouquet', for home consumption, while exporting the manufactured article for the less discriminating palates and noses of foreign customers", increased considerably. Imports of Portuguese wine jumped from only 100 hectolitres in 1865 to 61,000 in 1876 and to 171,292 during the first nine months of 1881, but this can be largely explained by the effects of the phylloxera on the French vineyards. The effects of the treaty, therefore, were disappointing as the "French share in Portuguese imports increased only from about 10 per cent in 1866 to 16 per cent in the next two decades, the peak year being 1875", while the British share remained between 54 per cent and 50 per cent. Between 1866 and 1879 total imports from France into Portugal increased by only £54,000 (six per cent), "a difference so slight that it might well arise between one normal year and another without exciting remark". Although Portuguese exports to France nearly doubled from £144,000 to £258,546, Portugal was still running a £689,200 deficit in its balance of trade with France in 1879. The relative increase of France's proportion of Portuguese foreign trade, however, was sufficient to alarm the British Consul at Lisbon who in the early 1880s admitted that "France is a yet our most formidable rival in this trade".

At the turn of the century France had another chance to improve its share in the Portuguese foreign trade. As a result of the British Ultimatum of January, 1890 "war was declared throughout the kingdom on English trade, a situa

1. ANP, F12/2677, Edmund Breuil [French Consul at Lisbon] au Ministre des Affaires Étrangères, 10 February 1868. It seems that the Portuguese businessmen took well advantage on the immediate effects of the treaty because "they delayed in customs French goods imported into Portugal after the treaty was signed, in order that imports which had reached the country before that date were cleared in the first place"; ANP, F12/2677, Le Ministre des Affaires Étrangères au Ministre du Commerce, 7 March 1868.
3. Ibid.
tion which French exporters may well take advantage of, and trade to the amount of 28 million francs (that is, £1.1 million) may have been lost by Great Britain in the first month after the Ultimatum.

Financial intercourse between France and Portugal, however, was by no means insignificant. Although Portugal was "an economic satellite of Great Britain" and "the British did supply the largest part [of the funds] in all probability", they "left an important share to France as well". In other words, if Britain supplied most of the capital required for the consolidation of the Portuguese foreign debt, France was responsible for the issue of short term loans and a vast portion of the Portuguese floated debt was negotiated at the Paris Bourse, rather than on the London Stock Exchange. Not surprisingly, the Crédit Lyonnais, the Société Générale, the Société des Dépôts et Comptes Courrantes and the Comptoir d'Escompte (the latter after 1879), "were very rarely absent at the issue of a Portuguese foreign loan, particularly those short term advances made to the Treasury". Apparently, this development followed the main trends of the emergence of France in the European (continental) money market. According to Feis, because of lower and more stable rates than elsewhere and because of its capacity "the French capital market was, for some types of borrowing, the most attractive

1. ANP, F12/7164, Roussignac [French Consul at Oporto] au Ministre des Affaires Étrangères, 5 February 1890. "Is it not true", Mr. Sinclair asked the Commons in 1902, "that the nation should awake to the fact that foreign competitors are ever increasing and encroaching on our preserves? Does not everyone know that our merchants have no facilities and that in every market foreign firms obtain contracts which are ours by right?"; quoted by Christopher Platt, op.cit., p. 141.

2. Ibid, Le Ministre du Commerce à la Chambre du Commerce, 28 February 1890. The French were not the only ones to be concerned with these recent developments in Anglo-Portuguese relations, and "the disposition of the Portuguese businessmen to cease their commercial links with England have spread a great hope among a large number of manufacturers and tradesmen in Germany, who seem to be ready to take over their rival's position in Portugal; Ibid, Henri Selle [French Consul at Frankfurt] au Ministre des Affaires Étrangères, 6 February 1890.

3. Cameron, op.cit., p. 413.

of all", and "Paris came to rival London in the volume of capital made available for foreign borrowers".

Between 1867 and 1879 the Crédit Lyonnais alone played an important role in the Portuguese foreign debt by supplying the Portuguese Government with no less than 61.4 million francs, that is, £2,456,000. Further, in 1868 it was in Paris that Portugal managed to raise £1,290,000; such advances of money being "the only available means for the Government to pay the heavy charges on the floating external debt, which fell due in October and November". Finally, it is interesting to notice that the eventual competition of the French financial houses with their English counterparts appeared to be less relevant than the effective cooperation between them, with the result that the payment of short term loans was always secured and covered by long term loans issued in London. The director of the Crédit Lyonnais clearly realised this Anglo-French symbiosis when he wrote: "il est désirable que les intérêts anglais fussent satisfaits pour permettre à Londres de nouveaux emprunts, emprunts qui eux-mêmes assuraient un constant niveau aux avances à court terme de la dette flotante".

The French share of the Portuguese debt, however, never equalled that of Britain. Sandro Sideri, while disputing Cameron's estimate of the proportion of the French share of the Portuguese foreign debt at the beginning of the fourth quarter of the 19th century, does not change the amount of the net transfer of funds. Out of a nominal debt of £100 million, of which two thirds were held abroad, Cameron's estimate of £13 million out of £22 million nominal value corresponding to France's share, still stands as the likely amount which was actually received by Portugal.

II

If, on the one hand, the French could hardly match Britain's dominance over Portuguese foreign trade, at least until the last decade of the 19th century, on the other hand, their financial support to the Portu-

3. Diario do Governo (7 May 1869).
4. Quoted by Bouvier, op.cit., p. 553.
guese Government and their deep penetration into Spanish railways\(^1\) militated against a widespread and lasting incursion of British capital into Iberian railways. The British had come first by sea; the French came later and faster, by train.

In strict terms, the nature and the context within which British and French capital was invested in Portuguese railways were different. In some ways, however, this contrast is misleading because it does not take into account the cosmopolitan and expatriate nature of both British and French (the latter rather than the former) merchant bankers. As Philip Cottrell wrote in his survey on British overseas investments, after the first wave of bankers who were 'pushed' to London because of the Napoleonic wars, there were others throughout the 19th century who were 'pulled' rather than 'pushed'. In both cases, "family ties and trading links were not broken by the move to London, but rather formed the basis for the delicate and risky business of merchant banking"\(^2\). As far as French investments in Portuguese railway schemes were concerned it seems reasonable to assume that they were made possible, partly because the French did use British capital in their Portuguese undertakings. The French financiers involved in railway financing in Portugal were mainly those associated with the Crédit Industriel et Commercial (through which the Royal Portuguese Railway Company was financed), the Comptoir d'Escompte and the Société Financière de Paris (which built the Beira Alta Railway through a satellite company). It is in the former French investment bank that the Anglo-French connection is clearly located, although is it hardly questionable that the Comptoir had strong links with the Société\(^3\) and it is also likely that the latter might have been involved in financial arrangements and public works contracts with the Crédit. A number of French bankers and financiers (men like Edouard Blount, Paulin Talabot, and

\(^1\) "Spain, in common with most of Mediterranean Europe, was mainly reliant on the French investor; 35% of total French overseas investment was in Spain"; R. Carr, Spain 1808-1939 (Oxford, 1966), p. 264.


\(^3\) At the turn of the 1870s negotiations were being carried out for the merge of both banks. See chapter 6, p. 305.
Bartholony), apart from their position in the Crédit and in French railway companies, were also involved, on behalf of the Société Générale pour favoriser le développement de l'Industrie et du Commerce de la France, with the General Credit and Finance of London. The English investment bank had signed a treaty with its French counterpart by which they subscribed for 20,000 shares, and the French bank subscribed for 20,000 of their shares. The purpose of the exercise, of course, was to make things easier "to negotiate loans and concessions; assist industrial enterprises, public works, and railway undertakings; negotiate Foreign, Indian, and Colonial bonds".

The Anglo-French connection based in the General Credit became a strong financial support of Portuguese railways with Samuel Laing and John Bromley Moore the leading figures. It took over from the original concessionnaires (Mangles and friends) and controlled the South Eastern of Portugal; with Edouard Blount (the French representative in the board) and several Spanish financiers involved in the Madrid-Zaragoza Railway (Llorente, de Zaragoza, de la Gandara) it was involved in the formation of the Royal Portuguese Railway Company. It was a very complicated network of international financial alliance, which reinforces the assumption that it is difficult to

1. Blount, who started his career as a clerk in the London office of the Provincial Bank of Ireland, was not French but Irish; S.J. Reid (editor), Memoirs of Sir Edward Blount (1902), p. 49. He soon left Britain for France where he became a prestigious businessman. He there acted as Brassey's partner in the Paris-Rouen railway and with Laing was involved in the Lombard-Venetian line (Cameron, op.cit., p. 224). Blount, whose Christian name was changed by the French to Edouard, became president of the Compagnie de l'Ouest and vice-president of the Compagnie Paris-Lyon-Méditerrannée, of which Paulin Talabot was one of the directors. Blount also acted as British Consul in Paris. Bartholony was president of the Compagnie des Chemins de Fer de Paris à Orléans.

2. The Economist (23 May 1863), p. 615.

3. Ibid.

4. Not surprisingly, the board membership of the Royal Portuguese was shared by English and French; Bouvier, op.cit., p. 551.
distinguish the nature of foreign capital invested in Portuguese railways in the period which falls within the scope of the present study. It further reinforces the argument sustained by Milward and Saul that foreign investment was not "the work of individuals, nor, though they could exert pressure, of governments. Complex financial arrangements of this kind were the work of highly specialised financial houses. International investment banking emerged naturally out of the resources and experience of the merchant bankers". Consequently, it is difficult to separate French from British investments and it seems more appropriate to say that foreign capital was mainly the result of Anglo-French financial arrangements through investment banks which, in turn, shared mutual and far-reaching prospects, both in Portugal and Spain.

There were, however, two distinctive contrasts between French and British investments in Portuguese railways which deserve some attention. The first was related to the British multiplicity of unsuccessful railway schemes, as opposed to the two schemes, 'financed' by the French - the Royal Portuguese and the Beira-Alta Railway. By concentrating on only these two ventures which, in turn, were separated 20 years in time from each other, French investors supplied both share and loan capital to a much larger extent than any previous British company. In addition, the backing support given to both schemes by French financial houses, through which the companies were funded, generated an investment of such a considerable size that it was difficult for the schemes to fail on the grounds of lack of financial resources.

The second feature was related to the way that French capital penetrated Portugal. Originally, the French had come to Portugal with a reputation as experts from both the technical point of view (civil engineers

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2. Although it is beyond the scope of this study, it seems important to raise the point of how important was British investment in Spanish railways and discuss Cameron's argument about the exclusivity of French capital in Spanish railway schemes. In the mid-1860s it was observed in Spain that "an afflux of English [capitalists] to a much larger extent than that of five or six years ago, has been noticed throughout the [Iberian] Peninsula. They appear to have everything perfectly under control and find themselves in the position of taking advantage of any withdraw [from French capitalists]"; GCH (14 May 1866), p. 306.
and contractors on roads, railways and harbour works), and the business point of view. Their main purpose, when they first decided to invest in Portuguese railways, was to give the Portuguese enough confidence to forward their own savings to the domestic capital market and invest them in railway securities, via satellite French banks. This objective in early Portuguese railway history was contrary to the way that British capital was being invested in Portugal, in that the French attempted to attract local savings (in Portugal) through the establishment of branches of their credit institutions and did not import their own capital into the country. The Pereires and the Rothschilds had done relatively well in Spain and the French, who regarded their investments in Portugal as a natural development of

1. "After the middle of the century the governments of France's Latin neighbours... made the greatest calls on French technicians and civil servants. Even under Louis Phillipe several of them had borrowed French engineers to create and direct state engineering services similar to the Corps des Ponts et Chaussées: de Gayffier and Watier in Portugal..."; Cameron, op.cit., p. 58.

their investments in Spanish railways, thought the same could be achieved by Spain's smaller neighbour. As it will be shown, this initial policy of establishing financial institutions was unsuccessful. Savings were very scarce in mid-19th century Portugal, the banking system was hardly developed, and the available capital circulated mostly outside the context of a capitalist economy. Not one of French banks managed to survive let alone to prosper. Moreover, the few potential Portuguese investors in railway schemes were still recovering from the swindle of the Central Peninsular Railway and had no guarantees of the nature and profitability of the French proposals (at least none better than those which had been offered by the English).

Before the early 1860s there had been no successful railway schemes financed by the French and only thereafter did they change their policy regarding railway financing in Portugal. Although the major turning point in their policy was their alliance with British merchant bankers, they also changed their attitude towards railway schemes in Portugal for the following three reasons: first, they realised that it was only by importing capital and technology into Portugal that it would be possible to achieve total control of the principal railways in the country, namely those which put Lisbon in direct connection with both Madrid and Paris, which would make French railway promoters the leaders of the railway system in south western Europe, both on the Mediterranean and Atlantic coast; second, they realised that the successive loans contracted by Portugal abroad for railway construction could also be issued in Paris, with the result that, firstly, French investors would have the opportunity of subscribing for highly profitable securities given the heavy discount at which they were issued and, secondly, such flotations could pave the way for French entrepreneurs and bankers to approach Portuguese authorities and become concessionnaires for railway schemes in the country; third, subsequently, they also realised how little

1. "The French government attached a high degree of importance to the development of Spanish railways, both for the purpose of extending its economic hegemony in that country and in the hope of prying Portugal away from the economic sphere of Britain", Cameron, op.cit., p. 249. "Pour se soustraire à la tyrannie du Foreign Office, il fallait faire le Portugal tête de ligne du commerce continental", Ménadier, op.cit., p. 18.

2. Bouvier (op.cit., p. 606) estimated that interest rates on the advances to the Portuguese Treasury worked out at 14 to 17 per cent, and at one point reached 18.23 per cent.
Britain had contributed to the welfare of its 'oldest ally' and, once the Spanish network (which they substantially financed and operated) was completed and linked to France, the time had come to strike at the British deep in one of their European strongholds.

As a result of their policy, by the end of the 1880s the French operated more than half of the Portuguese railway system and French capital investments in the Portuguese railways amounted to about £10 million, nearly three times as much as the correspondent amount of capital the British had invested (and in some cases lost) in railway schemes in Portugal.

1. For French investments in Spanish railways see Cameron, op.cit., pp. 248-274.
CHAPTER 5

BRITISH INVESTMENTS IN THE PORTUGUESE RAILWAYS
"The public must be very cautious how they listen to schemes for Portuguese railways"

The Railway Times (27 November 1852)
Now that the general framework of British investments in Portuguese railways has been established, the present chapter will deal with case studies of a number of speculative British ventures in the 1850s and the 1870s.
The almost total lack of local venture capital, bureaucratic delays within the Government, the revolutions of 1846-47 and 1851, and the continuing financial difficulties delayed the formation of a railway company in Portugal until the early 1850s. Political and financial conditions, therefore, did not allow the Portuguese Government before 1852 to offer to public tender the project of a railway connecting Lisbon to the frontier of Spain, which would link Portugal with the Spanish and the French network. In other words, this proved to be yet another attempt to revive most of the unsuccessful railway schemes of the mid-1840s. The context within which the Government was now pursuing the development of railways, however, did not show a substantial improvement over previous years. Portugal was again dealing with a critical financial situation and payments of interest on the foreign bonds had to be suspended indefinitely after December, 1851. This was followed by an arbitrary reduction of one per cent in the interest rate on the public debt with a subsequent conversion at three per cent 12 months later. The conversion affected many English bondholders who then wasted no time in voicing their anger through their bondholders' Committee, headed by Thornton¹. As will be shown, the Committee acted as a powerful pressure group, causing serious problems for the English company which was to be engaged in the construction of the first stretch of railway in Portugal.

In such a critical situation the Government possessed neither the capital nor the skills, with which to start railway construction on its own. The only alternative left to the Government of the day was to use the foreign bondholders' money and invest it in the making of the line. The Government, therefore, decided to assign as a security for the money required for the construction of the railway the fund already appropriated to the Bank of Portugal for the redemption of the public debt. This caused a good deal of dissatisfaction, "one which will also affect the interests of the

¹. Thornton and his City friends had influence in the House of Commons and on the Stock Exchange, where he had successfully obtained a ruling that no Portuguese bonds should be quoted. Later in the summer of 1856 it was with Thornton, Fould & Co., of which Thornton was a partner, that Fontes negotiated a loan to the amount of £333,300 to settle the accounts of Shaw & Waring Brothers; PRO, FO63/802, Howard to the Earl of Clarendon, 6, 18 and 28 June 1856, and 18 July 1856.
English bondholders in proportion to the share which they possess in the fund thus sequestred\(^1\). From its early stages, railway development required a total rethinking of the financial situation, because without money, or at least some credit, there could be no railways. The only resource was foreign capital but the Government's unhappy decision produced widespread mistrust in financial circles in England where, in the spring of 1853, the general opinion was that "neither Spain nor Portugal should be trusted any further"\(^2\).

In June, 1852 Hardy Hislop, Thomas Rumball, John David Barry, John Owens, and Charles Waring\(^3\) applied for the concession which was gran-

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1. PRO/F063/759/161, Pakenham to Malmesbury, 8 September 1852. The directors threatened to close the Bank and cease operations altogether. "It is said that this threat on the part of the Bank was met by a counter-threat on the part of the Government, that if the Directors made away more noise, they would be called upon to produce their accounts, which it is supposed are not in a condition to bear the light, and that in consequence of this menace matters are likely to be accommodated between them"; Ibid.


3. Hardy Hislop typified the foreign speculator acting in Portugal in the early 1850s. He mainly acted as an intermediary in various affairs, selling the concessions which he had originally secured to the highest bid. His involvement in the Oporto Gas Company, in which he pocketed no less than £82,000, reveals that his interests were not restricted to railway schemes; MOPCI (August 1855), "Confirmação do trespasse e cessão do contrato para a iluminação a gaz da cidade do Porto entre Hardy Hislop e os directores da Companhia Portuense", pp. 110-18. Pakenham referred to Hislop as "a clever speculator, I believe, but whom I have never heard spoken of as a capitalist"; PRO, F063/771/58, Pakenham to the Earl of Clarendon, 8 May 1853. "Mr. Hislop swindled the Portuguese as much as all other Englishmen had done before"; GCH (8 November 1857), p. 740. John David Barry, "formerly a mine agent and stockbroker at Manchester was sent over by a group of capitalists to open offices in Paris, inspect routes, and establish local connections"; he later became one of the directors of the Paris-Orléans railway; Jenks, The Migration of British Capital to 1875 (1971), p. 142.
ted to them two months later. The promoters formed a company in London -- the Central Peninsular Railway Company -- and later in December the civil engineer, Thomas Rumball, came to Portugal to make the necessary surveys. The report he submitted to the directors of the company was very optimistic, but it appeared to contain serious shortcomings which could affect the building of the line, and certainly contained an estimate much higher than the subsequent actual cost of construction. Rumball thought that two years would be sufficient for building the first 76 kilometres (and this appeared to be the length of the line which he had surveyed, leaving the largest portion of the line still to be studied) and he was hopeful to the extent that "the whole work might be completed within the next eighteen months". According to his survey the track would run from the northeastern section of the circular road through the eastern hamlets outside the boundaries of Lisbon and then along the Tagus, reaching a terminal for this section of the railway near the town of Santarém, some 70 kilometres north of the capital. The cost of physical construction was estimated at £793,922 to which £60,000 of interest to be paid to shareholders until the completion of the works should be added, bringing the total estimate to £853,922, or £11,236 per kilometre.

While the report was optimistic about the time required to build the line and the cost of laying the first section to Santarém, without a complete survey the sum of £1.4 million for the total cost of the railway from Lisbon to the frontier of Spain was estimated by the English press as early as April, 1852, although there were no grounds to justify this.

By the end of 1852 problems relating to the finance of the Cen-

1. MOPCI (December 1855), "Relatório enviado à Companhia Central Peninsular dos Caminhos de Ferro de Portugal em 7 de Dezembro de 1852 pelo engenheiro Thomas Rumball", p. 48.

2. The Railways Times (17 April 1852), p. 402.
The Central Peninsular Railway Company began to emerge. They focused upon the decision of the Committee of the Stock Exchange to deny the shares of the company a special settlement and quotation on the London money market. The delay on the part of the Portuguese Government to redeem the foreign debt held by British nationals, the amount of which was already in arrear and reached no less than £1.2 million on a total debt of £10 million, and the subsequent "arbitrary deductions made from their dividends, even after an enormous paring down of the capital", placed the Committee in a difficult position vis-à-vis the interests they were bound to protect - the shares of the Central Peninsular might fall within the scope of the 77th rule of the Stock Exchange. This rule of the Stock Exchange concerned the guarantees given by foreign Governments on loans negotiated and issued in London and ultimately aimed at the protection of the bondholders. Literally, the rule stated that "the Committee will not sanction or take any cognisance whatever of bargains that may be made in any new bonds or stock, or any other securities issued by any Government that has not duly paid the dividends on former loans raised in this country, unless that Government shall have effected some satisfactory arrangement with the holders of such stock, or bonds, or other securities on which the dividends have left in arrear". The Committee, therefore, decided that "no such railway or other securities issued under the sanction of the Portuguese Government will be authorised to be dealt in the Stock Exchange" and concluded that "this is the only course calculated to impress on the Government of Portugal the necessity of pursuing a honest policy". The conclusions of the Committee were forward.

1. "[The Stock Exchange] is an association which numbers 600 members today, and which is ruled by a committee of 28 individuals with a president and vice-president elected every year. It is a large business agency which deals in funds of all nations, in shares and debentures of railway companies and large industrial undertakings, opening up negotiations for loans of any sort. It lives by credit and rules for it. Its decisions may disturb or improve the general movement of industry and production"; A.P. Lopes de Mendonça, A Questão Financeira em 1856 (Lisbon, 1856) p. 46.
5. Ibid.
ded in a clear and strongly letter to the promoters of the company in late November, 1852: "the security upon which the proposed guarantee of six per cent is based has already been mortgaged to the Portuguese bondholders, and that, consequently, until the Committee receives from them a communication that this security is given with their consent they cannot recognize the dealings in the railways in Portugal with this guarantee".

Briefly, the situation of railway development in Portugal by the end of 1852 was hardly satisfactory. First, a concession had been granted to a group of English capitalists for a single track from Lisbon to the frontier of Spain of which, however, only the first section of 76 kilometres had been contracted, surveyed and, apparently, was ready for work to start. Second, a company had been founded in London but its shares had not been admitted to the London Stock Exchange, with the result that its promoters found themselves short of cash which, in turn, delayed the commencement of construction. Third, the Portuguese Government was an interested party in the company as it had both guaranteed six per cent interest on capital until the completion of the works, and subscribed one third of the share capital of the company, for which the Government was to draw money from the Bank of Portugal and issue three per cent state bonds.

In May, 1853 the shares of the company "have not yet been brought to the market in London, nor if they had been, is it supposed that they would find many purchasers". The general feeling among the few potential shareholders in Portugal was that "the concern is viewed with no favour here as a speculation, or an investment, however popular opinion may be in favour of it, as an indication of progress and improvement".

In May, 1853 the Central Peninsular was finally registered in Portugal. Some of the 42 clauses of the statutes of the company when published proved to be obscure. This led to severe criticism by those Government bodies entitled by law to be consulted on the formation of the company. Moreover, Fontes and his colleagues acted in such a hurry that the role of these bodies was not acknowledged - the Royal Decree approving the statutes of the company was published on the 10th of May, yet the report of the

1. Ibid, "Letter addressed to the promoters of the Central Peninsular Railway Company on the 22nd November 1852 by George Webb, Secretary of the Bondholders' Committee of the London Stock Exchange".
2. PRO/F063/771/58, Pakenham to the Earl of Clarendon, 8 May 1853.
3. Ibid.
Council of Public Works and Mines was only disclosed on the 16th, that is, seven days later. The report of the Crown Attorney was short but very accurate. It clearly pointed out to the Government that "according to the herein statutes, the Central Peninsular Railway Company has in mind the issue of a loan for the construction of the first section of the railway from Lisbon to the frontier of Spain, at an annual rate of six per cent, rather than making that first section under its own responsibility, risk, assistance and control, because neither the former nor the latter of these requirements are to be found in statutes". The report of the Council of Public Works and Mines directed its attention mainly to the privileged situation enjoyed by one of the promoters and shareholders, Waring Brothers, whom, according to clause 42, would become the sole contractors not only for the first section but also for the whole of the line. Had the apprehensions of the Attorney of the Crown and the Council of Public Works regarding the powers to be enjoyed by the promoters within the company any basis?

Initially, the promoters delayed the formation of the company and the deadline stipulated by the Government - 40 days after the 7th December, 1852 - was not met. The company did not come into active existence until May, 1853. Further, the objectives to be pursued by the company were not very clear. A reading of the 42 articles of the statutes reveals that there was a private agreement, not disclosed to the public, signed between the promoters and the directors of the company, by which the former would retain all the benefits of flotation. Clause three of the statutes stated that all the costs that the company would have to meet for the

1. MOPCI (June 1853) "Relatório enviado a Sua Majestade a Rainha Dona Maria II pelo Procurador Geral da Coroa em 3 de Maio de 1853", p. 100.
3. The course of events related to the critical state of the Portuguese finances certainly contributed for this long delay, but the serious doubts raised by Hislop's original proposal and Rumball's ambiguous report contributed as well to delay the formation of the company.
construction and operation of the railway could not displace the benefits that had been granted to the promoters by the convention that they had signed with the Portuguese Government in December, 1852. The benefits which the promoters had secured were sixfold. They had the right to appoint all members of the board of the company (with the exception of those appointed by the Government), who would be entitled to remain directors until four years after the line had been open to traffic. Second, a lifetime membership of the board was granted to Hardy Hislop. Third, the promoters had the further right to appoint the president of the company. Fourth, they were also entitled to stipulate the annual fees to be paid to the directors. Fifth, they would appoint the engineer of the company, and sixth the contract for the works was given to Waring Brothers, who were both promoters and shareholders of the company.

Moreover, the inaccuracy of the share capital of the company and the faking of the return of shareholders which was issued in May, 1852 did not help to make things clearer. The capital required for the first section of the railway amounted to £800,000 divided into 40,000 shares of £20 each, or, alternatively, a sum of money sufficient to make the line on a basis of a rate of no more than £11,224 per kilometre. The promoters favoured the second alternative, which contradicted the actual cost of construction and the estimate made by the Council of Public Works - £9,377 and £10,860, respectively. The return of shareholders disclosed a total subscribed share capital of £840,000 (that is, £11,224 per kilometre), the positive balance over the actual cost of construction being pocketed by Charles Waring to a very large extent. The amount in question represented 16.2 per cent of the total share capital and no less than 14.4 per cent of the cost of construction, as shown in the following table.

1. MOPCI (June 1853), "Estatuto da Companhia Central Peninsular dos Caminhos de Ferro de Portugal", pp. 104-10. The privileges to be enjoyed by the promoters were very much in accordance with the nature of railway contracts negotiated by Waring Brothers. See chapter 4, pp. 164-65.
Table 26. Breakdown of the share capital of the Central
Peninsular Railway Company in 1853

<table>
<thead>
<tr>
<th>item</th>
<th>amount in £</th>
</tr>
</thead>
<tbody>
<tr>
<td>cost of construction of the first section (76 kilometres)</td>
<td>712,667</td>
</tr>
<tr>
<td>fees paid to directors</td>
<td>12,000</td>
</tr>
<tr>
<td>money given to Charles Waring for travelling expenses</td>
<td>22,000</td>
</tr>
<tr>
<td>bonus granted to Waring</td>
<td>53,333</td>
</tr>
<tr>
<td>deposit refunded to promoters</td>
<td>40,000</td>
</tr>
<tr>
<td>Total share capital of the company</td>
<td>115,333</td>
</tr>
<tr>
<td></td>
<td>840,000</td>
</tr>
</tbody>
</table>

The return of shareholders was an obscure document too. John David Barry and Thomas Rumball did not subscribe for shares, but Charles Waring, Hardy Hislop, and John Owens apparently did so. Only 10,491 shares (£218,820) had been taken in both London and Lisbon in 1853, of which 10,662 shares (£212,440) had been subscribed for by the contractors. According to the statutes of the company, the Portuguese Government subscribed for 13,333 shares. Given the scarcity of local capital, Fontes was forced to direct the sale of the company's equity to the Brazilian market where it was hoped that the large and prosperous Portuguese community might take up the Government's necessary one third of the share capital of the company. The Government appointed a committee of eight headed by the Viscount of Condeixa, the Portuguese Ambassador in Rio, to deal with the sale and

1. In the 1850s Portuguese migrants to Brazil numbered no less than 10,000 per year. They settled mainly in Rio and its suburbs where "most of the shopkeepers... are Portuguese and artisans of this nationality are to be found in large numbers. Given the identity of race and language they prosper more than any others, and join together like a clan or a guild"; GBPP (1872), LXX, 550, "Report by Mr. Phipps, Second Secretary of Her Majesty's Legation at Rio de Janeiro, on Emigration to Brazil, 23 March 1872", p. 403.
it was expected that the shares would be sold at par. Although there are no available records of the buyers of the shares in Brazil, Condeixa reported to Lisbon in May, 1855 that 400 persons had subscribed for shares, while by the following September 9,964 shares had been sold in all. Accordingly, in October, 1855 the Portuguese Government had only succeeded in selling 10,000 shares out of its 13,333, but the state of permanent conflict between the contractors and the company, the consequent suspension of the works on the line, together with the spread of the *cholera morbus* in Rio brought any further deals to a halt and the sale had to be abandoned. Therefore, by the end of 1853, out of the 40,000 shares issued by the company 19,059 were still outstanding. Although 20,941 shares had been taken up, shareholders still had to meet outstandings calls totalling £52,888 in 1856. In June, 1856 the number of shares taken had risen to 31,562. However, 5,104 shares were never allotted to which 3,333 shares not sold by the Government must be added. Consequently, 8,437 shares accounting for £168,740 were never taken up and were still outstanding when the company was put up for liquidation.

In September, 1853 one month after the Portuguese Parliament had passed a law ratifying the convention signed between the Government and the promoters of the company, Hardy Hislop, Charles Waring, and James Kitson.

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1. The other members of the Committee were Bernardo Ribeiro de Carvalho, Francisco Antônio de Carvalho Ribeiro, Manoel Pinto Torres Neves, Baron of Estrella, Antônio Joaquim Dias Braga, Francisco Augusto Mendes Monteiro, and Luis Augusto Ferreira de Almeida, all residents in Brazil; AHMOP, DGOP-RC, 106, Documentes Relatives à Venda de Acções do Caminho de Ferro de Leste no Brasil.

2. AHMOP, DGOP-RC, 106, Viscount of Condeixa to Fontes, 14 May and 13 September 1855.

3. Ibid, The Portuguese Consul in Rio to Fontes, 15 October 1855.


5. James Kitson, a Leeds engineer, did not belong to the original group of promoters though, according to the return of shareholders, he subscribed for 2,000 shares, paying £12,000 deposit.
sold the concession to another company bearing exactly the same name. This sale was the final blow to the hopes of those who sincerely expected that railways would soon traverse the country. On the one hand, the sale lifted the obligation from the promoters to construct the line but secured to them the money that they already held; on the other hand, the new company continued the contract with Waring Brothers and retained John Valentine as engineer, with the result that more money was to come into the hands of the promoters.

The contractors delayed the commencement of the works for as long as possible, until the Government, fearing mounting public discontent and scandal, decided to hold an opening ceremony to be undertaken by the Queen. A wooden scaffold and a royal pavilion were built for that purpose and on 7 May, 1853 the Queen graciously declared the works solemnly and officially inaugurated. For a long time, however, the handful of sand thrown by the Queen was the only real work on the line.

Work did not begin until September, 1853 following an agreement between the contractors and the company. As Forrester put it, "after much cavilling in the Cortes [Parliament], and a long paper war, the railroad has actually been commenced". The very expensive cost of the land for the railway, which "proved much greater than was expected, in some cases exorbitant prices having been demanded and obtained", delays in supplying imported railway material from England, and a total ignorance of railway construction on the part of the Portuguese workers, contributed to the very little progress made on the line. Moreover, the contractors adopted "the system of preferring the less expensive works and supplying the materials that left them a larger profit". They did not give the line the width prescribed in the convention that they had signed with the company; the

1. Only the names of the directors changed. From the original group of promoters, Hardy Hislop maintained his directorship, while five new members were appointed by the company, another five by the Government and a further four by a so called "London Committee". None of the latter four, however, held shares.


3. The Railway Times (13 November 1858), "Report presented to the Institution of Civil Engineers on the 9th November 1858 by Mr. John Sutherland Valentine", p. 1341.

ditches were not of the required dimensions and the drainage was insufficient; they used materials of bad quality and "eluded the conditions of good and solid construction". Finally, they did not start the construction of any of the principal stations or workshops and they did not build the quay-wall along the river. For a long time, the works were at a stand-still at Xabregas, with about half a mile of track built and laid down. Briefly, "the state of backwardness of the works was such, and the plan so badly arranged, that at the end of two years, they had not opened one single mile to traffic".

Such was the progress made on the line when, in September, 1855, Shaw & Waring Brothers "suspended, of their own will, the works on the whole line, and dismissed the navvies who laboured on the said works totalling between 2,000 and 3,000", under the pretext that the company had refused to pay them the expenses related to the previous month of August.

In fact, the agreement between the company and the contractors, contained a stipulation that the former should pay the latter within the first three days of each month the amount which the contractors had disbursed during the preceding month on work, labour, materials, stock, purchase of land, and other accounts, according to the certificate presented by the engineer of the company. In default of such payment the contractors were authorized by clause 17 of their contract "to suspend all or any of the works, and providing of the fixed and rolling stock thereto appertaining".

The suspension of the works was the ultimate stage of the acrimonious course of relations between the contractors and the company, ever since the promoters (of which the contractors were part) had sold the concession of the railway to the new company. For the contractors the attitude on the part of the company illustrated "one of the most violent cases of
fraud to date in the Portuguese justice". They confided to the British Minister at Lisbon that they had reason "to fear that a secret conspiracy has long been carried on by the Portuguese Government or its employees or nominees for the purpose not only to deprive us as contractors (and as large shareholders of the Company, in conjunction with other English capitalists), of that little protection even Portuguese law would have offered to us, if fairly administered and devested of illegally interference, and we shortly expect to be enabled to bring to your notice other facts, which equally criminate the executive power of this country in positive contravention of the laws it is bound to see fairly applied to us".

The suspension of the works was an indisputable indicator of the financial problems that the contractors were facing in both fulfilling the convention that they had signed with the company and the consequent undertaking of the works. The company rightly pointed out that "so far they [the contractors] have paid the installments on their shares only by deducting the respective amount on the monthly certificates, and they did so at their request and always with long delays". Moreover, the contractors had more than once applied to the company for advances of cash in order to face financial problems: "if you will be so kind as to forward a cheque to our office before the Bank closes today, perhaps we will avoid a rebellion on the part of the labourers". Given these circumstances it is totally


2. PRO,F063/793/82, Waring Brothers & Shaw to Mr. Ward, 18 October 1855.

3. Refutaçao do Relatorio dos Empreiteiros do Caminho de Ferro de Lisboa pela analyse dos factos que precederam a suspensão das obras por parte dos mesmos empreiteiros (Lisbon, 1855), pp. 5-6.

4. "Shaw & Waring Brothers to the Central Peninsular Railway Company, 21 July 1855", in Refutaçao do Relatório..., p. 22. Other requests were made in 1854 and 1855, advances of cash totalling £49,580.
inappropriate to apply Jenks' description to Shaw & Waring Brothers: "as a master of a craft, the assembly of factors of production upon a scale not hitherto known in modern times, the contractor acquired a dignity and prestige independent of the companies that employed him".1

Finally, the suspension of the works clearly illustrates the failure of the government policy in the whole affair. This can be seen by analysing the three following points. First, the inefficiency of government officials in controlling the works. Second, its failure to take a strong position in the negotiations which took place with the contractors, and third, the Government's subsequent decision to buy the remaining two thirds of the share capital of the company, so becoming the sole proprietor of the line.

The lack of constant surveillance over the works certainly contributed to the bad quality of the materials used and to the slow progress made. It probably also allowed the contractors to make extra profits with imported railway materials. Until August, 1855 (the month before the suspension of the works), 6,610 tons (£92,444) of rails and 2,140 tons (£17,111) of sleepers and crossings had been imported but only 3,717 and 1,357 tons respectively had been laid down on the line.2 According to one of the clauses of the convention rails would be charged to the company at £15 per ton: had the contractors imported all rails at one and the same time they would have made a profit of £1 per ton, that is, £12,978 before laying down a single kilometre of the line.

Government weakness throughout the negotiations, given the near fraud on the part of the contractors, explains the lack of positive state policy but was due to Portugal's continuing dependence on foreign capital for the works to proceed. While negotiations were taking place, the works were carried on until February, 1856 under the responsibility of a government engineer and then a French engineer was hired to direct construction. But Parliament rejected the Crédit Mobilier's proposal to complete the line and the Government was forced, once more, to take over the line. The negotiations with the contractors came to an end in March, 1856 when an agreement between the Portuguese Government and Shaw & Waring Brothers was

2. Refutação do Relatório..., p.19.
finally reached. The principal matters were contained in article one and two of the Memorandum:

Article 1 - The Portuguese Government agree and bind themselves to take and purchase all the shares belonging to Shaw & Waring Brothers in the Central Peninsular Railway Company of Portugal at the price actually paid by the said Shaw & Waring Brothers;

Article 2 - The Portuguese Government agree to take and pay for all materials, rolling stock, permanent and temporary buildings now at Lisbon or on the line between Lisbon and Santarém provided by Shaw & Waring Brothers and not already paid for, at a valuation according to the contract. The Portuguese Government further agree to purchase all or such part of the plant belonging to Shaw & Waring Brothers.

Although the Portuguese Ambassador at London was well aware of "the inferior nature of the work performed, and of the materials furnished by Shaw" and wrote plainly to the British Minister at Lisbon of his hopes that his Government was "fairly entitled to a reduction of their demands," the payment made by Portugal for the plant and railway stock which had been estimated at £40,000, finally amounted to £43,000 because Charles Waring refused to sign the Memorandum unless he was paid a further £3,000. Great pressure was put on the Portuguese Government by the British Minister at Lisbon who, more than once, "strongly represented to [the Portuguese Prime Minister, the Duke of Loulé] how interminable the affair would be if all the questions that had given rise to the litigation between the company and the contractors were to be reopened." Howard, supported by Sir John Rennie

1. Diário do Governo (1 March 1856), "Memorando do Acordo celebrado nesta data entre Sua Excelência o Secretário de Estado e Ministro das Finanças de Portugal e William Shaw e Waring Brothers.
2. PRO,F063/804/261, Howard to the Earl of Clarendon, 5 November 1856. Howard himself was aware "by persons who are best able to judge some of the demands of Shaw & Waring are considered to be very exhorbitant"; PRO, F063/817/89, Howard to the Earl of Clarendon, 18 April 1857.
4. PRO, F063/817/110, Howard to the Earl of Clarendon, 8 May 1857.
to whom Waring Brothers were debtors\(^1\), further pointed out "how much it is in the interest of the Government to come to a settlement with Shaw & Waring Brothers\(^2\). Apart from the hypocrasy of his position, Howard was paving the way for the arrival of another British railway promoter (Sir Morton Peto): "The experience which other foreign Governments have had of the good faith and ability of the persons whom Sir John Rennie is recommending the Portuguese Government to employ [referring to Peto], must be a sufficient security of the undertaking, without the necessity of the constant interference of engineers on behalf of the Government, often vexatious and causing unnecessary delays\(^3\)."

Within this political manœuvering and with no means to produce a serious alternative, nothing was left for the Government but to become the sole proprietor of the line. As has been said the capital of the company was equally divided in three parts of £266,666 each. The contractors held one third, Portuguese and other foreign capitalists held another third, and the Portuguese Government, because of the failure of the Brazilian sale, held the last third. The shares held by the contractors were bought back at 75 per cent (£200,000). Further, the state bought back the remaining shares in private hands. Of the one third offered for subscription to Portuguese capitalists, 5,104 shares had not been taken which reduced the total paid-up capital that they had subscribed to £164,586. Bearing in mind that shares were at 85 per cent, their acquisition cost the state £139,898. The total direct cost to the state of acquiring the Central Peninsular was £339,898, on top of which a further £43,000 was paid directly to Charles Waring. Briefly, the two-thirds of the share capital of the company cost the state £382,898, financial charges excluded\(^4\). Assuming that 75 per cent per share had been paid on the capital held by the Government, it cost the state £200,000 to refund private holders in Brazil, which brings the cost to £582,898. Taking into account six per cent interest on capital to be paid to shareholders (£10,000 to £20,000), the total cost to the state reached £600,000 in round figures, financial charges not included.

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2. PRO, F063/793/88, Howard to the Earl of Clarendon, 8 November 1855.
3. PRO, F063/817/110, Howard..., 8 May 1857.
In the meantime, in October, 1856 the first 36 kilometres were finally opened to traffic. Although no accident occurred, "I regret to say that the excursion did not prove a very successful one, a derangement in the engines both on the journey out and home, having produced a lengthened stoppage on the road. This misadventure, which has now happened for the second time when His Majesty has driven on the line, is easily accounted for by the circumstance of the engines being too old and worn out". Much to the King's disenchantment and public surprise, the state became the sole proprietor of the stretch of railway, a complete reverse of the policy Fon tes had planned. The company was finally liquidated on 9 July, 1857. During four years of operation the company had achieved nothing for the benefit of railway development in Portugal. A long time was to elapse before the whole line to the Spanish frontier was completed and open to traffic.

5.2 SIR MORTON PETO AND THE 'NORTHERN' RAILWAY

With the ending of the dispute with Shaw & Waring Brothers the stage was set for another British railway promoter: enter Sir Samuel Morton Peto considered, along with his partners, "great people, smart people, enterprising people, energetic people". However, Peto's involvement with Portuguese railways developed with the same pattern of corruption and bribery that had marked his predecessor's dealings. Although Peto did not get the chance to create a company to build the railway, it was later acknowledged by his son that "5,000 dollars would have bought over those who could have controlled matters, and we remember the Portuguese representative [of Peto] saying that it was entirely [due] to Sir Morton's refusal to employ money in buying the votes of Ministers and Members that the contract was lost". Peto enjoyed the support of Sir John Rennie and probably his plans as railway contractor and company promoter in Portugal were "the result of a fusion between the friends of Sir Morton Peto and Sir John Rennie on the.

1. PRO,F063/804/258, Howard to the Earl of Clarendon, 28 October 1856. The royal train took five and a half hours to make the journey back to Lisbon; O Portuguez (29 October 1856).
2. Bankers' Magazine (February 1868), p. 73.
oneside, and of Mr. Scott Russell on the other.\(^1\)

The Government, now, had opted for a railway to Oporto because the Spanish Government had not yet made up its mind over where at the border the two sections of the line would meet. If this was Spain's public stance, it did not, however, cause a great impression upon the Portuguese Cabinet who, rightly or wrongly, thought Spain was trying to isolate Portugal from the rest of Europe. After a long meeting with the Marquis de Loulé (the Portuguese Prime Minister) in November, 1856 Howard reported to London that the Marquis had confided that "the present Spanish Government were indisposed to ratify this convention; and, instead of the line to Badajoz, contemplated the construction of a railway from Madrid to Vigo, with a view to raising the importance of that port, and, as he complained, of shutting out Lisbon from the advantages of a direct communication by rail with the Spanish capital and France.\(^2\) The lack of confidence in Spain's railway policy which was due both to deficient information of events in the neighbouring country and rumours of a political union (which, in turn, were the result of an unstable political situation in Spain) explains the decision taken by the Portuguese Government in granting Peto the concession of a line to Oporto.

A provisional contract was signed in April, 1857.\(^3\) According to its clauses, Peto was to form a company to build the railway from Lisbon to Oporto, the extension of the line from Lisbon to Santarém of which a

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1. PRO, F063/816/317, Howard to the Earl of Clarendon, 18 February 1857. Russell had applied for the tender before, but the Portuguese Government had suggested to him that "the capitalists in whose name he had spoken should associate themselves to the parties with whom the Portuguese Government were already in negotiation"; PRO, F063/816/3, Howard..., 6 January 1857. Russell, who went bankrupt in 1856, was one of the promoters of a steam company - the Companhia de Navegação a Vapor para os Açores e Costa de África - which was to be based in Lisbon and would be granted a mail contract to the Azores and West Africa; AHMOP, DGOP-RC, 107 Lavrador [the Portuguese Minister at London] ao Marquês de Loulé, 21 December 1856.

2. PRO, F063/804/278, Howard..., 25 November 1856.

part was already in operation, and a part under construction which the company was to purchase from the Government. The deadline for the formation of the company was February, 1858 and the company was to operate the line for 99 years. Peto, who planned to guarantee interest on the capital at no less than seven per cent until the completion of the line, was to deposit £10,000 in three per cent state bonds with a London bank, and a further £10,000 were to be deposited one month before the commencement of the works. This, however, was never made. The works were to start three months after the formation of the company, that is, May, 1858. Further, Peto was to purchase the 50 kilometres of the line already in operation from the Government at £11,000 per kilometre (£550,000), which was to be deducted from the proceeds of the subvention to him of £5,500 per kilometre granted by the Government amounting, for the 328.5 kilometres planned, to £1,806,750. The construction of the line was to be completed in four years while 25 per cent of the share capital of the company was to be reserved for Portuguese capitalists. However, the total capital of the company was never disclosed.

Peto's deal was not very favourable for the Portuguese Government and reflects the continuing inefficiency of Fontes's policy, although he had already resigned when the negotiations were carried out and the contract was made. The cost of the line per kilometre, which they were now planning to sell for £11,000 had cost no less than £13,000 on top of which over £0.5 million were spent on the purchase of the shares of the Central Peninsular. It was, however, the best possible solution within the framework of a policy of a Government which appeared only too pleased to open its arms to foreign speculators and fill their pockets with gold sovereigns.

Soon after the provisional contract had been signed, there was "a general feeling of satisfaction among all classes in this capital at the conclusion by the Government of this provisional contract with Peto, whose name inspires the Portuguese with the confidence that at last they can count upon having railways of which, after all the blunders that have been committed, they had begun to despair". Both Chambers of Parliament endorsed the contract and Howard reported to London that "although in the course of the discussions several points of the contract were severely criticised, on no occasion were more than five or six votes recorded in favour of the amendment proposed [to Peto's contract], so fearful were the

1. PRO, F063/817/88, Howard..., 18 April 1857.
deputies of appearing, in the eyes of their constituents, opposed to an undertaking the success of which is so ardently desired by the country at large.

A definitive contract was signed in August, 1857 but nearly one year was to elapse before Morton Peto visited Lisbon again. It is clear that the commercial crisis in England in 1857 and other European countries in early 1858 made it impossible for Peto to form his company. According to a memorandum written in 1859 it was stated that "so great was the want of confidence after the crisis that it was found impossible to form a company on the proposed basis; the more especially as the Emperor of France had forbidden the introduction of foreign schemes on to the Bourse at Paris, and considerable assistance had been promised from thence which of course was not so readily obtained after the Emperor's decree." However, the Portuguese Government was entirely in Peto's hands, and time went by and by, with no sign of any building activity on the line. In April, 1858 Howard reported to London: "the contract entered into last year by the Portuguese Government with Peto for the completion of the railway from Lisbon to Oporto has not been commenced". When Peto finally returned to Portugal in the summer, "sad disappointment has been expressed in Lisbon, in consequence of the arrival of Sir Morton Peto and his engineering staff without a sufficient supply of money." Too many promises had been made, too many hopes.

2. PRO, F063/867, Statement of the circumstances under which a claim is made on the Portuguese Government for expenses incurred by Sir Morton Peto for the Northern Railway of Portugal, August 1858. Lavradio, the Portuguese Minister at London reported to Lisbon on the events of the spring of 1858: "We have to admit that the market has been in a terrible state, particularly after the change of the English Cabinet and also because of the rumours about the relations between the British and French Governments. It is beyond any doubt that a conflict between the two Governments still prevails. Consequently, all capitalists are fearful and although there is a fabulous amount of capital available in the London money market, there is widespread fear to employ it in any venture, until politics amongst the great nations become clearer and reassure everybody that peace will not be disturbed"; AHMOP, DGOP-RC, 107, Lavradio ao Ministro Português dos Negócios Estrangeiros, 8 March 1858.
3. PRO,F063/830/47, Howard to Malmbury, 8 April 1858.
4. The Railway Times (31 July 1858), p. 918.
had been raised, but not a single penny was available to fulfill them.

Peto presented yet another proposal to the Government, which applied to the sections of the railway from Ponte d'Asseca, the then rail-head, to Tomar, and from Pombal to Coimbra and Oporto. No surveys had been made for the intermediate section from Tomar to Pombal although Peto was responsible for it and no definite building agreement had been made for this section, but Peto agreed to sink at his cost the shafts for the tunnel required at this point. Accordingly, the construction of the more difficult works, that is, the intermediate section between Pombal and Tomar, was largely left for future agreement. The omission of this important section in the proposals caused such an unfavourable impression, that the Government "did not venture to press their discussion in the Chambers before their close, and it was doubtful how far the Government might succeed in passing them in the coming session". Further, Peto now estimated that no less than 10 years were required to complete the line up to the Douro river, but made no suggestion regarding the bridge to be built across the river, in order for Lisbon and Oporto to be linked by rail. This new proposal led nowhere. Moreover, the French started to realise that Peto was no better than Hardy Hislop and a proposition made by Goussard, a French engineer and agent for Parent for the construction of railways in Portugal, soon came before the public, which made the situation even more complicated for the Government. Howard clearly recognised this when he reported to London that "although Monsieur Goussard professes that his friends wish to see the success of Peto, I believe that they have been intriguing against him and would be very glad to supplant him". Rumours spread and in Parliament the Opposition demanded the Minister of Public Works to "break in the name of public countenance, the damned silence which has been maintained in respect of an affair in which all clearness is required, all concealment unnecessary".

1. PRO, FO63/833/265, Howard..., 28 October 1858.
2. PRO, FO63/832/185, Howard..., 8 August 1858. "Mr. Parent's proposals are largely supported by both the Chamber of Deputies and the public in general... their clauses are perfect and they show a clear intention of achieving an undertaking of this nature with so deep a commitment never seen in Portugal until the present moment"; GCH (13 March 1859), p. 149.
3. Diário do Governo (27 July 1858), "Discurso apresentado às Cortes pelo deputado José Estevam em 26 de Julho de 1858".
The situation in the summer of 1858 was desperate for the aspirations of the Government: Peto had no money, the Government was deeply committed to his promises, and the works remained paralysed. The Opposition in the chambers rightly claimed: "Mr. Peto does not make the line, nor contacts have been made with anyone who can make it, and thus months go by and the country is suffering from such long delays. Are we, by any chance, chained to a name, a man, a family? If Mr. Peto would die tomorrow, would the affair pass to his descendents? Are there not any more capitalists, entrepreneurs, just Mr. Peto?". The situation was not improved significantly by Robert Knowles who, acting on Peto's behalf, presented the Portuguese Government with yet another proposal in October, 1858. Peto's new plan was far more damaging to the Government than the previous one. According to clause 10 of the new proposal the Government "will suspend, until the formation of the company, those parts of the contract entered into on the 28 August 1857, which are related to the amounts the Government is entitled to receive, and other obligations of the company herein not specified". Clause 12 went even further by stating that "should there not be a company formed in the next five years, the Government will take over the line and pay £3,500 per kilometre, in addition to the subvention quoted above [£5,500 per kilometre]".

If such proposals had been accepted, it is clear that Peto would no longer have been committed either to form his company or to fulfill the conditions of the contract of 1857, of which the most important was the purchase of the line from the Government. In these circumstances the Government did not consider that the proposition would meet with the approval of the Chambers. Moreover, when the Council of Public Works was consulted it admitted that clause 10 and 12 of Peto's new proposal would release him from any commitment to form the company. Its report ended by suggesting to the Government that "it is not convenient to accept such a proposition."

1. Ibid.
2. MOPCI (December 1858), "Proposta feita ao Governo Portuguez por Sir Morton Peto para dar execuçao desde ja, da forma possivel, ao contrato de 28 de Agosto de 1857", pp. 332-335.
3. Ibid.
When the report of the Council of Public Works was disclosed, the Opposition wasted no time in attacking the Government whose position became everyday more insecure. In late February, 1858 a motion calling upon the Government to rescind Peto's original contract and put up the construction of the line to public competition was laid before the Chamber of Deputies, on the grounds that Peto had not fulfilled the terms of his original contract. However, the Government managed somehow to reach yet another agreement with Peto but the Prime Minister was forced to admit that "although Lobo d'Avila's motion would probably be rejected, he had great fears that Peto's proposals would not be adopted by the Chamber of Deputies, two thirds of the members of the united committees to which they had referred having expressed their disapproval of them, and that even if they passed in the Chamber of Deputies, they would not do so in the Chamber of Peers". These dark forebodings proved to be correct as the Prime Minister had foreseen. They became reality when in March the majority in the Chamber recommended that the proposed law authorising the Government to introduce these modifications be rejected and the contract rescinded altogether. The recommendation went further by stressing that "no railway contract should be entered into without comprising the junction line with Spain, and that the construction of Portuguese railways should be put up for public competition".

There was nothing left for either the hopes of the Government or Sir Morton Peto: "The resignation of the present ministry which has since taken place, appears to seal the fate of Morton Peto's contract. The issue was brought back to Parliament for a final discussion in which the Cabinet was literally bombarded with recriminations, the Minister of Finance being accused of acting as Sir Morton Peto's adviser and consultant. The contract was finally rescinded in the following April but not Peto's claim for £30,135 which he considered himself entitled to receive from the Portuguese Government for his surveys. He even threatened blackmail by saying that if he was paid he would pass them on but if not he would destroy them. Peto's claim took a long time to be settled, partly because of ministerial changes in Portugal. In England, the claim was even brought before the House

1. PRO, F063/846/61, Howard..., 6 March 1859.
2. PRO, F063/847/74, Howard..., 15 March 1859.
3. Ibid.
4. Diário do Governo (9 April 1859), "Discurso apresentado em Cortes pelo deputado Lobo d'Avila a 8 de Abril de 1859".
of Commons where William Napier, acting on behalf of Peto, requested the
Foreign Office "to direct the British Minister at Lisbon officially to de­
mand the payment of the claim of £30,135". Napier was so deeply involved
in this affair that he even came to Portugal to discuss the claim with the Go­
vernment. He acted very positively by striking deep into one of the Govern­
ment's most sensitive issues - the critical state of the public accounts.
He wrote to the Minister of Public Works: "I am convinced the people of
this country will deeply regret a short-sighted policy by their Government,
which cannot fail, unless speedily and formally condemned, to entail the
most unhappy consequences"; and he categorically ended his letter by com­
bining "the chief points of Sir Morton Peto's claim" with "the deplorable
condition of the finance and commerce of this country". Non-interventio-

William Napier, the second son of William John, ninth Lord Napier, was
born in 1821 and married in 1854 Louise Mary Lloyd; E. Walford, The Coun­
ty Families of the United Kingdom (1865), p. 729. Napier had been an
agent of Edwin Chadwick in the London Water Supply scheme and had exami­
ned the Farnham area as a possible 'gathering ground' in 1850. He had
a persuasive personality but his report on Farnham proved to be worthless
and at the time of his publication Napier was in Brussels sheltering
from his creditors; R.A. Lewis, Edwin Chadwick and the Public Health Mo­
vement 1832-1854 (1952), pp. 263, 265, 333. During the 1850s he became
Clerk of Public Works at Hong-Kong but later returned to England and
was appointed the Managing Director of the Lands Improvement Company,
the most important of private land finance companies; Walford, op.cit.,
p. 729. In the 1860s Napier was co-shareholder with Edward Price (the
original contractor for the South Eastern of Portugal railway) in the
Labuan Coal Company in North Borneo. Further, J.T. MacKenzie who acquir­
red the contract for the South Eastern of Portugal was a founder of the
Labuan Coal Company, having acquired the rights from the New Eastern Ar­
chipelago Company; Philip Cottrell, "Investment Banking in England,1856-
-1882; case study of the International Financial Society", p. 263, unpu­
2. Hon. William Napier, Claim of Sir Morton Peto, Bart., M.P. Against The
Government of Portugal. Letters to the Minister of Public Works (undated);
for private circulation, p. 5.
nism in British foreign policy had proved, once again, to be a mere bluff - the pressure on the Government was such that the Spanish financier Salamanca could not sign his contract for the construction of railways before Peto's claim was finally settled. Shortly after his arrival in Portugal Peto had made predictions about the effects of the development of railways: "I never saw a country in which it is probable that railways will make so great a change"[1]. The burden of his prediction is unclear; but it is hardly questionable that because of his attitude the changes he foresaw had to be postponed for a long time. Further, when he came to Portugal he had already passed the apogee of his career. In 1868 the balance sheets of the two firms he was involved, Peto & Betts representing the general engagements and Peto, Betts & Crampton which had most to do with the London Chatham & Dover railway, showed an aggregate liability of £1.4 million. Such a staggering amount illustrated "the fallacy of financing as understood and practised by the modern school of contractors and their allies. Put it into plain English, it means simply trading with capital which has not real existence, in the hope that by so trading, money may be obtained for making grand and perilous experiments with the capital of other people"[2].

At the turn of the 1850s British contractors and company promoters involved in the 'eastern' and 'northern' lines had produced little else but disappointment and frustration - a railway 56 kilometres long ending in a small village in a thinly-populated district, but which had involved the Government in spending more than £1.5 million.

5.3 THE SOUTH EASTERN OF PORTUGAL RAILWAY COMPANY

Despite the abortive affair of the Central Peninsular Railway Company between 1852 and 1855 and then Sir Morton Peto's successive failures to raise money in London during 1856 with which to finance a company to build a railway from Lisbon to Oporto, British capital in the early 1860s made some positive inroads with £1.2 million invested by the South Eastern

[1] Henry Peto, op. cit., p. 95
of Portugal Railway Company for the construction and operation of 193 kilometres of railway in southern Portugal. Railways south of the Tagus had been a part of Government since the early 1850s and these designs were reinforced by both the exasperating slowness of the works on the 'eastern' line and the prospects of a lower cost of construction through the plains of Alentejo, which would give a faster connection between Lisbon and the frontier of Spain. However, the conditions within which the works on the various sections of the line took place, together with the nature of the service, made the 'southeastern' an unprofitable scheme, partly because the line ran on a scarcely populated area, partly because the Alentejo relied on a subordinate monoculture (wheat). By the end of the 1850s the Council of Public Works was forced to admit that "the railway [in the Alentejo] will cover the distances without a substantial advantage for the country as a whole". In general terms, the 'southeastern' railway appears to illustrate and reinforce Pollard's thesis on the role of certain railways in European backward countries: "There was some economic justification where a railway opened out a food or raw material supply zone, such as fertile wheat lands. The greater benefit of this development, it is true, tended to go to some advanced region elsewhere, while the penetrated region was driven to specialize in a subordinate monoculture". Given the slow progress on the line and the modest traffic receipts it appears that the 'southeastern' was a case in point.

In July, 1854 the Portuguese Government had offered by public tender the first section of a railway from Barreiro (a small town across the Tagus, five kilometres away from Lisbon) to Vendas Novas. The project, widely debated in Parliament, was finally secured by a "Portuguese company chiefly formed by persons commonly called in this country Brazilians, from their having made their fortunes in Brazil, and amongst them are two noted slave traders Thomaz da Costa Ramos and João Pedro da Costa Coimbra". The promoters of the railway founded the Companhia Nacional dos Caminhos de Ferro ao Sul do Tejo in February, 1855 with a nominal share capital of £311,111

1. MOPCI (September 1858), p. 71.
3. See O Portuguez (2 August 1854).
4. PRO, F063/831/132, Howard to Malmesbury, 17 June 1858.
divided into 14,000 shares of £22 each, to which the Government allowed a
subvention of £1,777 per kilometre\(^1\). However, as with the 'eastern' line,
works proceeded very slowly so that it was not until June, 1858 that the
first 50 kilometres of railway was open to traffic. Even then, five kilo-
metres still remained to be built to the contemplated terminus at Vendas
Novas. When the whole line was finally open the company did not have suffi-
cient capital to extend the line to Evora and Beja, as required by clause
49 of its contract\(^2\). This was not surprising as traffic receipts for the
five months from August to December, 1861 (no data prior to that date is
available) amounted to only £9,605, or £175 per kilometre\(^3\).

In 1859 the extension to Evora and Beja was offered to public
tender. The invitation to tender with 69 clauses laid down that in return
for a £20,000 cash deposit and a further £10,000 in cash or state
bonds, the Government would grant the concessionnaires the operation of the
line for 99 years\(^4\), but with no indication of the amount of any subvention.

In January, 1860 John Sutherland Valentine, the civil engineer
who had worked for the ill-fated Central Peninsular Railway Company made a
warrant deposit of 670 bonds of £100 each of the Portuguese public debt\(^5\) on
behalf of Charles Edward Mangles, John Chapman, Robert Russell Notman and
George Bernard Townsend. This group gained the concession which gave them
the right to build the line between Vendas Novas and Evora and Beja on which
the Government now granted a subvention of £3,511 per kilometre\(^6\).

The concessionnaires transferred their rights to an English com-
pany - the South Eastern of Portugal Railway Company - which was incorpora-
ted in London in June, 1860 in return for being appointed directors for li-
fe (or until resignation), at an annual salary of £500 each to be paid
quarterly. Richard Birley was appointed director for one year with a £150

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1. MOPCI (August 1854), p. 60. Bearing in mind that the selling price was
   £224,000 the nominal share capital of the Portuguese company was never
   paid-up in full, which certainly prevented the company from proceeding
   with the building of the line.
2. Ibid.
3. Ibid (January 1862), p. 150.
4. Ibid (September 1859), pp. 288 and 284.
5. The deposit being only £30,000 the funds were quoted at 44.
6. MOPCI (June 1860), p. 146.
salary and Henry Wilkes Notman was made the auditor of the company at £100 per year. The company had a nominal capital of £750,000 divided into 22,500 class A £20 ordinary shares and 15,000 class B £20 preference shares entitled to a guaranteed dividend of seven per cent. In addition, the company had borrowing powers of up to £200,000. Edward Price, the concessionnaire and contractor for the Smyrna and Cassaba railway, was appointed the contractor and, according to the return of shareholders issued in March, 1862 when 10,828 ordinary shares and 10,226 preference shares had been taken up, he held 5,500 shares which may have been payment for his services. In March, 1862 the major shareholders of the company were as follows.

Table 27. Shareholders of the South Eastern of Portugal Railway Company in 1862

<table>
<thead>
<tr>
<th>Shareholders</th>
<th>Number of £20 Shares</th>
<th>Shareholders</th>
<th>Number of £20 Shares</th>
</tr>
</thead>
<tbody>
<tr>
<td>Edward Price</td>
<td>5,500</td>
<td>John Chapman</td>
<td>162</td>
</tr>
<tr>
<td>Hardy Hislop</td>
<td>300</td>
<td>Richard Birley</td>
<td>150</td>
</tr>
<tr>
<td>Henry McChlery</td>
<td>250</td>
<td>Edward Arvey</td>
<td>105</td>
</tr>
<tr>
<td>John Valentine</td>
<td>250</td>
<td>Archibald Scott</td>
<td>100</td>
</tr>
<tr>
<td>Joseph Wright</td>
<td>250</td>
<td>Robert Marshall</td>
<td>100</td>
</tr>
<tr>
<td>George Townsend</td>
<td>213</td>
<td>Ross Mangles</td>
<td>100</td>
</tr>
<tr>
<td>Robert Notman</td>
<td>213</td>
<td>Stephenson Clark</td>
<td>100</td>
</tr>
<tr>
<td>Charles Mangles</td>
<td>212</td>
<td>William Parker</td>
<td>100</td>
</tr>
<tr>
<td>Charles Cammell</td>
<td>200</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Joseph Beattie</td>
<td>200</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: PRO, BT31/482/1889, The South Eastern of Portugal Railway Company

1. PRO, BT31/482/1889, The South Eastern of Portugal Railway Company.
2. Ibid.
3. Ibid.
Map 8. The 'Southeastern' of Portugal Railway
Among the company's shareholders at this time was Hardy Hislop of the ill-fated Central Peninsular with 300 shares (which he increased to 4,500 in 1864); the ironmasters Joseph Wright of the Saltley Works, Birmingham, held 250 shares and Charles Cammel of Sheffield 200 shares and, as with Price's holding, they may have received these shares in payment for railway material.

Although the company eventually started construction within the terms of clause 57 of the contract (three months after May, 1860 otherwise the concession would be cancelled and the deposit lost), very little progress was made on the line. In the summer of 1861 the engineer's report stated that "although the late severe winter had somewhat impeded the works, the permanent way is laid and ballasted for the first five kilometres and eight kilometres of the second division of the line are also nearly completed as regards earthwork and masonry, and the ballast is being laid down". There was no reason to blame the Government for the delay in the construction of the line because the first installment of the subvention was paid in July, 1861 and in March, 1862 the sum paid in cash by the Government amounted to £41,481, rising to £325,000 by October, 1863. Rather, costly negotiations for purchasing the land and delays in the payment of calls by shareholders may have been responsible for the state of affairs. The company certainly needed the capital and in September, 1861 it was announced that the directors were prepared "to issue seven per cent debenture bonds for a period of five years, the interest being paid by the bank of the company, the Union Bank of London". Further, the negotiations between the Spanish contractor Salamanca and the original Portuguese company for the sale of their line from Barreiro to Vendas Novas had reached a stage where

1. This appeared to be common practice with either railway shares or debentures, and the same applied to American railways. According to Dorothy Adler (British Investments in American Railways 1834-1898 (University Press of Virginia, 1970), p. 42) after 1852 the ironmasters involved in American railways "became more willing to accept bonds directly in payment for iron".
2. The Railway Times (13 July 1861), p. 901.
3. The South Eastern of Portugal...
the project of sanctioning the sale was presented to the King and signed by His Majesty without, as report says, His Majesty having read it, or without his attention having been called to its contents. This may also have contributed, perhaps, to the caution shown by the English company. If Salamanca did take over the first section of the railway, the English South Eastern would be entirely in his hands for the connection to Lisbon.

From a Portuguese point of view it was impossible to leave the control of all railway connections to Spain (Salamanca had in the meantime secured the making of the 'eastern' line) in the hands of a Spaniard. The Government, therefore, was forced, through by pressure from the King, to cover Salamanca's offer thus becoming the sole purchaser of the line at £224,000. Once this transaction had been completed and "the wish of the Government to induce the English company to purchase or to lease the line in question" had been expressed, the works proceeded steadily on the 'southeastern' line. In May, 1862 "the number of labourers and workmen of all kinds employed is 6,229, the horses, mules, and oxen employed amount to 461, and a locomotive is at work, shifting earth and materials". Moreover, negotiations started for a provisional contract for the purchase of the first section of the railway from the state and to extend the line beyond Evora (to make a junction with the 'eastern' line) and Beja (to the Spanish frontier and south to the Algarve).

In 1863 when "about sixty miles will be opened in June next and the entire railway in a few months afterwards", the capital of the company was reorganised. The existing 22,500 ordinary shares became deferred shares which were to be credited with the Government subvention. At this time most of the railway's capital was derived from the £200,000 debentures and the class B seven per cent preference shares, of which 10,378 had been taken and on which £13 had been paid. The railway had a total subscribed equi

1. PRO, FO63/875/116, Magenis to Lord John Russell, 6 August 1861.
2. Ibid.
3. HR(C)J (17 May 1862), p. 511.
4. Hardy Hislop acted as intermediary for the company in these provisional arrangements; MOPCI (June 1862), p. 424.
5. HR(C)J (25 April 1863), p. 455.
6. The South Eastern of Portugal...
ty and loan capital of £334,914 in November, 1863 and, allowing for subven-
tion payments, this total approached the selling price of £400,000 which
was rejected by the International Financial Society of London in August,
1863\(^1\), but later accepted by the General Credit and Finance.

In early 1864 "the entire line [was] now open to traffic"\(^2\); the
length of the main line was 124 kilometres, which included the 26 kilome-
tres branch to Evora. By two agreements made by the South Eastern with the
Portuguese Government in April, 1864 the network was extended considerably.
The original line built in the 1850s from Barreiro to Vendas Novas, with a
branch to Setubal, was purchased from the Government for £224,000 (and not
£210,000 as initially agreed to in the provisional contract signed in May,
1862). This gave the English company a system with a total length of 193
kilometres, an outlet to Lisbon, the Tagus estuary, and the Atlantic coast.
In addition, the concessions for three extensions were granted: from Evora
to a junction with the 'eastern' line (120 kilometres)\(^3\), and for two lines
radiating from Beja, one to the Guadiana river and the frontier of Spain
towards Seville (70 kilometres), and a second to the Algarve in the southern
coast of Portugal (190 kilometres)\(^4\). A contract was made with the General

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1. Philip Cottrell, \textit{op.cit.}, p. 365
2. HR(C)J (27 February 1862), p. 244.
3. "The main object of the first of these extensions is to form a direct
means of communication between the south of Portugal and Oporto and the
north provinces, as well as Spain and France, by means of the Royal Por-
tuguese Railway, with which a junction will be made at Crato. Independen-
tly, however, of the through traffic, this extension passes by the im-
portant town of Estremoz, and will draw the traffic of the rich wheat
and wine-growing district of Borba and Vila Viçosa, besides having a
monopoly of the carriage of the copper ore from the mines which are now
being brought into operation in that neighbourhood, and could not pre-
viously be profitably worked, owing to the cost of transport"; GBPP (1866),
LXIX, 3582, "Report by Mr. Consul Smith on the Trade of the Port of
Lisbon for the Year 1864", p. 326.
4. The terminus of the railway was yet to be decided:"a point on the south
coast of Portugal, to be thereafter agreed upon with the Portuguese Go-
vernment"; The South Eastern of Portugal....
Credit and Finance of London in which the latter agreed to pay for the construction of the new lines in return for a £4,000 subvention per kilometre.

The nominal capital of the South Eastern, after the contract had been signed, was increased to £3 million consisting of 75,000 shares of £20 each and 15,000 bonds of £100 each, bearing seven per cent interest. Such bonds formed a preferential charge upon the entire property of the company, inclusive of that which might be acquired under the convention. Between 1863 and 1866 the bonds were quoted at the London Stock Exchange as follows.

<table>
<thead>
<tr>
<th>Year</th>
<th>Highest</th>
<th>Lowest</th>
</tr>
</thead>
<tbody>
<tr>
<td>1863</td>
<td>102</td>
<td>100</td>
</tr>
<tr>
<td>1864</td>
<td>99.5</td>
<td>97.3</td>
</tr>
<tr>
<td>1865</td>
<td>95.2</td>
<td>92.5</td>
</tr>
<tr>
<td>1866</td>
<td>94.1</td>
<td>90.3</td>
</tr>
</tbody>
</table>

Source: Annual quotations based on weekly quotations of the company's debentures at the London money market, The Economist, various years.

According to the return of shareholders issued in October, 1864 70,000 shares had been taken up, both new and old equity, of which 69,750 shares were held by the General Credit and Finance, its associates, and the contracting firm Waring Brothers who, somewhat surprisingly, had replaced Edward Price. The General Credit and Finance held 11,666 shares, James Thomas MacKenzie (a director of the English investment bank) 17,252, Samuel Laing (the Chairman of the General Credit and a Member of Parliament) 14,583, Emile Erlanger (a Paris banker) 8,750, and Waring Brothers 5,833. Two new shareholders joined this financial group: Michel Rodocanachi (a London merchant connected with the rival London Financial Association) and Brandeis Weikessheim (a Vienna banker), and they both held 5,833 shares.
New articles of association were issued in November, 1864 as a result of the contract. Interest payments on class B original shares was to be either extinguished or held in trust and provision for this was made in new arrangements for holding the loan stock. Nearly all of the seven per cent debentures went to James Thompson MacKenzie for the construction of the new lines, but £330,000 was set aside for the conversion of the existing bonds, for the class B preference shares, and as a reserve. The General Credit and Finance, together with its associates and MacKenzie, had completely taken over the company; only George Townsend and Robert Notman of the original shareholders still remained, each holding 50 shares.

In October, 1865 a new and final arrangement was negotiated which, it was thought, would be mutually advantageous to both the contracting parties: "it releases the government from the necessity of contracting a new loan on behalf of its obligations to this company, it benefits the company by establishing the marketable value of their shares, and the community of this country at large, cannot but be benefited by whatever tends to diminish the obligations and emancipate the resources of the government which are greatly needed for the prosecution of other public works". Who would be the losers?

By the contract in question the company undertook to pay the Government a lump sum of £661,930 composed of: (i) the amount of the subvention, actually paid, of £3,555 per kilometre on the main line Vendas

1. The South Eastern of Portugal... The General Credit and Finance Company had an authorized capital of £10 million divided into 500,000 shares of £20 each, but its effective capital amounted to no more than £500,000. "After reverses in the crisis of 1866-67 it transferred its assets to the newly created General Credit and Discount Company, which was in reality the same wolf in a new sheepskin"; Rondo Cameron, France and the Economic Development of Europe 1800-1914 (Princeton, 1961), p. 185.

2. PRO, F063/916/22, Magenis to the Earl of Clarendon, 24 December 1865.

3. MOPCI (November 1865), "Contrato Celebrado com a Companhia de Caminhos de Ferro de Sueste de Portugal para a Alteração e Modificação dos Contratos Approvados pelas Cartas de Lei de 29 de Maio de 1860 e de 23 de Maio de 1864", pp. 404-407. The bill approving the contract was passed by Parliament in December, 1865.
Novas to Beja and branch to Évora, or £436,930 in all; and (ii) the price, not yet paid, at which the company would buy the line from Barreiro to Vendas Novas with the branch to Setúbal, or £224,000 in all. The company was to pay this sum to the Portuguese Government by three bills of an equal amount at three, six, and nine months respectively, bearing an annual interest of six per cent. The bills were to be delivered to the Government within 15 days of the contract receiving parliamentary sanction. Furthermore, should any of these bills fail to be taken up, the Government would have the right of considering the remaining one as due and was so entitled to demand payment on all of them. The Government, in return, agreed to guarantee a gross revenue of £800 per kilometre for 50 years from 1 July, 1869 if by that date all the lines had been open to traffic for six months, but if the lines were unfinished on the above date, then the guarantee would be reduced to £666 on the unfinished portion until when all the lines had been open for six months, and then the initial £800 guarantee would again become payable.

With this arrangement, Fontes, once more the Minister of Finance, displayed his usual disposition for gambling with anticipated but not secure revenues. The Government was so deeply committed to this adventurous arrangement that the budget for 1866-67 was based on the anticipated revenue to be derived from the sum to be paid by the company. According to Magenis, Fontes would "by this means [be] enabled to meet the expenses of the state, without applying to the Chamber for permission to raise a loan". This disastrous handling of public accounts was such that even the King's speech at the close of the parliamentary session ended with: "The public finances have been provided, in virtue of the laws which you have been passed, with sufficient resources in order to meet, during the next financial year, all the charges of the ordinary expenditure and all extraordinary expenses as required by the interests of civilization".

The Government greatly overestimated the consequence of such an arrangement. Besides relying on a ludicrous policy of anticipated revenues, the Cabinet did not take note of the modest traffic receipts of the

1. There is a difference of £2,890 between this amount and the result obtained by multiplying 124 kilometres, the length of the line, by £3,555 the subvention allowed by the Government. This discrepancy is noticed in the Government returns but not accounted for.
2. Total amount inclusive of interest (£1,987) would come to £663,917.
3. PRO, F063/924, Magenis to the Earl of Clarendon, 23 April 1866.
4. Diario de Lisboa (18 June 1866), our italics.
lines of the company that were already in operation. So long as the 'eastern' line, now operated by the Royal Portuguese Railway Company, did not reach the frontier of Spain, traffic receipts were fairly promising, partly because it was easier and faster to make the journey from Barreiro to Vendas Novas by train, and thereafter to Spain by stagecoach. But in 1864 the rail connection with Spain was finally completed by the Royal Portuguese and the receipts of the South Eastern dropped dramatically. The fall was even more dramatic if one takes into account that the network had been extended considerably, though it did not create additional traffic to the company.

Table 29. Traffic receipts per kilometre of the South Eastern of Portugal Railway Company, 1861-66

<table>
<thead>
<tr>
<th>years</th>
<th>traffic receipts per km in £</th>
</tr>
</thead>
<tbody>
<tr>
<td>1861</td>
<td>192</td>
</tr>
<tr>
<td>1862</td>
<td>412</td>
</tr>
<tr>
<td>1863</td>
<td>539</td>
</tr>
<tr>
<td>1864</td>
<td>322</td>
</tr>
<tr>
<td>1865</td>
<td>208</td>
</tr>
<tr>
<td>1866</td>
<td>211</td>
</tr>
</tbody>
</table>

Source: MOPCI, various years

When the arrangement of October, 1865 was made the loan capital of the company consisted of £200,000 bonds issued and taken in 1861, and only £230,000 out of the £1.5 million bonds issued in 1864. In addition, the paid-up share capital amounted to only £790,000, which made the company partly dependent on its bondholders and on the Government subvention for the construction of its system. The concessions granted in 1864 were, perhaps, the last resort to attract more capital and increase both the paid-up capital and debentures to their full nominal value of £3 million.

The first of the three bills under the October, 1865 arrangement fell due in May, 1866 at the very height of the English financial crisis. Then, "panic spread among the business community in London because the financial house of Overend Guerney, whose credit and reputation was rated to very high standards throughout the business world, suspended payments; and this coincided with problems arising from the cotton trade at the end
of the civil war in the United States"¹. Such an unfavourable situation "which has recently prevailed and which still continues has caused the greatest embarrassment to this company, and renders it impossible to issue the securities of the railway company at the present moment". The South Eastern was forced to apply for "the necessity of obtaining from the Portuguese Government some extension of time and other facilities", for which purpose the directors "earnestly hope that considering the amount of British capital at stake Your Lordship will give Mr. Rose such a letter to Her Majesty's Ambassador at Lisbon as will accredit him to the Minister of Finances as a person of position and respectability in England with whom the Government may not hesitate to negotiate and Your Lordship will also request our Ambassador to solicit from the Minister a fair consideration of Mr. Rose's proposals and the monetary crisis which now prevails"².

The bill, therefore, was not paid, whereupon the Government, in virtue of a clause of the contract of 1864 (as well as clause four the contract of 1865), rescinded the contract of October, 1865 and all other existing contracts with the company. The position of the Portuguese Government appeared to be stubborn, but was applying pressure when it was very difficult for English capitalists to obtain liquid resources. The Government's resoluteness could only be counterproductive in the situation. After only six years since its formation an English company was, once more, facing the prospects of a public sale and subsequent liquidation. When the contract was rescinded the amount of capital actually spent on the lines was as follows³.

"Other money markets were less affected by this crisis; France maintained its discount rate at 3-4%, whereas the Bank of England raised it to 10%"; Ibid, p. 324. For the impact of the crisis on British railway finance see P.L. Cottrell, "Railway Finance and the Crisis of 1866: Contractors' Bills of Exchange and the Finance Companies", JTH, new series, III (February 1975), pp. 33-36.
3. This valuation represented the actual cost of the lines and not their market value; and the cost itself is increased by a sum of more than £190,000, representing interest on the company's bonds, on the cost of their latest extensions (97 kilometres), and on a deposit of £20,000, as well as indemnity to the subcontractors Waring Brothers.
### Table 50. Cost of the lines of the South Eastern of Portugal Railway Company

<table>
<thead>
<tr>
<th>Section of the line</th>
<th>Length of section (km)</th>
<th>Expenses incurred by the company (£)</th>
<th>Expenses incurred by the Government (£)</th>
<th>Total (£)</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barreiro to Vendas Novas and branch to Setubal</td>
<td>70</td>
<td>61,494</td>
<td>224,000</td>
<td>285,494</td>
<td>Open and working</td>
</tr>
<tr>
<td>Vendas Novas to Evora and Beja</td>
<td>124</td>
<td>566,936</td>
<td>440,888</td>
<td>1,007,824</td>
<td>Open and working</td>
</tr>
<tr>
<td>Company's steamers and parcel carts</td>
<td></td>
<td>10,526</td>
<td>-</td>
<td>10,526</td>
<td>The steamers run from Lisbon to Barreiro</td>
</tr>
<tr>
<td>Extensions - Evora to Crato, Beja to the Guardiana, and Beja to Faro</td>
<td>323</td>
<td>567,907</td>
<td>-</td>
<td>567,907</td>
<td>27 kilometres completed, 70 kilometres in course of construction</td>
</tr>
<tr>
<td>Stores in depot in December 1866</td>
<td>-</td>
<td>12,918</td>
<td>-</td>
<td>12,918</td>
<td>-</td>
</tr>
<tr>
<td>Furniture in office at Lisbon</td>
<td>-</td>
<td>153</td>
<td>-</td>
<td>153</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>517</td>
<td>1,219,934</td>
<td>664,888</td>
<td>1,884,822</td>
<td>-</td>
</tr>
</tbody>
</table>

Source: GBPP (1867-68), LXVIII, 3953, "Report by Consul Brackenbury on the Trade and Navigation of the Consular District of Lisbon for the Year 1868", p. 413.

The company appealed for arbitration in November, but the Court in Lisbon decided against the appeal. The Government, then, called for an inventory and valuation of the whole of the company's property and ordered that the lines, with all the material and rolling stock, stations and offices be put up to public auction. The auction was arranged for October, 1867.
and no bid was to be admitted unless the bidder had previously deposited £20,000 in the Bank of Portugal. No upset price was fixed, but £661,930, the amount of the company's bills, was virtually the upset price since the successful bidder would have to undertake the contract of October, 1865 with all its obligations and accordingly had to, before the adjudication was signed, deposit bills with the Government for the amount in question.

Dispute between the shareholders and creditors of the company and the Portuguese Government continued until 1870. In the meantime, the preference dividend on the company's shares due in July, 1867 was not paid and Paget reported to London that "the non-payment of the dividend would certainly have a disastrous result (in as much as to the effects among the shareholders of the northern and eastern railway of the non-payment of their dividend in Paris) upon the credit of Portugal in London, and could close the door to any hopes the Portuguese Government might have of effecting a loan in that capital". As Paget was pointing out, both the French Royal Portuguese and the English South Eastern were not paying interest to their shareholders. Further, the share and bondholders of both companies were able to block the introduction of any new Portuguese state loan in the London and Paris markets. However, the position of the Portuguese Government towards the English and French share and bondholders was, apparently, very firm. A memorandum forwarded to the British Minister at Lisbon by the Portuguese Minister of Foreign Affairs, Andrade Corvo, stated that "the Portuguese Government entered into a contract with the South Eastern Company but never with the bondholders"; and also "the questions which refer in any manner to the contracts of 1860, 1864 and 1865 are questions between the Portuguese Government and a Portuguese company, with which the government of another country has got nothing to do". Finally, Corvo ended his memorandum by pointing out that the Portuguese Government "has a preference claim over all the creditors of the company, whatever may be the origin of its debts".

But not only was the Government "contending against the two most considerable and well-known enterprises of Portugal", it was also facing a

1. PRO, F063/963/66, Paget to Lord Stanley, 3 July 1867.
2. PRO, F063/963/14, Mr. Andrade Corvo's Memorandum Upon The Question Of The South Eastern Railway, 27 July 1867.
critical financial situation which required the negotiation of another loan in the London and Paris markets. To continue with such stubborn policy towards the railway companies would only damage the credit of the country abroad. In view of the situation, the Portuguese Minister of Public Works confided to the British Minister at the end of August, 1867 that "he thought no bidder for the railway would come forward. It was, perhaps, better that none should come forward. The ground would then be clear; the claims of all parties could be considered, and an arrangement fair towards all could be made by the Portuguese Government".

The anticipated result of no offer being made at the public auction occurred and it was acknowledged that "the Government will arrange satisfactorily with the English share and bondholders for which purpose a loan will probably be introduced in London negotiated with Stern Brothers". The Government then entered into an agreement with Samuel Laing as the representative of all English interests concerned, to present to the Portuguese Parliament a bill for the fair arrangement of the various claims upon the railway. In November, 1867 the proposition of the Government was presented by Samuel Laing in London to 51 persons holding bonds and debentures amounting to £246,000. According to this proposal the Government planned to introduce into Parliament in early 1868 legislation with the object of authorising the following concessions:

(i) the Government would guarantee seven per cent interest and one half per cent sinking fund on the capital which the company had raised by the issue of bonds, amounting to £430,000, increased by capitalising the

---

1. "In spite of the accumulation of abundant capital in the European markets... the sad fame of our deplorable financial anarchy drives away all those who might wish to help us... the bankers who were able to serve us were aware how little we deserved it"; Ibid.
2. PRO, F063/963/28, Harris to Lord Stanley, 31 August 1867. Should a bidder come forward, however, the bondholders apparently would suffer no prejudice because the upset price would cover the amount of their bonds.
3. HR(C)J (26 October 1867), p. 1087.
5. Ibid.
coupons of 1867 and of the first six months of 1868 at the rate of seven per cent per year, amounting to £45,150, making together the total amount to which this guarantee applied of £475,150;

(ii) the Government would also guarantee seven per cent and one half per cent sinking fund on the capital spent by the company on the lines of Barreiro to Vendas Novas, Setubal, Évora and Beja, as well as the extensions of these lines towards Estremoz, the Guadiana river, and the Algarve. The share capital was to be reduced from £194,000 to £781,500 by deducting all interest prior to 1867, and on this amount a fine of 20 per cent, or £176,300, was imposed for the nonfulfilment by the company of its engagements, the balance of £625,000 being therefore paid in seven per cent Government stock with one half per cent sinking fund. Laing considered this proposal "while liberal for the company because the bondholders received seven per cent Government stock at par for seven per cent bonds on a railway which barely paid its working expenses, eminently advantageous for Portugal" 1.

If the financial crisis of 1866 had not occurred, and the contract of October, 1865 had been carried out, the Portuguese Government would have been committed to guarantee a gross traffic revenue of £800 per kilometre per year on 517 kilometres. However, taking into account the actual traffic receipts of the company the achieved gross revenue would not have exceeded £250 to £300 per kilometre for many years. Accordingly, the Government would have incurred an annual charge of £250,000 to £300,000, less £45,000 a year interest on the subvention money of £661,930 - a net charge of £200,000 to £250,000 per year. Under the settlement proposed to the bondholders by the Portuguese Government, the latter would become the proprietor of 195 kilometres in operation and a further 323 kilometres planned (of which nearly 100 kilometres were in the course of construction), equipped with rolling stock, steamers, workshops and stations, for £1,966,0002.

The proposal, "perhaps too sanguine", if carried out "added a solid buttress to the edifice of the national credit" 3, but certainly did

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1. Ibid.
2. This amount was composed of: compensation on the company's capital, £1,155,000; further capital to complete the system, £150,000; subvention formerly paid by the Government, £661,000.
3. GBPP (1868-69), LIX, 4110, "Report by Mr. Consul Brackenbury... for the Year 1867", p. 262.
not solve the financial problems of Portugal. This was so because first, a new loan would have to be issued to compensate the share and bondholders of the company, which would benefit them greatly, taking into account the low quotation of the Portuguese funds and second, the working of the lines proved to be far from satisfactory: "The state has since 1869 been working the railways south of the Tagus at a loss, or at least without any appreciable profit". Moreover, Laing was too optimistic about the outcome of the arrangement which later proved to be not entirely satisfactory to some of the bondholders. In 1867, Laing ended his report to the share and bondholders of the company by pointing out: "For my own part, I can honestly say that I would rather hold the stocks of the Portuguese Government than that of any other of the European Governments, such as Spain, Turkey, Italy, Austria, and Russia, which are exhausting themselves by successive loans to cover deficits occasioned by useless wars and excessive armaments". This was an odd comment on a country which had been running on a tightrope, with heavy budget losses and a funded debt estimated at no less than £66.2 million by the end of the 1860s. Further, Laing failed in his designs of a quick settlement of the whole affair, as it was only in late 1869 that the Portuguese Government succeeded to place a loan in the London money market, so becoming capable to settle its accounts with the South Eastern. Even so, the Chairman of the General Credit, the railway company's largest shareholder, observed that they had only been paid £79,590 out of a debt of £151,300.

Thus, it took a long time for the bondholders' aspirations to be fulfilled. As Lytton pointed out, "the life of Portuguese administrations, in default of many other merits, is at least distinguished by that of brevity". The Ministry resigned in January, 1868 and a new Cabinet headed by

1. FOCR (1888), "Report for the Year 1887 on the Finances of Portugal".
2. "Report by Mr. Samuel Laing...".
4. PRO, F063/925/2, Lytton to the Earl of Clarendon, 11 May 1866. The resignation of the Cabinet was preceded by public unrest and confrontations among the public and the army occurred in the Lisbon boroughs of ALCANTARA and Rossio. As late as February, 1868 disturbances were still occurring in the Minho province and in the town of Torres Vedras. The same agitation prevailed in Oporto, Coimbra and in the Alentejo province."
the liberal Count d'Avila refused to be bound by the terms of the arrange-
ment. Their immediate concern was the negotiation of a loan in London, but
it was generally admitted in Britain that "the loan would not be quoted by
the London Stock Exchange if the Portuguese Government would not lay before
Parliament, for approval, the arrangement entered into with the Committee
of the Bondholders of the South Eastern Railway"¹. The contract was widely
and passionately debated in Parliament throughout the whole of January,
1868 and two opposed and distinct positions emerged². The Opposition based
its arguments on a national commitment, disregarding which Cabinet had
signed the agreement maintaining that it had to be fulfilled; consequently,
the new Ministry should approve the contract and defend it in Parliament.
For the new Cabinet, however, the issue was purely administrative, simply
a decision of the late Cabinet not yet sanctioned by Parliament, which the
new Government was not bound to support or defend. Count d'Avila proposed,
however, another arrangement which was conditionally accepted by the Com-
mittee of the Bondholders but, before its fate could be decided, his Cabi-
net was out of office and Mangles bitterly complained to Lord Stanley in
July, 1868 that "things continued as they were before"³. In the next Cabi-
net of the Marquis Sá da Bandeira, the Minister of Finance, Carlos Bento
da Silva, failed to come to an arrangement with the representatives of the
company because he went to the wrong bank. His visit to Paris to try to get
a loan of 125 million francs from the Société Générale in October, 1868
"may be said to have ended in a failure, as he only secured 15 million
francs"⁴. This outcome is hardly surprising since the French investment bank
was associated with the General Credit and Finance. The combined action of
the share and bondholders of the South Eastern and Royal Portuguese rail-
ways caused the failure of this loan⁵, and Doria reported to London: "I am
confidentially informed that the proposals of Carlos Bento da Silva, at a
meeting of the influential persons of the Bourse in Paris were received by
the most humiliating expressions of distrust and disbelief⁶.

1. The Times (20 January 1868)
2. See Diário das Sessões (January 1868), various days.
3. PRO, F063/963, Ross Mangles to Lord Stanley, 9 July 1868.
4. PRO, F063/945/32, Doria to Lord Stanley, 12 December 1868. See also Jean
The pressure made by both English and French proprietors and creditors of the railway companies had been increasing since late 1867 when Bourée, the French Minister at Lisbon, started enquiries among the Portuguese Cabinet members on the attitude of the Government towards the French bondholders of the Royal Portuguese. The demands of the English share and bondholders in conjunction with their French counterparts were clearly supported by their diplomatic representatives. Meetings took place in Paris between the British Minister and the Marquis de la Vallette, the French Minister for Foreign Affairs, in which the former anxiously questioned his colleague on "whether the French Government had the means of interfering to prevent the negotiation of a Portuguese loan in Paris until proper arrangements had been made with the railway companies, and if so, whether they would be disposed to make use of those means".

The failure of the loan of the Société Générale placed the Portuguese Government in a very critical situation, as it was unable to pay sundry pressing debts, more particularly the coupons on the Portuguese funded debt due in London in January, 1869 amounting to £360,000. Under this emergency, the Government convoked a meeting of the principal bankers and capitalists of Lisbon and Oporto. The meeting was chaired by the Prime Minister himself who pledged bankers and capitalists to assist the Government in this critical financial situation, and reminded them that "as the Portuguese Ministers in Paris and London had been informed by the Government that it was disposed to treat the railway companies "not only with justice but even with equity", he trusted these companies would discontinue their opposition to any monetary operations which the Government might wish to carry out."

In early 1869, with a perilous financial situation in which more than half of the revenue had to be applied to the payment of the interest and redemption of the public debt, the principal concern of the Portuguese Government was to obtain the opening of the London Stock Exchange and

1. Diário Popular (17 September 1867).
2. PRO, F063/963/376; Lyons [British Ambassador at Paris] to the Earl of Clarendon, 8 April 1869. Claims of the bondholders of the South Eastern had been forwarded to the King of Portugal in 1866; see PRO, F063/963, South Eastern Railway, Claims of Mr. Mangles and others (1867 to 1869).
3. PRO, F063/945/6, Murray to the Earl of Clarendon, 29 December 1868.
the Paris Bourse to Portuguese funds. This had been blocked for at least a year by the adverse influence of those involved in the Royal Portuguese and the South Eastern. The new Finance Minister, however, took a very different view of this subject from that adopted by his predecessors and in March, 1869 a Decree was published announcing that the Government would immediately take possession of the line which, until then, was still managed by the agents of the company, and would ask authority from Parliament to pay the company the sum of £528,000. This was the valuation of a Government engineer, less the Government subvention. This, said the Chairman of the General Credit and Finance, was "the reward for an outlay of £1.2 million of British capital".

In order to execute the negotiations and to assure the bondholders, it was necessary for the compensation (£528,000) to be placed by the Portuguese Government in the hands of trustees and be paid into the Bank of England. The trustees for the bonds and interest accrued thereon paid out the compensation. This proposal was presented to Sá da Bandeira by his Minister of Finance in April, 1869 and Murray reminded the Portuguese Prime Minister that "unless some satisfaction such as was offered by the proposed clause, was given to the holders of debentures and bonds, any attempt to effect a loan which could be quoted in the London market would be fruitless".

1. A leading newspaper observed in despair: "Let us make this agreement even if it should be unaccompanied by a loan, because powerful considerations of administrative morality induce us to do so"; Jornal do Commercio (25 February 1869).
2. MOPCI (May 1868), "Relatório enviado ao Ministro das Obras Públicas Commercio e Indústria em 3 de Abril de 1868 pelo engenheiro do Governo"; p. 158. Deductions were made both on the cost of construction of the new extensions of the system and on interest paid to capital invested on them.
4. The company was in course of being officially wound-up in England and a liquidator was appointed by the Court of Chancery, with powers to deal with the Portuguese Government.
5. PRO, FO63/863/43, Murray to the Earl of Clarendon, 14 April 1869.
Political instability played its part once more. The resignation of Sã da Bandeira's Ministry in August, 1869 was but the consequence of the measures proposed for the settlement of the claims of the English share and bondholders of the railway. This proposal, while it passed the lower chamber of Parliament by a small majority, was rejected by the Peers and "the country, which appeared to be on the eve of regaining a position on the European money markets, is again thrown back into discredit". The compromise of Sã da Bandeira's Cabinet had enabled Portugal to obtain two short term advances, but at usurious rates, from London banking houses. The advance of July envisaged a new loan of £12 million nominal of which a quarter would be underwritten by the London syndicate led by Stern Brothers which had supplied the bridging finance.

The Duke of Loulé was charged to form a new Cabinet and rumours about a new arrangement with the company's representatives spread as soon as he took office. It was said that the agreement would be on the basis of the company taking charge again of the line for the purpose of working it for 50 years, paying the Government £5,000 per year for the lease and, in the case the line should yield a profit, the surplus over and above that amount would be divided between the company and the Government. The financial situation of Portugal, however, was continuing to press hard and it was imperative for the Government to obtain fresh money with which both to compensate the angry bondholders of the railway and service the funded debt; and the second would never be obtained unless the former was completely settled. In November, 1869 "the long expected Portuguese three per cent loan was announced by Stern Brothers". The price of the £12 million stock was 32.5 per cent which, with discount and interest, was further reduced to 31.5 per cent, yielding to subscribers no less than 9.75 per cent per year.

1. The Railway Times (14 August 1869), p. 801.
2. PRO, F063/953/18, Doria to the Earl of Clarendon, 16 August 1869.
4. Ibid. Also The Economist (6 November 1869), p. 1315 and HR(C)J, (6 November 1869), p. 1103. "Had the Portuguese Government, however, been more prompt in settling those railway claims, they would doubtless have been enabled to place the present loan on much easier terms, probably at 42.4"; HR(C)J...
Of the total amount of £12 million, £1,850,000 nominal was reserved for the South Eastern, according to the Law which initially had been rejected by the Peers in August.

In July, 1870 the official liquidator of the company announced the authorized allotment of Portuguese Government bonds, 1869, by order of the Court of Chancery to the holders of the securities of the company. In 1872 Bramley-Moore, the Chairman of the General Credit and Finance, announced to the company's shareholders that the account with the South Eastern Railway Company was finally closed\(^1\), the latter being subsequently dissolved as from 27 March, 1873\(^2\).

5.4 THE LISBON STEAM TRAMWAYS COMPANY

The Lisbon Steam Tramways Company, a light railway, was a case apart among the speculative and fraudulent investments so frequent in Portugal in the latter half of the 19th century. The most significant difference between this undertaking and those connected with the building and operation of other railway schemes was that in this case the swindling and cheating involved basically British investors and speculators, thus avoiding a yet further drain on the meagre resources of capital in the Portuguese Treasury.

The Lisbon Steam Tramways was proof of the power and influence exercised in Portugal by the Duke of Saldanha over the ruling elite, the public administration, the various Ministries independent of their origin and party makeup, and even over the King himself. A measure of his position was that he obtained the concession for the light railway while he was in London as Portuguese Ambassador. In fact, it was through the King that in early 1871, and together with Albert Grant, an English speculator concerned in somewhat dubious business deals in Italy by which he came to receive a

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1. The Economist (12 March 1870), p. 35.
2. The South Eastern of Portugal...
that Saldanha obtained a concession for the construction and operation of a larmanjat line between Lisbon and Sintra and another from Lisbon to Torres Vedras. Although in London, Saldanha's success in "securing a concession for the direct route from Lisbon to Sintra, which the company engineer, after a careful study, had advised as the easiest and most profitable", was decisive in thwarting the wishes of the Government, which had intended to make the Sintra line run along the shore of the Tagus, through Belém, Oeiras and Cáscais.

Actually, the promoters of the company displayed a fatal unawareness of the travelling needs of the population of Lisbon and the surrounding districts, insofar as the company was organised basically as a suburban

2. The larmanjat system, also known as light railway, was invented by the French engineer Jean Larmanjat. (It may be said, incidentally, that he received £7,000 for the use of his patent and even became a shareholder of the company holding 400 shares). The system consisted essentially of the application of steam to a tramway. Its principal feature was that the locomotive and carriages travelled on three parallel sets of wheels, of which the central set ran on only one rail, and of the others, one ran on the road surface itself and the other on a narrow flange alongside the rail. The line could be built on any macadamised road and the locomotive, which attained a maximum speed of between eight and 10 miles per hour, was powerful enough to pull two or three carriages. The system, in more or less general use in France and Belgium, had very little acceptance in England where the stretch Buckhurst Hill to Woodford in north London appears to have been the only case known. In Portugal, the line from Lisbon to Sintra and the few kilometres which were built towards Torres Vedras were the only and unsuccessful experiment in the use of the system.
3. HR(C)J (4 January 1873), p. 4.
4. The Government, somewhat mysteriously, wished to maintain the original route devised in the 1850s which had been the object of several disputes between the Portuguese Government and French speculators. See chapter 6, pp. 263-68.
transport venture. It was conceived to connect the city limits at Rego with
the small towns of Sintra and Torres Vedras, which ignored or did not take
heed of the earlier experience of the Companhia de Carruagens Omnibus. The
promoters' plan belittled the disparity in demographic and urban terms that
existed between the official area of the city and the area actually inhabi-
ted. When they noticed this error, the management of the company attempted
to set up a new company to operate within the city. However, this new invest-
ment, together with the precarious financial situation of the original com-
pany, and the legal proceedings brought against it by a shareholder, which
dragged on through the London courts for a whole year, casting discredit on
the undertaking and resulting in the liquidation of the company, proved to
be insurmountable obstacles not only for the formation of the new company
but also to the survival of the one already in existence.

The affairs of the company during the brief period of its existence between 1871 and 1877 will now be examined. Once the concession had
been obtained, the promoters, Saldanha and Albert Grant, contacted Edwin
Clark, Punchard & Co, for the latter to join the undertaking and be respon-
sible for constructing the lines, purchasing the land, building stations
and workshops, and supplying rolling stock. Once this agreement had been ma-
de, the promoters and contractors launched the company on 6 July, 1871. It
was to have capital of £200,000 divided into 20,000 £10 shares, and had the
right to issue debentures to a total of £150,000. The most striking finan-
cial characteristic of the company was the high degree of concentration of
share capital, both at the outset in 1871 and later towards the end of 1874.
In the former year, 38 shareholders (that is, 6.7 per cent of the total)
controlled 58.7 per cent of the capital; in the latter and final year with
respect to the official documents of the company, 56 shareholders (10.2
per cent of the total) controlled 44.7 per cent of the capital. Another

1. See António Lopes Vieira, Os Transportes Públicos de Lisboa entre 1830
   e 1910 (Lisbon, 1982), chapter 2, pp. 66-82.
2. It appears that the contractors had some experience in contracting rail-
ways of a nature similar to that of the Lisbon Steam Tramways Company.
In 1869 Edwin Clark was the engineer of the Carnarvon & Llandeberis rail-
way, a short but difficult line of nine miles long on which £147,000
were invested; Bradshaw's Railway Manual Shareholders' Guide and Direc-
try (1869, reprint 1969), p. 55. In 1874 the General Credit and Finance of
London made an advance of £400,000 to Clark, Punchard & Co., the contrac-
tors for the Buenos Ayres and Campana Railway; Cottrell, op.cit., p. 694.
3. PRO, BT31/1624/5532, Lisbon Steam Tramways Company Limited.
distinguished feature was that all shareholders with the exception of Saldanha, for reasons already given, were British and had subscribed and paid-up the entire capital in July, 1873 when the company had not yet completed the construction of the overall system and the operation of the service was limited to the Sintra line.

The contractors were to build the line from Lisbon to Sintra, as well as that from Lisbon to Torres Vedras, for the sum of £309,810, of which £190,000 would be paid in cash and the balance in cash or in debentures, at the discretion of the company, and during the construction period the capital already paid-up would bear interest at seven per cent per year. The purchase of locomotives and carriages, on which the company spent £59,000, and the building of workshops and stations, which cost £25,000, were also contracted with British companies.

The prospectus in early 1873 seemed most encouraging. In January of that year 92 per cent of the subscribed capital had been paid-up and the management of the company believed that the share capital, together with the £150,000 of debentures to be issued, would be more than sufficient to cover the cost of building the system and ensure a reasonable distribution of dividends to the shareholders. Further, the Sintra line was practically completed and half of the line to Torres Vedras would be ready by the end of March of that year, while the suppliers of the rolling stock were in a position to deliver four locomotives, eight more would be built by the end of that month, and all the carriages would be ready for delivery the following March. Finally, it was expected to begin operating the Sintra line in the summer (1873), taking advantage of the habitual throng of summer visitors; to this end the company had already spent £10,000 on the purchase of the land over which the line would pass.

With such prospects in view, July, 1873 saw the offer for public subscription in London of a total of £127,000 in £100 debentures bearing annual interest at eight per cent, on which, on redemption, a bonus of 10 per cent would be paid. The management of the company also took the oppor

1. HR(C)J (4 January 1873), p. 4.
2. Ibid.
3. Ibid, p. 5.
5. Besides Saldanha, the management board included William Dent, J.A. Cole, C.A. Roberts, Sir Thomas Pycroft, and Robert William Hanbury, all of whom were connected with railway schemes in England and, directly or indirectly, connected with the Union Bank of England, which was the bank of the company.
portunity to promote the undertaking: among the British public in general, and on the London money market in particular, informing those potentially interested, among other things, of the following:

(i) the company held a concession from the Portuguese Government for a period of 90 years with the object of operating steam tramways (using the laranjat system) on the roads from Lisbon to Sintra and Torres Vedras;

(ii) the Sintra line was already in operation; trials had been carried out on the Torres Vedras road which was expected shortly to be open to traffic;

(iii) with respect to the line to Sintra, "the holiday resort par excellence for the population of the capital", a reminder was given that "most of the nobility and aristocracy, as well as the wealthy merchant class, had built their residences there, and when it became common knowledge that the line was to be opened to the public, new houses were already under construction in the neighbourhood of the terminus of the Sintra line". There was a further reminder that "the populous suburb of Bemfica" might come to provide a potential increase in traffic which could by no means be despised;

(iv) as to the Torres Vedras line, special emphasis was placed on the fact that it crossed "a densely cultivated district" from which it would derive considerable revenue from the transportation of both passengers and goods, particularly casks of wine;

(v) according to a report received from the company's general manager in Lisbon, it was estimated that traffic receipts in the first year of operation would total £26,048, with every prospect of an increase when construction of the system was complete;

Finally, and to give an idea of the soundness of the undertaking, it was stated that estimated traffic receipts amounted to twice the sum set aside by the management for the payment of interest on the debentures and for setting up a sinking fund (one per cent per annum, to be deducted from traffic receipts); that the company's capital was fully paid-up;

1. According to the advertisement published in HR(C)J (12 July 1873), p. 778.
2. The General Manager of the company in Lisbon went so far as to sign a contract for the transportation of 33,000 casks of wine which would, if it had come to anything, have meant an income of £14,850; Ibid (3 January 1874), p. 24.
and that, of the £127,000 of debentures now issued, the shareholders had subscribed a total of £23,000.

Who, in such a situation, could doubt the success of the company and the profitability of the investment made? Everything ran smoothly in the summer of 1873 until, shortly after operation had started on the Sintra line, problems began to arise at a disturbing rate—problems of which many shareholders and debenture-holders were scarcely aware. Criticisms were directed at the company's management, particularly considering the delay in opening the Sintra line and the lack of a service within the city¹, and the management, under pressure from the shareholders, found itself obliged to appoint a four-man commission to investigate the affairs of the company from the point of view of both traffic operation and the financial situation.

Actually, the encouraging prospects regarding the Sintra line had been by no means realised in 1873. It was already public knowledge that there were defects in the rolling stock; it was known that no specialised machinery existed with which to make repairs, and no telegraph wires had been installed along the line², which made it doubtful whether first-aid and repair equipment would be sent in the case (unfortunately frequent) of breakdown or accident. Moreover, the distance from the Lisbon terminus (at Rego) to the city centre was quite considerable, and even though the company had organised an omnibus service for the purpose, "such a situation was no more than a temporary and inconvenient compromise"³. But what was of deeper concern to the management of the company was the methods used to construct the line and the state of the rolling stock. William Dent, one of the directors, admitted as early as the beginning of 1874 that "the Sintra line had not been perfectly constructed, that operating costs had increased on both lines, and that owing to the defective condition of the rolling stock the line was not operating as efficiently as was to be desired"⁴.

The state of the track and the conditions in which the journey to Sintra was made were commented upon by the British Consul at Lisbon: "The speed attained by the larmanjat is some eight miles per hour, including stops, and the comfort of the carriages is certainly greater than that to be

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1. Criticisms made by a shareholder (Mr. Ruding) at the General Meeting of 30 December 1873; Ibid.
2. Ibid, p. 23.
3. Ibid.
4. Ibid.
found in the old omnibuses. On the other hand, the dust raised by the locomotive, which results from the type of coal that is used and is aggravated by the smoke that this makes, is extremely unpleasant, and the constant breakdowns on the line, which I myself have already experienced, would seem to indicate a lack of power in the locomotive, a state of affairs that must quickly be remedied before this undertaking can be considered a success. Such a situation, coupled with the purely seasonal nature of the Sintra line, was immediately and directly reflected in the operating results: between July and December, 1873 traffic operation on the Sintra line showed a loss of £848 10s 4d.

From the point of view of traffic operations, it was still believed that, since the contractors had agreed to pay the company £2000 to put the line in good condition, as the work on the line to Torres Vedras was expected to be completed shortly, and with a new fund of two per cent (to be deducted from dividends) recently established as a reserve until the work was completed, "in a few months the business would begin to show a profit". Besides this, and according to a statement issued by the commission on 10 January, 1874 the shareholders had agreed to invest a further £30,000 (£11,000 of which was to be spent on the purchase of land) and for this purpose they founded, on 4 February of the same year, a new concern, the Lisbon Steam Tramways (City Extension) Company, with capital of £30,000 divided into 15,000 £2 shares. This new company, to be formed jointly with the contractors, who would subscribe half the capital, was to have as its principal object "to merge with the existing company in accordance with certain terms and conditions to be decided upon between the two companies". These conditions took basically the form of the new company leasing the existing lines as from 1 January the following year (1875) and making itself responsible as from that date for operating the service, while the existing company would appoint three of the five directors of the new company.

1. GBPP (1874), LXVI, 992, "Report by Mr. Consul Brackenbury on the Trade and Navigation of the Consular District of Lisbon for the Year 1873"; p. 564.
2. HR(C)J (3 January 1874), p. 23.
3. Ibid.
4. PRO, BT31/1937/8065, Lisbon Steam Tramways...
5. Ibid.
6. HR(C)J (22 August 1874), p. 994.
The situation did not, however, develop in accordance with these plans. The opening of the line to the city centre, which had been formulated very late in the day, was once and for all compromised by the success attained by the Companhia de Carris de Ferro de Lisboa. Since November, 1873, this company had been operating tramways on a line parallel to the river between Santa Apolônia Station, the 'eastern' and 'northern' lines railway terminus, and Belem. Further, this company was rapidly building other lines within the city and, making use of its connections with the municipal authorities, was constantly putting pressure on the City Council to refuse to allow the laranjat to operate on the streets of Lisbon.

The efforts of the Carris company were successful, because the new English company (City Extension) never started operations. On 24 August, 1878 the Companies Registration Office wrote to the directors reminding them that the Office had not received the company's returns for 1875, 1876 and 1877, and the company was finally wound up on 24 April 1885. Moreover, the track and rolling stock were in a lamentable state, having in no way benefited by the loss-making operations which had continued since the opening of the Sintra line nearly two years before. The problems, already referred to, continued on the Sintra line while on the Torres Vedras line "some six to eight miles are in bad condition, of the sixteen locomotives only four are in service; all the others are in need of repair". Further, the company's creditors were beginning to be impatient with the delays in payment and the general manager of the company telegraphed from Lisbon to London with a reminder of the need to pay £2000 immediately, it being feared that, if the debenture-holders began to feel uneasy over the delay in payment of coupons, the company would need to have some £10,000 available to cover financial charges and the cost of maintaining and repairing the track.

But even more serious than this, the true financial position of the company and the agreements entered into between its promoters and contractors were not generally known to shareholders until April, 1875.

1. The same Mr. Ruding was aware of this (HR(C)J (3 January 1874), p. 24) when he stated that he knew that "the [Portuguese] Government would oppose the circulation of steam tramways in Lisbon". See also Vieira, op.cit., pp.113-115.
2. PRO, BT31/1937/8065, Lisbon Steam Tramways...
3. HR(C)J (10 April 1875), p. 347.
4. Ibid, p. 348
when a certain Mr. Twycross, who had invested £700 in the company's shares, carried out investigations, eventually brought strong pressure to bear on the commission appointed the previous year, and came to the conclusion that what the promoters had announced at the time of the launching and formation of the company in no way corresponded to reality, which was obviously prejudicial to the affairs of the company and to whoever had invested their savings in it.

As has been said above, the capital was to be £350,000, of which £200,000 would be share capital (wholly paid-up) and £150,000 (of which, however, only £139,000 had been paid-up) in debentures issued in 1874 at an annual rate of interest of eight per cent and also having the right to a preferential dividend. Of the paid-up equity and loan capital £309,810 was to go to the contractors for building the network, £22,000 in cash or shares was to be given to Saldanha for having obtained the concession, and £2000 was to go to Jean Larmanjat as royalties. It had further been agreed that out of the £309,810 the contractors would hand over to Albert Grant £40,000 in cash and £5,600 in shares.

Once the company had been launched, its capital was offered for public subscription; it being announced in the prospectus that the contractors had undertaken to build 67 miles of track for £309,810. What was not revealed at the time to those interested in taking up shares in the company was that the cost of building the network had been calculated "without any previous study, nor even a survey, entire confidence being placed, as the directors of the company [later] confessed, in the statements by the Portuguese Minister [Saldanha]". This led, amongst other things, to an additional charge of £10,000 for the purchase of land so as to avoid the extremely bad road surface and the steep gradients of the roads. Further, it was not revealed at the time that the contractors had offered to construct 120 miles of line (and not 67 as stated in the prospectus) for £305,000, and not for £309,810. The explanation given later in court for this discrepancy, that

1. According to the letter forwarded to the British Foreign Secretary by Harding, Whinney & Co., official liquidators of the company; PRO, F063/1064 (Commercial Domestic Various), Whinney to Lord Derby, 13 July 1877.
2. Ibid.
3. HR(C)J (15 July 1876), p. 773.
is, that the company had agreed to pay the contractors more money for less work, was based on the fact that the latter had put aside part of what they had received to hand over to Grant and the Duke of Saldanha, to pay fees to the directors of the company, and to settle preliminary expenses. Grant and Saldanha were paid £67,800, Larmanjat received £7,000 and the combined sum of £74,800 represented 25 per cent of the total received by the contractors.

Thus, for the public, in general and for Twycross in particular, the idea that the undertaking, in accordance with what had been stated by the promoters, had been based on prior studies and that the cost of the lines totalled only £309,810 did not correspond in any way whatever to reality. It was this that gave rise to the shortcomings in the operation of the lines, the defective condition of the rolling stock, the investigations, the scandal; the court proceedings with its judgment, and the winding-up of the company.

Theoretically the idea (or scheme) of the promoters was highly ingenious: to launch in Britain, at a time of "expansion in investment, production and trade, increasing prosperity and a climate of general optimism, especially among the business community"¹ an undertaking connected with a modern sector of the economy in a country not only allied to but politically and economically dependent on this same Britain. Further, Portugal with this end in view, had improved its financial position considerably² and was once again beginning to deserve the attention of the capital markets of Paris and London³. Furthermore, the undertaking was patronised

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2. The budget deficits had fallen from £1.5 million in 1868-69 to £1.0 million in 1871-72, a reduction of over one third, a clear contrast with the catastrophic situation at the end of the previous decade: in 1866-67, a deficit of £1.2 million; in 1867-68, a deficit of £1.3 million; in 1868-69, a deficit of £1.5 million; in 1869-70, a deficit of £1.2 million. See Appendix, table V, p. 345.
3. The quotation of the Portuguese funds on the London Stock Exchange (as a percentage of the respective nominal value) reached 41.1 in 1872 and did not cease to rise until the beginning of the 1890s, after having fallen from 48.5 in 1863 to 31.6 in 1870 and 31.2 in 1871. See Appendix, table IX, p. 349.
by the King of Portugal himself, as stated in the prospectus, and inspired
by the Portuguese Ambassador in London. All these seemed necessary and suf­
cient requirements to ensure the confidence of potential investors and to
receive £67,800 on a plate. While the whole shady business reveals the uns­
crupulous character of Albert Grant, a man already well used to this kind
of business, little or nothing can be said in favour of Saldanha, who now
an octogenarian and, although finished with his military adventures and po­
litical intrigues, was still highly active as a businessman perhaps search­
ing to make good "his habitual lack of money to support his life style."\(^1\)

In practice, however, the ignorance on the part of the promo­
ters regarding the conditions of public transport, particularly urban and
suburban, in Portugal, the contracts made without any security whatever
with both the contractors and the manufacturers of the rolling stock, and
above all, the absence of preliminary reports on the technical and economic
possibilities of the larmanjat system in a hilly region such as that of
Sintra or of Torres Vedras, proved to be fatal errors for the success of the
undertaking.

Besides this, once the company had been formed, its board of di­
rectors, who had been appointed entirely by Grant and Saldanha, and who trus­
ted in the experience of the former and the optimism of the latter, were
unaware of the real situation in Portugal. Eventually they decided to send
one of their members in 1874, to Lisbon, but found themselves against insu­
perable difficulties and, in one way or another, came to play their part in
concealing the true position of the company and precipitating the failure
of the undertaking. What solutions were available for the directors in 1875?
With the money invested and spent, the contractors engaged to carry out the
work, the material purchased, losses accumulating in traffic operations,
what were the management and shareholders to do? They were in the hands of
the contractors, who held two thirds of the shares and were procrastinating
over repairs to the track and who did not appear at all interested in sub­
scribing half the capital of the new company, as had been agreed the previous

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1. Grant, perhaps foreseeing future developments, refused the shares (£5,800)
   and received £45,000 in cash.

2. PRO, FO63/804/299, Howard to the Earl of Clarendon, 21 December 1856.
year. What indeed could the directors do but attempt to obtain any and every promise from the contractors, who had the money\(^1\). The contractors had received up to April, 1875 £213,500 in cash and £100,000 in debentures - and were the only resource from whom any help might be sought to combat the desperate situation in which the company found itself.

These promises, however, were not fulfilled and the shareholders decided to dissolve the company, appoint a liquidator, and through him attempt to recover something of the money invested. Twycross's proceedings in the London courts created certain problems of a legal nature as they had been instituted against the company's promoters and contractors rather than its directors\(^2\), since such actions against the latter were not specifically provide for in the law of the day - the Companies Act of 1867. Be that as it may, the verdict of the jury in 1877 was, as had been expected, favourable to the plaintiff; to whom the defendants, in addition to legal costs amounting to £10,000\(^3\), had to pay the sum that he had invested in the company\(^4\).

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1. "If it had not been for the contractors, I believe that the whole undertaking would already have failed some time ago"; William Dent, quoted by HR(C)J (10 April 1875), p. 347.
2. The Economist (15 July 1876), p. 826; (17 February 1877), pp. 182-83; (9 June 1877), p. 663. Albert Grant did not win the action, "but so ably had he conducted the defence that, old as he was, he contemplated going to the Bar"; H. Osborne O'Hagan, Leaves From My Life (1929), I, p. 37.
3. HR(C)J (15 July 1876), p. 772.
4. The Economist (9 June 1877), p. 663. The reduction of 52 miles at the rate of £1,425 a mile, the estimated cost of Clark & Punchard for the execution of the works, comes exactly to £75,000, the identical sum which was paid to the promoters according to the subsidiary contract. The coincidence, as the Lord Chief Justice said, "to say the least of it, is a very striking one"; quoted by W. F. Finlason, Report of the Case of Twycross versus Grant (1877), p. 94.
The court case and the winding-up of the company gave rise to certain questions, presumably of a moral nature for the Portuguese Government, and of a criminal nature for the promoters and contractors, which should be examined here.

With respect to the Portuguese Government, attempts were made by the official liquidator of the company to involve it in the matter; there were three reasons for his:

first: the Government had required, before any agreement had been made for the sale of the company's property, a guarantee that the money thereby received would be used in the first instance to repair the roads along which the line had passed and secondly to defray customs duties totalling £10,000 on material imported by the company;¹

second: the concession that the company had obtained from the promoters had been sponsored by the King of Portugal, the Government thus becoming "morally responsible for the losses suffered by the creditors and shareholders of this disastrous undertaking"²;

third: the Government had refused to accept a proposal by the official liquidator for the "construction of a narrow-gauge railway line between the towns served by the [steam] tramways, which would have resulted in a considerable profit for the company"³.

Although the official liquidator attempted at the same time to involve the Foreign Office in the issue, and through it the British Ambassador in Lisbon and the British Government itself, good sense prevailed, and

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¹. PRO, FO63/1030 (Consular Domestic), Memorandum addressed to Lord Derby by Harding, Whinney & Co., official liquidators of the Lisbon Steam Tramways Company, on the 6th December 1875.
². PRO FO63/1064 (Commercial Domestic Various), Whinney to Lord Derby, 13 July 1877.
³. Ibid. Years later, the Lisbon City Council received a proposal for the construction of a narrow-gauge railway from Lisbon to Loures (about 10 kilometres in all), which was never fulfilled; Vieira, op.cit., p. 106.
Lord Derby, in addition to sending a formal reply to Harding, Whinney & Co.,
stating that "the circumstances in which the events occurred do not justify
the submission of any protest to the Portuguese Government demanding any com-
pensation for the shareholders and debenture-holders of the Lisbon Steam
Tramways"\(^2\), contented himself with commenting in the margin of the letter
from the liquidator, Frederick Whinney, "the claim is simply absurd"\(^3\).

As for the promoters and contractors, regarding whom "very se-
rious issues will be raised as to their conduct and responsibility in the

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1. Robert Palmer Harding and Frederick Thomas Whinney started their business
life as accountants in London at the turn of the 1840s. Harding had com-
menced business before as a fashionable West End hatter, but his trade
got into difficulties. He then became an accountant in July, 1848 specia-
lising in auditing railway company accounts. In the following year he
formed his first partnership - Harding & Pullein -, his partner also
being a practising accountant. The first sharp upturn in the fortunes of
the firm took place during the 1857 crisis, when they received a fee in
come from bankruptcy work. In 1858 they made a profit of £13,487 in fees.
In the following year two more partners joined the firm which then chan-
ged to Harding, Pullein, Whinney & Gibbons. Whinney had started as a
clerk with Harding & Pullein in 1849 and rapidly became senior clerk.
In 1850, perhaps as a part-time occupation, he also had his own accoun-
ting firm (Free & Whinney) and specialised as ship and insurance brokers.
After he joined Harding as a partner the firm had two offices near Lin-
colin's Inn in London and mainly attended bankruptcy cases. With Pullein's
retirement in 1866 and Gibson's death six years later, the firm's deno-
mination changed again to Harding, Whinney & Co.. They were considered
"rich undertakers of the economic world" and in 1867 they had already
"covered the market in liquidations", being involved with 61 companies
the capital of which amounted to no less than £20 to £25 million; E. Jo-
nes, Accountancy and the British Economy 1840-1980. The Evolution of

2. PRO, F063/1064 (Commercial Domestic Various), Lord Derby to Harding,
Whinney & Co., 18 July 1877.

3. Whinney to Lord Derby....
formation and management of the company"¹, it remains to point out that Albert Grant and Edwin Clark, Punchard & Co. were sentenced by the court to reimburse Twycross and to pay the cost of the case, although they had not in any way to compensate the shareholders and creditors of the company.

Saldanha, who escaped trial and sentence owing to his death in the summer of 1876, did not however clear himself regarding the many doubts he left behind concerning his behaviour in the whole affair. Even if he had not been fully aware of the agreements between Albert Grant and the contractors, which appears doubtful given the relations that existed between them; even if, though being in London, he had not been informed of both how the work was proceeding and the operation of the lines, which appears somewhat strange and even incompatible with the fact that he was a shareholder and Chairman of the company, his whole behaviour in London, as Portuguese Ambassador and participant in an unscrupulous undertaking, led to violent censure by the Opposition in the Lisbon Parliament, censure that was furthermore inadequately answered by the Government through the Foreign Minister, Andrade Corvo². Finally, Saldanha's justification in respect of these events,

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¹. Memorandum...

². Comments on the behaviour of Saldanha were first made in the Upper Chamber of the Portuguese Parliament on 25 January, 1876 by Vaz Preto, who asked the Government "if there was any foundation in the rumour that the Duke of Saldanha had been served with a summons to appear at a court in London". The Prime Minister, Fontes, replied on behalf of the Government that "I know nothing of the matter, but I shall make attempts to inform myself of it"; PRO, F063/1034/14, Jervoise to Lord Derby, 27 January 1876. The matter was raised later in the Lower Chamber and led to an animated exchange between Barros Gomes for the Opposition and Andrade Corvo (the Minister for Foreign Affairs) for the Government. After the usual trivialities Corvo, in attempting to defend Saldanha, buried the Duke's reputation even further by saying that he had transferred the concession that was to be formed "with which he has absolutely nothing to do", which was manifestly untrue, since he was not only one of its promoters (the prospectus bear his signature) but was also to become a shareholder and the Chairman"; Diário das Sessões (7 February 1876) quoted by Jervoise...
made on a visit to the Foreign Office, did nothing to excuse him: "I recei­ved the Portuguese Minister on the second; he appeared anxious to justify his actions in a personal matter in respect of which his good name had been impugned - his connection with the Lisbon Steam Tramways Company. The Duke of Saldanha made me a long speech with the aim of proving his interest long since, before the formation of the company, in the scheme in question: he declared that part of the line had been built with his own money. He went on to say that he had received only £2000 and that this sum scarcely covered the expenses he had incurred. It was thus that as far as he was concerned the business had not been a source of profit but rather of loss. I re­plied that I did not think that the matter would be discussed again, nor that it would have public repercussions, but that if I were wrong in my ex­pectations I should duly take into account what he had told me and should make use of it if the necessity arose".1

After the company had been wound up, Twycross reimbursed, Al­bert Grant's objectives realised, and with Saldanha dead and the business at an end, it remained to put the rolling stock, buildings, workshops and the other property of the company in Portugal up for sale. This task was entrusted to the firm of Pinto Basto & Companhia of Lisbon2 which, despite all its efforts, only obtained £11,600, "a sum sufficient for little more than to pay the Portuguese Government and the creditors [in Portugal]; there were thus lost for ever the sums expended by the shareholders (£200,000) and debenture-holders (£139,000)".3

1. PRO, FO63/1033/57, Lord Derby to Mr. Morier [British Minister at Lisbon], 8 August 1876.
2. HR(C)J (9 June 1877), p. 603.
3. Whinney to Lord Derby....
5.5 THE MINHO DISTRICT RAILWAY COMPANY

During the early 1870s there was a thriving internal trade in the southern districts of the northwestern Minho province, which were the main source of supply of foodstuffs and industrial produce for Oporto\(^1\). With the highest population density in Portugal (one twentieth of the total area to 38 per cent of the total population), the small towns to the north of Oporto and to the east of Braga, of which, Guimarães, the largest, had no more than 10,000 people, were the core of an enterprising micro-economy, the result of an increasing inflow of remittances from emigrants in Brazil\(^2\). This, in turn, was invested in land, the building industry, trade, and small industrial undertakings (cutlery, leather and textiles). Using water-powered mills, the flour producers processed 4,000 to 5,000 carts of grain per year\(^3\). The cotton and linen works of the Negrellos Company established along the river Ave employed 400 workmen. Further, its shares stood at a premium of £822 in the early 1870s and the company planned to invest £75,000 in new premises\(^4\), which was a further indication of the entrepreneurial energy of the region.

1. "The country is mountainous, but intercepted by magnificent valleys in a state of perfect cultivation, producing large crops of wheat, rye, Indian corn, turnips, cabbages, kidneybeans, flax, corkwood, for export, and prodigious quantities of grapes, giving from 400,000 to 500,000 pipes of wine, every year. Much cattle is fattened here for home consumption and for export to England via Oporto"; "Report on the railway of the Minho District to the directors of the Minho District Railway Company on the 23 May 1874 by the contractor Sandiforth Featherstone Griffin", in A.M.S. Velloso, The Guimaraens Railway and John Dixon late contractor of the Minho District Railway Company Limited (Oporto, 1883), pp. 52-53.

2. It was estimated that remittances sent back to Minho alone amounted to no less than £222,222 per year; Eduardo Moser, Breves Considerações sobre a projectada via férrea de Bougado a Guimaraens (Oporto, 1874), p. 37.

3. "On the tract of the projected railway there are from 30 to 40 water-mills always in constant occupation"; "Report on the railway..." p. 53.

This advanced and active society, by Portuguese standards, depended on "excellent macadamized roads" on which "an interminable current of passengers and merchandise circulate[d] day and night". Transport consisted of stage-coaches both to Oporto, the main wholesale market and consequently the focus of the majority of the traffic of goods and travellers, and to Braga, served by six dilligences daily, while on the road from Oporto to Guimarães a "large number of bullockcarts are seen carrying hides for the supply of about twenty tanneries; and the leather is returned to Oporto and Braga, whence it is sent to all parts of the country". In this densely settled region, which relied solely on road transport, it was further estimated that the districts of Guimarães and Santo Thyrso alone conveyed to Oporto no less than 20,000 tons of agricultural produce, to which 400 heads of cattle (oxen), 10,000 pipes of wine, 300 tons of leather, and 40,000 metres of linen and cotton cloth should be added.

It seems reasonable to assume that the group who would benefit most from the coming of the railway shared a great hope for the future development of the area. According to a Government concession granted in late 1872 to Simon Gattai, the line would run east-west across the districts of Guimarães and Santo Thyrso, so connecting them with the main railway network (the Minho line at the Bougado junction). Thus, the whole of the Minho province would be linked by rail to the national network and to the main outlet for their produce - the city of Oporto. A royal decree of October, 1874 approved the transfer of the concession to an English company - the Minho District Railway Company - which had been incorporated in London in June of the same year. The nominal share capital of the company was £260,000 divided into 26,000 shares of £10 each, with the power to increase

1. "Report on the railway...", p. 52
2. Ibid.
3. Between 1854 and 1861 the population growth of the southern districts of Santo Thyrso, Guimaraens, Vizella and Cabeceiras de Basto was 17.8 per cent, to only 11 per cent and 10 per cent for Minho and Portugal, respectively. Further, in the eight years before 1874 the rate was 8.4 per cent and during those years 60 new houses were built-up in Santo Thyrso alone"; Moser, op.cit., p. 48
4. Ibid.
5. For this transfer the concessionnaire received £9,500 in cash and paid-up shares.
the capital through the issue of either preference or guaranteed shares. Another link between English steam navigation companies and railway financing in Portugal can be detected in this scheme, as two of the directors of the Minho District Railway Company were also directors of the Royal Mail and of the Peninsular & Oriental, respectively. According to the prospectus of the Minho company the following were the directors of the company with an annual salary of £500 each: Admiral Sir William Hall, director of the Peninsular & Oriental; Edward Pakenham Alderson, director of the Great Western Railway Company; Arthur Pratt Barlow, director of the Royal Mail Steam Navigation Company; Charles Balfour (Messrs. Balfour & Co.), of London and Edinburgh; and Sir Wilford Brett, director of the Chelsea Waterworks.

Although an English company, it was highly likely that Portuguese businessmen would be attracted by its prospects. Eduardo Moser, a very energetic entrepreneur connected with steam navigation on the Minho river and later a shareholder in the company with a holding of 110 shares (£1,100), was deeply interested in this venture. He even addressed a comprehensive report to the municipality of Guimarães, claiming that "it will be very unlikely, if not impossible at all, to find in Portugal a more suitable venture than the one we are now contemplating". Moreover, in late 1877 and according to the return of shareholders, 230 out of 260 shareholders were Portuguese, who had taken in total 6,610 shares (£66,100). Future developments, however, would make the Portuguese shareholders regret their involvement with the company - so much so that they were later compelled to create a new company - the Companhia do Caminho de Ferro de Guimarães - to finish the line and operate the service.

2. Eduardo Moser, "one of the most distinguished men in Oporto", was a port-wine exporter (Eduardo Moser & Company) and one of the original shareholders of the Banco Mercantil Portuense which, in turn, was one of the seven banks involved in the speculative affairs of railway building in Spain in the early 1880s (see chapter 3, pp. 141-42). In the 1860s Moser acted as Chairman of the Oporto Board of Trade.
4. The Minho District...
In June, 1874 an agreement was made between Sandiforth Featherstone Griffin (civil engineer and railway contractor), the contractor, and the company, by which the former "will construct, maintain and work the railway for the sum of £230,000". The actual sum to be paid to the contractor was considerably in excess of the actual cost of the line. Taking into account that the line was only 32-kilometres, a single narrow gauge railway which did not involve any major civil engineering works and further that the contractor was not obliged to provide the rolling stock, the contract price of £7,188 per kilometre was more than 30 per cent above the cost of construction to the Royal Portuguese of the 'eastern' and 'northern' lines combined.

The contractor came to Portugal and began the construction of the railway. The start of work, however, was a ploy to bring in more Portuguese subscribers, who paid calls on their shares amounting to £43,000. But problems soon emerged; subsequently, work progressed very slowly and by April, 1878, three months after the deadline in the contract, only a very small part of the track had been laid involving an outlay of £7,000. Griffin, then, suspended and abandoned the works, went back to London "and coolly failed there". The extraordinary amount of £93,578 (£38,578 in cash and £55,000 in paid-up shares) had been paid to the contractor, as the Board of Directors later acknowledged, which also reinforce the assumption that only the Portuguese shareholders had paid their calls.

1. Ibid. Of this amount, £40,000 would be paid within 14 days after the allotment of shares, £45,000 three months after the allotment of shares and the balance by such instalments as shall be certified by the engineer of the company. Until the completion of the works the contractor was to pay six per cent interest on paid-up share capital.

2. "A sum of £6,323 was absolutely expended by Mr. Griffin under his contract..."; "Letter forwarded to Mr. Velloso on the 10th April 1879 by William Galway, Mr. Dixon's representative at Oporto", in Velloso, op.cit., p. 56.

3. Velloso, op.cit., p. 9
### Table: Financial state of the Minho District Railway Company in 1874

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount in £</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paid commission to the promoters of the subscription in Portugal (3s and 4s per share)</td>
<td>615</td>
</tr>
<tr>
<td>Paid to the contractor Griffin</td>
<td>38,578</td>
</tr>
<tr>
<td>Expenses of a Committee and engineer who went to Portugal</td>
<td>689</td>
</tr>
<tr>
<td>Paid to the engineer</td>
<td>575</td>
</tr>
<tr>
<td>Office expenses</td>
<td>905</td>
</tr>
<tr>
<td>Fees paid to directors in London</td>
<td>1,500</td>
</tr>
<tr>
<td>Difference unaccounted for</td>
<td>138</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>43,000</strong></td>
</tr>
</tbody>
</table>

Source: Velloso, *op.cit.*, p. 11

So, £38,578 were lost in the somewhat mysterious failure of the contractor Griffin, with the balance being swallowed up by expenses, as shown in the table above. Nothing remained of the £43,000 paid by the deceived Portuguese shareholders except four kilometres of track. In total contradiction to its prospectus, the subscribed capital of the Minho District consisted of £66,100 placed in Portugal; and the only money received by the company was £43,000 paid by the Portuguese shareholders.

A new contractor, John Dixon, was then hired to proceed with the works. He was well known in England; Londoners being "indebted [to him]..."

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1. The prospectus held out that the deposit on the subscription of shares would be restored in full, in case of no allotment being made, or if the announced £260,000 capital were not totally taken up. No restitution having been made of their deposits, they were bound to believe that the share capital had been completed by subscribers in London; PRO, BT31/1983/8481, The Minho District...
for the [erection of] the Egyptian obelisk on the Thames Embankment"\(^1\), but his expertise was not appreciated in Portugal where he had been "the fortunate constructor of the piers of the Lisbon Customs-House, which are of little use and obstruct the Tagus"\(^2\). With John Dixon's involvement the future of the company became even more gloomy and uncertain.

The financial situation of the company was desperate when Dixon took over the works from the previous contractor - and he made it worse as he caused the company to fail. He completed the five kilometres begun by Griffin and obtained from the English engineer of the company certificates amounting to £24,300 whereas he actually expended, as he later admitted, no more than £10,000\(^3\). When Dixon and the Portuguese Government became involved in a legal dispute the length of the railway built was only 5.8 kilometres (not six miles as Dixon wrote in his complaint to the House of Commons), without a single bridge, tunnel or embankment and without rolling stock. Furthermore, according to the report made by the Government surveyors, the engineering works were few, cheap, and badly constructed: "the station at Santo Thyrso requires urgent repairs; there is only one telegraph apparatus in tolerable condition; all the timber fences of the line are rotten, and the gates of the level crossing are in the same state; some cuttings require to be [repaired] to guarantee the safety of the [line] against their collapse; the line requires drains in almost the entire extent of the cuttings; the rails and their respective fixed material are in a tolerable state of preservation, but the sleepers on which they rest are all completely rotten, and therefore the line cannot be worked without their complete substitutions". Finally, the report pointed out that "in the station of Santo Thyrso no furniture was to be seen; that they found no hectometrical or kilometrical posts on the line, that they did not find one single turntable,

\(^{1}\) Railway News (21 June 1884), p. 10
\(^{2}\) Velloso, op. cit., pp. 32-33
\(^{3}\) PRO, F0425/157, Mr. John Dixon's action in the case of the Guimaraens Railway from evidence of facts contained in correspondence, presented to the English Parliament by command of Her Majesty, in 1882 and 1884.
neither wells, nor water reservoirs, nor goods' wharfs [sic], nor guard houses".

The feud between the contractor Dixon and the Portuguese shareholders began when the latter formed a new company in April, 1879 and, when the Minho District went bankrupt in January of that year, were granted the concession of the line by the Portuguese Government. The issue centered upon the amount of money expended by Dixon which, according to the law granting the concession to the new company, would be paid back to Dixon by the new concessionnaires. On the one hand, Dixon may have had the object of claiming possession of the line, with the result that the new company would have to buy the line from him privately which in turn, would have been absurd as Dixon could not dispose of a property belonging not to him but to a bankrupt company. The Portuguese shareholders, on the other hand, manipulated civil servants; Members of Parliament, Cabinet Ministers, and the judicial powers, in order either to dismiss Dixon's claim, or, if it was accepted, to cause a long and contentious postponment.

In the first place the new company managed to persuade the Government to place the railway in its hands, by transferring the concession to it, subject to the company discharging Dixon's credits. The latter had to accept this composition, because his claim to be the proprietor of the line had been dismissed in the English courts. The necessary decrees were made public in Portugal and allowed the new concessionnaires six months in

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1. "Award of the surveyors of the railroad at Bougado, in the part already constructed, in the judicial district of Santo Thyrso, 31 August 1881", in Velloso, op.cit., pp. 84-86.

2. Apparently, the Decree stated otherwise: "...the said company by the fact of that requirement, becoming liable as right may be, and in accordance with the Portuguese laws, in the competent courts, for all the claims referring to acts practised by the Minho District Railway Company Limited"; Diário do Governo (6 March 1879).

3. "These men have all power at Oporto; they did control the court here, just as they told me, and they did control Saraiva de Carvalho, the late Minister of Public Works. They got a liquidator appointed who has never, to this day, asked a single shareholder to pay the calls due"; PRO, F063/1201/74 (Commercial), John Dixon to Mayne [his agent in Lisbon], 23 September 1882.

which to complete their purchase. During this period, a commission of Portuguese engineers was appointed to value the line but "this was at a time of great commercial depression, and moreover the members were all friends of the new concessionnaires; rails for which I had paid £9 a ton were selling for £4, nevertheless their valuation was £18,200". However, four months out of the six had elapsed by the time of the valuation. Further, payment had not been made when the Government resigned; the official liquidator accepted a bond instead of money and "in return the company made Baron Gouveia [the Minister for Foreign Affairs' son-in-law] president at a good salary".

Second, the Minister of Public Works allowed the new concessionnaires extensions of time which enabled them to influence, in their favour, the courts at Oporto. John Dixon, writing to his agent in Lisbon, pointed out his suspicion that "the very night before the Oporto Court gave judgement, some of the judges were playing cards with, and borrowing money from, the parties named in the concession". The successive extensions of time caused the liquidator to seize the railway and put it up for auction. The reserve price was £18,200 (the estimate made by the Portuguese engineers) but no bidder appeared. Four successive auctions were required to produce a bidder (the new concessionnaires, of course) who managed to buy the line for only £7,000. The concessionnaires, however, claimed that "it was not a brilliant acquisition for this small section of railroad was very badly constructed, with a curve at Palmeira requiring to be altered at an expense of £4,444... quite incomplete and with rotten sleepers". Furthermore, the concessionnaires remarked that the acquisition of the small piece of line already constructed, to which they were bound by their concession, represented "a most heavy onus because the tracing [sic] was made in such bad conditions, that not only its working is difficult, but even impossible, without adequate and special material to circulate on it". They petitioned the Government to rescind the clause from the concession, granted to them by the Decree of 16 April, "which binds them to the acquisition of the constructed part; and that they may follow the direction most conve-

1. PRO, F0425/157, Mr. John Dixon's action...
2. PRO, F063/1201/74 (Commercial), John Dixon to Mayne ...
3. Ibid.
4. Velloso, op. cit., p. 22.
nient to them\textsuperscript{1}.

The implications of the mockery by which the line had been sold were far reaching. John Dixon wasted no time to attack the Portuguese Government, accusing them of bad faith\textsuperscript{2}; also he appealed "in all confidence to the Committee of the Stock Exchange to show their disapproval of such proceedings by refusing point blank a quotation of their attempted loan, or at least to postpone such until justice has been done"\textsuperscript{3}. The case was brought to the notice of the British Parliament and, both there and in financial and commercial circles in London, created a most unfavourable impression: "The local shareholders have not only got a railway at Mr. Dixon's expense, but they are actually fighting him with the profits earned thereby. Such are the people who are talking about a new loan and the construction of more railways! But we trust, before they have gone much further in their career of iniquity, that Earl Granville will set forth their character in its true colour\textsuperscript{4}.

In the summer of 1883 when "matters [had] arrived at a point at which a remedy is urgent\textsuperscript{5}, there was an impasse. Clearly, the obligations to Dixon did not rest only with the new company; the Portuguese Government, too, was responsible. The concession for the railway had a certain value and it, which was part of the assets of the bankrupt company, was one of the guarantees of John Dixon. The Government in withdrawing that value from the assets, by giving the concession to the new company before settling the contractor's claim, in permitting the auction which enabled the new company to defer the settlement of the claim, "certainly assumed a serious responsibility\textsuperscript{6}. The situation became even more complicated because the Companhia do Caminho de Ferro de Guimarães had in the meantime completed the line. With considerable support from citizens of the Minho, it put pressure on the Government to complete the junction with the main railway network and open up the whole line to public traffic. Their claim placed the Government in a

\textsuperscript{1} "Petition made to the Government on the 12th July 1879 by A.M.S Velloso and Viscount Ermida", in Velloso, \textit{op.cit.}, p. 89.
\textsuperscript{2} The Times (5 June 1884).
\textsuperscript{3} PRO, FO425/157, Mr. John Dixon's action...
\textsuperscript{4} The Railway Times (14 June 1884), p. 755.
\textsuperscript{5} Correspondencia de Portugal (20 August 1888).
\textsuperscript{6} Ibid.
difficult position, as members of the Government "are particularly afraid of offending their supporters in Oporto and in the neighbourhood, and prefer committing an act of injustice to a British subject than incurring a small amount of transient unpopularity and possibly losing a few votes in these districts".

The opening of the line to traffic in December, 1883 was considered a virtual repudiation of Dixon's claim on the company; the influential Jornal do Commercio wrote that "the normal working of the line brings the debate to its end". John Dixon, however, relying on the support of the British Government and its representatives at Lisbon, did not give up his claim, though "some of his letters are very strongly worded and I think we should ask him to alter them or he or his agent may get indicted for libel in Portugal". Although no progress was made in the early 1880s and "no further action can properly be taken in support of your claim", after seven years "of constant perseverance and worry" the full amount (but no interest) was finally paid. Dixon reported to the Foreign Office on 29 July, 1887: "I received the first installment of some two thirds of the whole amount, and the balance is arranged to be paid within six months".

The adventures of English railway promoters and contractors in Portuguese railways had, at last, come to an end. Nearly a further 20 years were to elapse before a new, and on all accounts successful, transport venture was financed by the English. In a different context - a virtual urban transport monopoly - the experience of the Lisbon Electric Tramways Company provided a remarkable contrast of efficiency and profitability which certainly played a role in the 1900s in changing Portuguese attitudes towards their 'oldest ally'.

1. PRO, F0425/157, Mr. Baring to Earl Granville, 5 September 1883.
2. Jornal do Commercio (3 January 1884).
3. PRO, F063/1202/28, House of Commons to Petre, 23 April 1884.
4. Ibid, Foreign Office to John Dixon, 3 December 1884.
5. Ibid, John Dixon to the Foreign Office, 29 July 1887.
6. For this company, see Vieira, op.cit., pp. 190-208.
CHAPTER 6

FRENCH INVESTMENTS IN THE PORTUGUESE RAILWAYS
"600.000 obligations des chemins de fer voyaux portugais ont trouvé preneurs en France, représentant 300 millions: 500 autres millions de la dette de ce pays sont dans les portefeuilles des Français; 800 millions représentent les intérêts de nos nationaux dans cet État. À quoi ont servi ces sommes empruntées à l'extérieur?".

M. Jules Pernette, obligataire de la Compagnie Royale des Chemins de Fer Portugais au Ministre des Finances de France (29 Ju ne 1892).
The two clearly distinguishing characteristics of nearly all British railway schemes in Portugal were their short duration and their purely speculative nature. However, French projects were of a longer term but generally still speculative. The schemes in which French railway promoters were directly involved will now be examined.
The establishment of investment banks, in particular crédits mobiliers, in France was originally inspired by the Saint Simonians but their major growth only took place from the Second Empire. Their spread throughout continental Europe in the 1850s and 1860s was a major part of the development of French foreign investments on a large scale. In 1869, for example, no less than 109 foreign securities, of which about one-half were the bonds of foreign governments largely floated by the investment banks, were officially quoted at the Paris Bourse\(^1\). There was a close connection between the emergence of these institutions and the subsequent development of railways in foreign countries\(^2\). By the middle of the 19th century "the manner in which the French capitalists are extending their relations is most remarkable"\(^3\) and the Crédit Mobilier was well represented throughout Europe\(^4\). The aspirations of the bank, along with its close relationship with the French foreign policy of the time, were well embodied in the president's report to the shareholders in the spring of 1858: "Travailler à la grande oeuvre de la construction des chemins de fer en Europe ce n'est pas seulement travailler à l'extension des relations commerciales et industrielles de peuple à peuple, c'est aussi généraliser l'application des principes les plus avancés et réaliser ainsi pacifiquement le but qu'a été poursuivi dans le passé par la lutte et la conquête. Considérée de ce point de vue, l'oeuvre de la construction des chemins étrangers est une oeuvre éminemment utile et qui rentre dans l'esprit et la politique qui caractérisent notre nation"\(^5\).

In the Iberian countries, however, as in eastern Europe, the absence of banking and other credit institutions contributed to the lack of a transport network\(^6\) which, in turn, delayed the establishment of soundly based ventures. The situation in Portugal by the late 1850s was: "There is

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scarcely an instance of any private Company being formed for a commercial undertaking, that it does not fall to the ground, and dissolve itself within a limited period. In other words, these regions "possessed neither venture capital nor developed entrepreneurial aptitudes for imitation, much less innovation, in the sphere of industrial finance".

Two French investment banks attempted to establish themselves in Portugal; one, the Pereires' Crédit Mobilier, did not even succeed in obtaining permission from the Portuguese Government to start business; the other, Prost's Crédit Mobilier, while incorporated, within a year had ceased operations and was in the hands of the receiver.

In 1856, which marked "the pinnacles of both the Second Empire" and the climax of the "success and popularity for its most typical institution, the Crédit Mobilier," the Pereires decided to invest in Portugal. Given the objects of the institution and its leading position in Spanish railway financing, it is clear that sooner or later the Crédit Mobilier would make similar proposals to the Portuguese Government. However, even before this occurred, the Portuguese Government itself looked to the Crédit Mobilier for assistance, in order both to resolve the feud with the contractors for the 'eastern' railway, Shaw & Waring Brothers, and to settle matters.

1. GBPP (1857-58), LV, 187, "Report by Mr. Paget, Her Majesty's Secretary of Legation at Lisbon, on Portugal, 20 April 1858", p. 189.
4. Cameron, op.cit., p. 157
5. See chapter 5, pp. 193-95.
In December, 1855 the Portuguese Finance Minister, Fontes, concluded a provisional agreement in Paris with the Crédit Mobilier the nature of which he subsequently explained in Parliament: "I signed, on behalf of the Government, on the 24th of December last, a provisional contract with the Crédit Mobilier and Messrs. Émile and Isaac Pereire, B. Fould Oppenheim of Paris, and Messrs. Charles Devaux and Usielli of London, for the study of railways in Portugal, namely the lines from Lisbon to the frontier of Spain and from Lisbon to Oporto, with the exception of those current agreements entered into with the Central Peninsular Railway Company. Some of these gentlemen are board members of the company which is engaged at the moment in the construction of the last section of the railway which, coming from France, will end at the Pyrenees, and they have just been granted the concession for the railway from Valladolid to Burgos; as well as the permission for the establishment of a Crédit Mobilier in Madrid. If we remember that they are trying to become the concessionnaires for the whole railway which, going through Spain, shall connect Portugal with France, you will no doubt realise how useful it is for us to deal with such houses. They will assist us enormously in order to facilitate the construction of the railway in Spain which will lead to the frontier of Portugal". 

According to the agreement the Crédit Mobilier was to survey the route for the railway between Lisbon and the Spanish frontier, and that from Lisbon to Oporto, which was to take seven months. On completion of the survey the French promoters were to have the option of constructing the lines themselves and were to be allowed a further six months to make their proposals. If they decided not to proceed with the works, then, they would be reimbursed for the expenses of the survey. Finally, and most important of all, while the negotiations were taking place the Portuguese Government undertook not to grant any concessions for railways without the prior consent of the Crédit Mobilier, which was to be given preference in the case of equivalent bids. The contract with the Pereires' bank shows how low the credibility of

1. Diário do Governo (1 March 1856), "Relatório Apresentado às Cortes pelo Ministro da Fazenda Antônio Maria Fontes Pereira de Melo em 28 de Fevereiro de 1856".
the Government, especially its Finance Minister, had fallen. Instead of submitting the contract to public tender, Fontes placed it with the investment bank which showed once again that the Government was unable to deal with railway development. The result was that railway construction was postponed for at least another 13 months. The French bank was only committed to send its engineers to Portugal to survey the routes for the railway and was to be refunded any expenses by the Portuguese Government. A leading economist of the time commented bitterly on the contract: "This is what has been called the contract. Here is the reciprocity of obligations. One reads and one cannot believe it. The Portuguese Government will either betray its honour and that of its country or it will never be able to sign a contract again for railway construction, unless submitting itself to the will and interests of a foreign concern. Further, one should bear in mind the immediate compulsory feature of such contract for it has not been subject to Parliament approval, not the least discussion. It appears to us, however, that it must be cancelled, simply because it implies an unauthorised expenditure and also because it was signed without the required powers for such transaction. Even if we accepted that it did not depend on the publication of a law for its sanction, where is the Royal Decree? Can the minister, without the consent of the King commit the country decisively? This a gross error. Here we have a minister of the Crown whom, relying solely on his own authority, commits Portugal to such a disgraceful and shameful submission".

Clearly, the reason for Fontes to ask for the Crédit Mobilier's assistance was purely financial. Not only were the works on the 'eastern' line at a stand-still following the contractors' decision to halt construction, but also the problems relating to the conversion of the foreign debt held by British bondholders were still to be settled. The possibility of raising 30 million francs (£1.2 million) on the Paris money market through the Crédit Mobilier was, according to Fontes, the only chance of settling the disputes with Shaw & Waring Brothers and the Committee of Portuguese Bondholders, headed by Thornton, and so create a real alternative to the failure of the British financing of Portuguese railways.

In the meantime, "several French engineers sent by the Society of the Crédit Mobilier have arrived in this country and [have] commenced the survey, and their chief, M. Wattier, has been appointed head engineer

1. Carlos Morato Roma, Reflexões sobre a Questão Financeira em 1856 (Lisbon, 1856), p. 27.
and administrator of that part of the railway to Santarém already commenced. Wattier's survey of the country to be traversed by the railway cost the Portuguese Government no less than 125,000 francs, although it is even possible that the Government may have had to pay more than this amount. Further, his subsequent report, although more comprehensive and detailed than that of Rumball written in 1852, contained an estimate for the cost of construction far from reality. For the routes that he surveyed which, incidentally, were later adopted by the Royal Portuguese Railway Company, Wattier estimated a total cost of construction of £5,956,000 for 413 kilometre, that is, no less than £14,413 per kilometre. To this amount he added a further £640,000 as the cost of the railway station and goods facilities at Lisbon, and £600,000 as the cost of the 68 kilometres already in operation. The total cost, therefore, came to £7,196,000 for 418 kilometres (£14,960 per kilometre) which later proved to be a considerable overestimate.

In the spring of 1856 Fontes had made not only a disadvantageous bargain for the state with Shaw & Waring Brothers, but also had "imprudently tied the hands of the Government" in a contract "generally considered to have been precipitated, reckless, and unnecessarily disadvantageous", which made the King Pedro V comment that the contract "was a Jewish deal". Subsequently, Fontes, who had proved a failure as a financier, fell

1. PRO, FO63/800/49, Howard to the Earl of Clarendon, 8 March 1856. A Lisbon newspaper commented that M. Wattier "intimidates and persuades the Government to give way to more hard conditions; he skilfully puts forward the interests of the Crédit Mobilier, which has sent him to this land of fools with a sharp and wide open eye"; O Progresso (24 April 1856).
2. AHMOP, DGOP-RC-107, Chemins de Fer Portugais, 10 July 1856.
4. PRO, FO63/801/52, Howard..., 18 March 1856.
5. PRO, FO63/803/122, Howard..., 4 June 1856.
in disgrace, the Upper Chambre of the Portuguese Parliament did not ratify the contract, the Ministry resigned, and the Crédit Mobilier proposals were definitely abandoned.

Adolphe Prost and his Crédit Mobilier provides the second example of the approach of a French investment bank to financing Portuguese railways. In May, 1856 he contacted the King of Portugal by letter, the publication of which "caused much sensation" as the terms offered by Prost were "apparently more favourable than those which Fontes [was] supposed to have concerted [sic] for a loan with the Company of the Crédit Mobilier at Paris". In his letter Prost introduced himself as a director of the Compagnie Générale des Caisses d'Escompte and a founder and administrator of the Compagnie Générale de Crédit in Spain, and proposed to establish in Portugal a crédit mobilier which would have the object of offering the Portuguese Government "the means to establish, on behalf of the state, a complete network of railways in Portugal". In order to support such a venture the Portuguese Government was asked to underwrite the institution with a guarantee of six per cent in bonds of the public debt covered by both the ordinary receipts of the Treasury and the traffic receipts of the railways. Prost himself was to subscribe for £200,00 new state bonds and was to be responsible for their issue, somewhat ambitiously at par value, both in Paris and Lisbon. In January, 1857 Prost's Crédit Mobilier was finally granted permission to operate in Portugal. However, rumours soon spread around to the effect that Prost, not happy with the prospects of becoming the railway financier of Portugal, was bidding for higher stakes and "is at the moment in negotiations with the Bank of Portugal for matters of the utmost importance".

The nominal share capital of Prost's bank amounted to £800,000 divided into 40,000 shares of £20 each, to be issued in three series. While the first series represented no more than 25 per cent of the bank's capital (that is, £200,000), the company's articles of association did not disclose when the balance of the shares were to be issued, clause six vaguely stating that the £600,000 would be floated "according to the requi-

1. PRO, F063/801/107, Howard..., 18 May 1856.
2. The letter was published by the Jornal do Comercio (17 May 1856).
rements of the society". Further, Prost took up the first issue of £200,000 at £6 paid per £20 share, which represented an original investment of only £60,000, that is, 7.5 per cent of the total nominal share capital. According to clause 17, Prost was entitled to appoint all the members of the board and act as director of the bank for the first six years (one third of the duration of the charter). Finally, as a founder member, he was to receive 10 per cent of the profits, while other shareholders were only allocated five per cent. Prost's position in the undertaking, therefore, appeared to be very strong with total control of the business on an original outlay of only £60,000 in state bonds, which in 1857 were quoted at no more than 44.8.

Moreover, the objectives of the bank seemed quite beyond grasp. They covered everything and anything: the issue of loans for all public works; the negotiation of state bonds, shares and debentures of industrial enterprises and credit institutions, both Portuguese and foreign; the trading of all sorts of merchandise and produce; the dealing in bills of exchange; acting as a banking institution by accepting deposits; and the execution of all operations related to trading and industrial enterprising. Such ambitious and far-reaching designs were another example of the lack of reality on the part of the Portuguese Government and explain, perhaps, the reason why Howard reported to London that "no great confidence is placed in M. Prost's capability of carrying out all he promises to perform". The Portuguese Minister at Paris, the Baron de Paiva, clearly understood Prost's obscure affairs in a confidential letter he forwarded to Lisbon in the autumn of 1858: "I have always sustained that Prost was an impostor and I have always done my best, on my own responsibility, to stop his pretension of calling himself the banker of the Portuguese government".

With only £60,000 available and the financial difficulties of his Compagnie Générale des Caisses d'Escompte in Paris, Prost made his last move - he merged both companies in a final attempt that "the merger will

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1. Ibid, clause five.
2. PRO, FO63/817/66, Howard..., 28 March 1857.
3. AHMOP, DGOP-RC, 107, Carta Confidencial do Barão de Paiva a Carlos Bento da Silva, Paris 8 September 1858. The Baron himself was no paragon of virtue. One year later he accepted a board membership of the Royal Portuguese Railway Company, while maintaining his position as Portuguese Minister at Paris.
bring great advantages to both companies". The result was that they both fell together at the beginning of 1858.

The Adolphe Prost affair closed the first and unsuccessful phase of French interest in investment in Portuguese railways through the establishment of investment banks in Portugal. Despite Howard's concern over Parent and Goussard in 1856, their proposal was never fulfilled, partly because of the opposition of the Portuguese Minister at Paris. In the same confidential letter in which he accused Prost, the Baron de Paiva further commented: "Goussard is a clever chap but I am afraid that Parent does not trust him completely. The latter, in return, is nothing but a contractor, a great contractor I have to admit it, but he has never been a promoter of a railway of any kind." After Prost, therefore, "no other French entrepreneurs considered Portugal a suitable area for an independent investment bank. French banks operating from Paris generally handled investments in Portuguese railways and other industrial ventures."  

6.2 THE SINTRA RAILWAY

The Sintra railway was the only exception to the general pattern of French investment in the Portuguese railways. It was not sponsored by any investment bank established either in Portugal or operating from Paris. In other words, the project of the line did not attract the attentions of the French banks. Its original French promoters planned not only the construction of a railway but also docks and freight yards in the city of Lisbon, to be served by the railway.

The concession was granted originally to the French Count Claranges-Lucotte in September, 1854 and was ratified by the Portuguese Parliament the following July. The contract stated that the Portuguese Government granted "a perpetual free-hold on the areas to be reclaimed from the river", and a 99 year concession for the railway, but no subvention or in-
terest guarantee was conceded. In addition, a £4,000 warrant deposit in bonds of the Portuguese public debt was required and, should the Parliament ratify the contract, a total deposit amounting to £10,000 had to be made. Finally, the works were to be started within one month (October, 1855), docks and yards by February, 1859. The Government was entitled to rescind the contract should the works not have been started within the next six months, that is, by January, 1856. These were harsh terms compared to other concessions granted in the 1850s and in fact they were largely responsible for the failure of the enterprise.

A company was formed in Paris - the Société du Chemin de Fer de Lisbonne à Sintra, Quai de Belém, Docks et Terrains sur le Tage - with a nominal share capital of 40 million francs (£1.6 million) divided into 80,000 shares of 500 francs each. A return of shareholders dated April, 1854, in which 32,947 shares accounting for 16,323,500 francs had been taken, was published. Although preparations were made for celebrating the inauguration of the works in late October, 1855 - rumours spread that the concession would soon be transferred to an English company. Actually, the company did not succeed in fulfilling its commitments to the Portuguese Government. Claranges-Lucotte only managed to raise 54,000 francs in cash and 2,000 francs in three per cent French state bonds for the warrant deposit. In the following years two foreign contractors, Adolphe Prost and the Spanish financier the Duke of Riansares, took over the works but both failed to complete them and up to now [November, 1857] the works progress desperately slowly.

By the end of the 1850s Claranges-Lucotte had been able to sell the concession to another company, a Franco-Belgian joint-venture carrying the same name (Société du Chemin de Fer...), with the same amount of share capital (40 million francs), which accepted the Count as board member and paid him 3.5 million francs in shares of the new company for the concession. The company entrusted the works to the Belgian contractors Vander Elst Fré-

1. Ibid.
3. MOPCI (July 1855) "Carta do Ministro Português em Paris, Barão de Paiva, ao Ministro da Fazenda, Antônio Maria Fontes Pereira de Melo, em 12 de Marco de 1855", p. 28.
res et Compagnie. It appears that Claranges-Lucotte made this arrangement without the consent of his previous partners, one of whom, Duclos de Boussois, wrote to the British Foreign Office complaining about the procedure and asked Lord John Russel to intervene in the affair. He requested that the case should be brought before the Portuguese Government, partly because "it has been with my resources that works started [sic] and for four years I have solely run the enterprise". A total amount of 3.2 million francs (£128,000) were eventually invested in the scheme, of which 700,000 francs had been advanced by Boussois. Given the available sources it is not possible to ascertain whether Duclos de Boussois was both writing the truth and was right in his claims. However, it is possible that he hoped to recover his outlay by suggesting to the Portuguese Government that he became the sole contractor to the railway from Lisbon to Oporto, but with a different route to that agreed with Salamanca. Both his claims and suggestion, however, came to nothing and in 1859 Claranges-Lucotte finalised the transaction with the new company.

A more accurate estimate of the profitability of the whole scheme was carried out by the new Franco-Belgian company. The total cost of the investment amounted to £1.6 million and it was expected that revenues from the sale of half the area to be reclaimed from the river would amount to £700,000 alone, to which an annual £35,000 from leasing the other half (3.5 acres), £20,000 from annual railway traffic receipts, and £70,000 from the

1. AEFMEF, F30/323, Société du Chemin de Fer de Lisbonne à Sintra, Quai de Belém, Docks et Terrains de Construction sur le Tage. The other members of the board were: Gustave de Linge (solicitor in Brussels); Théodore Guillaume Hoorickx (director of the insurance company Les Belges Réunis, in Anderlecht); Jules Lejeune (propriétaire and acting Chilean Consul in Antwerp); John Box (industrialist in Reading, England), and François Splingard (civil engineer in Brussels).

2. PRO, F063/867, Duclos de Boussois to Lord John Russel, 11 June 1860.

3. Ibid, 9 April 1860.

4. Ibid, 2 May 1860.
docks and yards should be added. No practical results emerged from this new company, however, partly because the Government had placed the contract for the main trunk line through Santarém with Salamanca. Once the possibility of the Sintra railway being the trunk line of Portugal was lost, nothing was left for the company to achieve in a relatively short span of time, given the long term nature of the profitability of the docks and yards and the extremely difficulties of reclaiming the new areas from the river. Consequently, in March, 1861 the Portuguese Government withdrew their approval to the formation of the new company (which had been established by royal charter in 1859) and rescinded the concession granted to Claranges-Lucotte in 1855.

In 1862, the whole scheme was put up to public tender and five proposals were forwarded to the Government. Four of those proposals aimed at the restoration of the concession on the same terms as had been granted in 1855, and for obvious reasons were not accepted. The fifth tender was made by Hubert Debrousse, a Frenchman who offered to construct the line to Sintra and the docks and yards, which were to be covered by the issue of six per cent state bonds. A contract was made with the Government in May, 1863 under which Debrousse was to make a warrant deposit of 250,000 francs followed by a definitive deposit to the amount of 600,000 francs, once the contract had been ratified by Parliament. Debrousse was committed to complete the railway by December, 1864 and the docks and yards by May, 1871. Parliament, however, did not ratify the contract until February, 1866 two years and nine months after the provisional arrangements had been signed. Debrousse made yet another attempt in 1866, and secured a 6.75 per cent guarantee on the scheme and a deposit of only 100,000 francs, but the Govern-

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1. AEFMEF, F30/323, Société du Chemin de Fer...
3. Ibid (May 1862), pp. 365-70.
4. Ibid (May 1863), "Contrato Celebrado com o Cidadão Francês Hubert Debrousse para a Concessão dos Terrenos já Conquistados e a Conquistar para o Estabelecimento de Docas, e de um Dique de Querenar, bem como para um Caminho de Ferro de Lisboa a Sintra", pp. 5-10.
5. Diário do Governo (25 April 1866).
ment was not able to overcome strong criticism from the Opposition in Parliament and the press. This was mainly directed at the guarantee of 6.75 per cent which was considered to be exorbitant as it would be based on a total capital of 46 million francs. From Debrousses point of view it was far more rewarding to replace the guarantee for a monopoly of operating the docks and yards which he had secured by the 1863 contract, but such was the confrontation in Parliament that the Cabinet resigned. "Circumstances were against the efforts undertaken by M. Debrousse" to the extent that the new Ministry was formed on the expressed condition imposed by the majority in Parliament "not to support the contract with Debrousse". Once again Portuguese politics and Portuguese railway financing appeared to be inseparable and the application was turned down.

Another 20 years were to elapse before the Royal Portuguese Railway Company built the Sintra line as a branch, but along a different route, putting aside the badly conceived plans for the docks at Belém. Traffic on the line started in 1887.

The main problem with the Sintra railway which explains, perhaps, the delay of 30 years before the line was open to traffic, but then within a completely different framework than that envisaged by its original promoters, was related to both its suburban nature and its inadequate connection with the planned docks and yards. Sintra had been linked with Lisbon by horse-omnibus since 1851, but the service was seasonal with a peak in the summer months while traffic receipts were being increasingly absorbed by rising operating costs. There were no promising prospects for freight traffic and the compact urban nature of Lisbon and its suburbs in the 1850s, coupled

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1. According to the French Consul at Lisbon, Edmond Breuil, one of the editors of the Lisbon Jornal do Comercio was a creditor to the Count Claranges-Lucotte and protested against the contract for fearing that he would not get his money back once Debrousse had got the concession; ANP, F12/6584, Edmond Breuil au Ministre des Affaires Étrangères, 10 May 1866.
2. Ibid.
3. In the early 1870s the Lisbon Steam Tramways Company represented yet another unsuccessful attempt to revive this line. See chapter 5, pp. 227.
with the relatively poor rural districts which had been included in the
original route of the railway, made any attempts to make it a main trunk
line and extend it to Oporto "the most disgraceful decision I have ever come
across; the money actually destined to extend this line, should it be provided for by the Treasury, would represent a serious misuse of public
money; it would be the most unwise and reckless venture one can imagine,
should it be undertaken by private initiative".

If the construction of a suburban line within the economic and
financial framework mentioned above was difficult in itself, it became
even more complicated when it was combined with constructing the harbour,
docks and yards. Actually, the site planned for the port facilities was not
ideal both for technical (it required the reclamation of land from the ri-
ver, drainage and levelling), and economic reasons (the business and indus-
trial areas of Lisbon, while spread along the river were concentrated mainly
in the eastern section of the city, to take advantage of the railway terminal
of the 'eastern' and 'northern' lines). The combination of such features
made the whole undertaking practically impossible to achieve in both its
technical and financial aspects, with the result that it was no longer con-
sidered as an independent venture and its completion only occurred when it
was made a part of a larger investment scheme, which aimed at different
objectives.

1. MOPCI (May 1856), "Relatório do Engenheiro Francês M. Wattier...", p.111.
2. In 1866 the Government was facing the prospect of a public sale of the
South Eastern of Portugal Railway Company and was also trying to obtain
a loan in either Paris or London to pay for the interest of debenture
holders of Portuguese railways. Very little hope might be expected from
the Government under the circumstances.
3. In 1854, the issue of the areas to be reclaimed from the river was
strongly criticised by the Lisbon press: "What is the Government promis-
ing to Lucotte? How large and how valuable is the land to be given to
him? How difficult is it to reclaim from the river and make it ready for
construction? The Government is not aware of this and they never will.
The Government is making a concession of great importance the right va-
value of which it ignores totally"; O Portuguez (3 August 1854).
4. Vieira, op.cit., map 3, p. 47
In mid-1858 railways north of the Tagus extended for only 68 kilometres and had been operated by the Portuguese Government since the dispute in 1855 with the Central Peninsular Railway Company. Service was mainly provide for passengers (a provisional service for goods was started only in November, 1858), the line ended in the middle of nowhere, and there had been no effective development in the construction of subsidiary feeder roads for the railway, with the result that it had left "a dead loss to the Treasury of £60,000" at the end of the year. The proto-trunk line was a badly-constructed, deficiently-operated strech of railway with few prospects of becoming the main trunk of the Portuguese system.

In the summer of 1859, however, a new messiah came on to the scene. Salamanca, the Spanish banker, through agents he had sent to Lisbon, made proposals to the Portuguese Government for the extension of the proto-trunk railway to Oporto and for the construction of a line which, branching off from the proposed Oporto railway, would cross the river Tagus and reach the Spanish frontier near Badajoz. After having been involved with English and French speculators, the Portuguese Government now tied itself to its powerful neighbour, with the result that no alterations were made regarding the projected routes for the railway network, namely those respecting the 'eastern' and 'northern' lines.

The Duke of Salamanca was born in Malaga in 1811. After serving as Finance Minister in the 1840s for which he received a dukedom, he became a railway entrepreneur and banker and at the turn of the 1850s he was considered "one of the leading railway promoters in the world"², having contracted and built more than 3,000 kilometres both in Europe and America. In Europe, the Duke had constructed railways in Italy and Spain and in America,

1. GBPP (1860), LXVI, 2716 "Report by Her Majesty's Secretary of Embassy and Legation at Lisbon, Mr. H.P.T. Barron, on Commerce for the Year 1859", p. 18.
2. GCH (18 August 1861), p. 511. As Spain's Finance Minister, Salamanca was involved in negotiating a loan to the Portuguese Government in the late 1840s; BBP, Ms. 18,321, HC, 14.5.11., Count Tojal to Baring Brothers, Lisbon 19 April 1847.
in conjunction with James McHenry, an Irish-American, was completing the Atlantic and Great Western, a consolidation of three lines in New-York, Pennsylvania and Ohio.\footnote{1}

Salamanca made his Portuguese proposal at a time of such despair that, while the Government announced that the construction of lines would be put up for public competition and consequently would be open to any to make tenders, the competition in itself appeared to be a mere formality.\footnote{2} The terms of the tender, made by Salamanca and provisionally accepted by the Government, were so low and so more advantageous to the latter, than those contained in Morton Peto's former contract, that it was unlikely that they would be undercut. Moreover, the lines were to be put up to public auction according to the terms of the provisional contract concluded with Salamanca.\footnote{3} Finally, the terms of the provisional contract were hurriedly drawn up and required modifications in some particulars, namely those regarding the width of gauge and the weight of rails - not surprisingly, the combination of these aspects of the negotiations "has had already a bad effect on public opinion."\footnote{4}

Although the Government decree for the public auction stipulated that tenders were to be received within 40 days, nearly 12 months elapsed before a definitive contract was signed. During this period no tenders were acknowledged while Salamanca displayed few signs of having convincing financial support, partly because he had been "unsuccessful in his endeavours to induce French capitalists to join in his enterprise, and recent events [Peto's affair] are not likely to induce English capitalists to embark on Portuguese railways."\footnote{5} The definitive contract was signed in May, 1860. It was quite a lengthy document with 75 clauses, in which the main

\footnotesize{1. Dorothy Adler, British Investments in American Railways 1834-1898 (University Press of Virginia, 1970), p. 72. Such was his popularity in the United States that a town was named after him; GC\textsuperscript{H} (18 August 1861), p. 511. He died in Madrid on November 21, 1883. For Salamanca's affairs in Spanish railways see Miguel Artola (editor), \textit{Los Ferrocarriles en España 1844-1943} (Madrid, 1978), I, pp. 344-66.

2. Salamanca's main interest was to make the Portuguese lines an extension of the Spanish system and a handmaiden of French capitalist groups.


5. PRO, F063/859/44, Magenis to Lord John Russel, 6 April 1860.}
features of the provisional arrangements were preserved. It seems important to review some of the clauses because they dictated the future shape of the two most important lines in Portugal.

The contract referred to the routes that had been surveyed in 1856 by the French engineer Wattier for both lines, but priority was given to the 'eastern' line because of the easy gradients of the areas south of the Tagus, coupled with the fact that the 68 kilometres, which had been completed, could act as a trunk section for both lines. A railway station was to be built in Lisbon and initially the line was to be single track, to be doubled only when the gross traffic receipts had reached £1,080 and £1,296 per kilometre on the 'eastern' and 'northern' lines, respectively. A deposit of £60,000, in either cash or three per cent state bonds, was to be made before work commenced, but was to be refunded in stages until the cost of construction had reached £90,000. Moreover, the contract stipulated three years for the completion of the 'eastern' line and five years for the 'northern'. In return for these commitments the Government granted a 99 year concession for the operation of both lines, and allowed a subvention of £4,500 and £5,400 per kilometre for the 'eastern' and 'northern' lines, respectively. Last but not least, the 68 kilometres already completed and in operation were to be purchased by Salamanca for £612,000 (that is, £9,000 per kilometre), and this amount was to be deducted from the subvention.

At the beginning of 1860 rumours spread in Lisbon that Salamanca was backed in his venture by those involved in the Alicante-Zaragoza railway, and Paris newspapers reported subsequently the support from French capitalists engaged in the Spanish Grand Central railway. Finally, later in the year, Salamanca secured the support of the Crédit Industriel through its president, the Marquis de Audifret, and also that of the London financial house of Charles Devaux, and Edouard Blount & Compagnie of Paris. The 70,000 shares of the company were issued in Paris by the Crédit Industriel and the involvement of this investment bank in the undertaking was seen by the English Foreign Office as an appeal "to French capital in favour of a

1. MOPCI (June 1860), "Contrato Definitivo Celebrado com Dom José de Salamanca para a Construção dos Caminhos de Ferro de Lisboa ao Porto e à Fronteira de Espanha", pp. 52-65.
Portuguese enterprise, made for the benefit of Spanish speculators. Although no great confidence was placed originally in the Paris money market because "Portuguese securities are mainly dealt with at London and Amsterdam", with the result that no more than 12,000 shares were estimated to have been taken-up there, it turned out that 69,266 out of the 70,000 shares were issued through the Paris Bourse. Actually, French shareholders "held such an important portion of the capital of the company", that the board appointed by Salamanca thought it wise to submit their names for approval to the French subscribers. Moreover, the creation of a committee in Paris, whose members were directors residing in either France or England and which represented the company for all affairs it might engage itself in France, clearly shows the power of the Paris Committee as a centre of decision making. The company, though based in Lisbon according to article four of the statutes, was really managed by the Paris Committee. Shortly after its foundation it was stated in a memorandum sent by the board in Lisbon to the Portuguese Government that "the information required [by the Government] is not always available because the accounts are made in Paris by the bankers of the company, the Société Générale de Crédit Industriel et Commerciale". The memorandum went on to state that although the securities of the company were quoted and negotiated in London, Paris, Madrid and Lisbon, "such operations are far more important in Paris than elsewhere".

Finally, a glance at the board members of the company not only shows the Anglo-French alliance which has already been referred to, but also that only three out of its 17 members were Portuguese while seven were Spanish of whom three were directors of the Madrid-Zaragoza railway; the other seven

1. PRO, F663/867, The Portuguese Railways, June 1860.
2. AEFMEF, F30/323, L'Administration de la Compagnie Royale des Chemins de Fer Portugais au Ministre des Finances Français, 23 July 1860.
3. AEFMEF, F30/324, Compagnie Royale, mouvement des fonds. 349 shares were issued and taken in Madrid, 335 in Lisbon and 50 in London.
4. Ibid.
5. Articles of Association, articles 18 and 27.
7. Ibid.
(to whom one can, for obvious reasons, add a tenth, Talabot, the statutory arbitrator) were French, of whom three were also directors of the Madrid-Zaragoza railway.

Table 32. Board members of the Royal Portuguese Railway Company in 1861

<table>
<thead>
<tr>
<th>Name</th>
<th>Nationality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duke of Saldanha</td>
<td>Portuguese</td>
</tr>
<tr>
<td>Baron de Paiva, Portuguese Minister at Paris</td>
<td></td>
</tr>
<tr>
<td>Fortunato Chamiço, banker in Lisbon</td>
<td></td>
</tr>
<tr>
<td>Duke of Salamanca</td>
<td></td>
</tr>
<tr>
<td>Alejandro Llorente, former Member of Parliament and director of the Madrid-Zaragoza railway</td>
<td></td>
</tr>
<tr>
<td>De Zaragoza, ditto</td>
<td>Spanish</td>
</tr>
<tr>
<td>Joaquin de la Gandara, ditto</td>
<td></td>
</tr>
<tr>
<td>Roland, banker in Lisbon</td>
<td></td>
</tr>
<tr>
<td>José de la Fuente, Member of Parliament</td>
<td></td>
</tr>
<tr>
<td>Thomaz Letortilla</td>
<td></td>
</tr>
<tr>
<td>Edouard Blount, president of the Compagnie de l'Ouest, vice-president of the Compagnie Paris Lyon-Méditerrané, director of the Madrid-Zaragoza railway</td>
<td>French</td>
</tr>
<tr>
<td>Lichtlin, vice-president of the Crédit Industriel</td>
<td></td>
</tr>
<tr>
<td>Joseph de la Bouillerie, former Minister of Commerce and director of the Crédit Industriel</td>
<td></td>
</tr>
<tr>
<td>Chatelus, mining engineer and director of the Madrid-Zaragoza railway</td>
<td></td>
</tr>
<tr>
<td>Gustave Delahante, director of the Madrid-Zaragoza railway</td>
<td></td>
</tr>
<tr>
<td>Viscount Paul Daru</td>
<td></td>
</tr>
<tr>
<td>Edouard Dalloz</td>
<td></td>
</tr>
</tbody>
</table>


With financial support being secured, Salamanca wasted no time and the prospectus announcing the undertaking was issued before the Upper Chamber of the Portuguese Parliament had endorsed the contract, which forced the Government to replace the words "submitted to parliament" for "approved by parliament", when the announcement was made to the public. Such an atti-
tude reveals either Salamanca's ignorance of legal matters, or, alternatively, his powerful and domineering position in dealing with the Government. Further, it did not reflect well on the Portuguese Minister at Paris, the Baron de Paiva, who immediately accepted a place on the board of the future company. This gave rise to harsh comments from the French Government and a report forwarded to the French Ministry of Foreign Affairs plainly stated: "We can hardly accept the engagement of M. de Paiva in organising the company and we severely reproach this gentleman, a guardian by nature of the interests of his own country, who should stand for them against M. Salamanca, rather than taking a position incompatible with his diplomatic functions".

The company, to which "the greater part of early Portuguese railway history must be devoted" and in which "all the great politicians and financiers of the [Iberian] Peninsula have their names", was incorporated in Portugal in December, 1859. Its share capital amounted to 35 million francs (£1.4 million) divided into 70,000 shares of 500 francs each, and the company had additional powers of issuing an unlimited number of bonds of which 60,000 of 500 francs each were floated immediately. According to clause three of the articles of association its title was Compagnie Royale des Chemins de Fer Portugais but its shares were labelled in Portuguese, French and English. The large proportion of the company's bonds held in England was responsible for the company also being known as the Royal Portuguese Railway Company, and this will be used henceforth.

Most of the clauses of the contract previously signed between the Portuguese Government and Salamanca were included in the articles of association of the company. The latter, however, kept the subvention (according to article six, clauses two, three and four). Salamanca, besides being appointed the sole contractor to the company and subscribing for 70,000 shares and placing them, on behalf of the company on the Paris Bourse, the

1. ANP, F14/8600, Monsieur de Guitaud au Ministre des Affaires Etrangères de France, 1 May 1860.
2. Cameron, op. cit., p. 314.
4. Articles of Association, clause seven.
Crédit Industriel acting as broker and commissioner, had the privilege of travelling free in the network of the company in his private and exclusive coach\(^1\). According to article six of the statutes of the company, Salamanca agreed "to liquidate all expenses prior to the formation of the company and to deliver the lines complete with locomotives and rolling stock, stations, depots and electric telegraph" at a cost to the company of 132,350 francs per kilometre (£5,294).

The works proceeded at a good pace and in late 1861 it was estimated that "more than 22,000 men are employed"\(^2\). However, there was, as yet, no sign of the completion of the Badajoz-Ciudad Real railway in Spain - the Spanish extension of the Portuguese 'eastern' line - which would secure the connection between the two Iberian capitals\(^3\). Further, there were also rumours that the 'northern' line would be open to traffic only as far as the south bank of the river Douro. In late 1863, with the entire 'eastern' line open to traffic and works proceeding rapidly on the 'northern' line, the conditions of the service were described by the influential Railway Times in the following terms: "The great rapidity with which the works of the Royal Portuguese have been carried out has also been attended with another difficulty; the Lisbon and Badajoz division having been opened for traffic before the roads abutting on it were completed. The Government of his Most Faithful Majesty has decreed, it is true, the construction of the roads required for putting the interior of the kingdom in relation with the great line of communication with which it has endowed the country; but the execution of these roads proceeds slowly, and the company may have to wait a long time before they are completed. The provisional working of the lines is still continued on the account of José de Salamanca, and it remains in

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1. Additional article to article two of the Statutes of the company.

2. The Railway Times (12 October 1861), p. 1267. There were 8,602 workmen, 516 cars, 49 horses and mules and 57 wagons engaged in the 'eastern' line, and 13,164 workmen, 618 cars, 21 horses and mules and 62 wagons in the 'northern' line; GCH (25 August 1861), p. 1352.

almost the same imperfect state as that in which it was placed a year since; thus the passenger service is impeded by the absence of communications with the towns of the interior, and the goods service has scarcely commenced\(^1\).

During the period of construction of the two lines, which took until the second half of 1864 by when the 506 kilometres had been completed, the contractor handed over the sections between Lisbon and Badajoz, and from the junction to Vila Nova de Gaia\(^2\). The company on 17 December, 1864 informed its shareholders that "our network is now open to traffic\(^3\), although the board admitted that the Lisbon terminus would not be finished before the end of 1865, more than one year after the lines had been open for traffic.

In December, 1864 the amount of money paid to Salamanca had reached £2,387,563 (£1,174,379 for the 'northern' line and £1,213,184 for the 'eastern' line) which represented a cost of £5,451 per kilometre to which a further £1,776 per kilometre, accounting for interest on shares and bonds, should be added. The total cost to the company amounted to £3,165,376 for 438 kilometres, or £7,227 per kilometre, which is at odds with the estimate given by Cameron in the four pages of his book devoted to Portuguese railways. Based on a French source, the Ministry of Economy and Finances, which it has not been possible to check, Cameron calculated that the cost to the company was 230,000 francs (£9,200) per kilometre. The report of the board of the company which was presented to the annual shareholders' meeting of 30 December, 1865 contained a retrospective summary of the cost of construction of the lines (direct cost and financial charges) on which the cost per kilometre mentioned here above was based. The following table comprises all the items of the cost of construction as presented to the shareholders in 1865.

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2. AEFMEF, F30/323, M. José de Salamanca au Comité de Paris de la Compagnie Royale des Chemins de Fer Portugais, 24 November 1865.
Table 33. Cost of construction of the 'eastern/northern' lines to the Royal Portuguese Company

<table>
<thead>
<tr>
<th>Item</th>
<th>'eastern' line (£)</th>
<th>'northern' line (£)</th>
<th>Total (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>management and administra­ -</td>
<td>82,829</td>
<td>69,053</td>
<td>151,882</td>
</tr>
<tr>
<td>surveys</td>
<td>4,503</td>
<td>4,563</td>
<td>9,066</td>
</tr>
<tr>
<td>purchase of land</td>
<td>29,185</td>
<td>27,379</td>
<td>56,564</td>
</tr>
<tr>
<td>levelling</td>
<td>453,139</td>
<td>398,176</td>
<td>851,315</td>
</tr>
<tr>
<td>works of art</td>
<td>218,566</td>
<td>292,389</td>
<td>510,955</td>
</tr>
<tr>
<td>tunnels and shafts</td>
<td>-</td>
<td>85,414</td>
<td>85,414</td>
</tr>
<tr>
<td>stations</td>
<td>141,141</td>
<td>67,008</td>
<td>208,149</td>
</tr>
<tr>
<td>track</td>
<td>228,639</td>
<td>209,903</td>
<td>438,542</td>
</tr>
<tr>
<td>miscellaneous</td>
<td>55,182</td>
<td>20,494</td>
<td>75,676</td>
</tr>
<tr>
<td>total</td>
<td>1,213,184</td>
<td>1,174,379</td>
<td>2,387,563</td>
</tr>
<tr>
<td>interest on shares</td>
<td>-</td>
<td>-</td>
<td>411,600</td>
</tr>
<tr>
<td>interest on bonds</td>
<td>-</td>
<td>-</td>
<td>366,213</td>
</tr>
<tr>
<td>total financial costs</td>
<td>-</td>
<td>-</td>
<td>777,813</td>
</tr>
<tr>
<td>total cost of constru -</td>
<td>-</td>
<td>-</td>
<td>3,165,376</td>
</tr>
</tbody>
</table>


Even if the cost of rolling stock (which, in any case is no part of the cost of construction) and that of the telegraph wires and posts is included (£170,720 altogether) the total cost to the company only reached £7,617 per kilometre, still £1,583 less than Cameron's estimate. Further, it should be noted that the company only paid for the construction of 438 kilometres, because the first 68 kilometres were already in operation and were handed over by the contractor to the company with no additional charges.
But even if that cost was included as a charge upon the company, the cost per kilometre of the 506 kilometres to the company would have been £7,198, again below Cameron's estimate.

The interesting point in all this affair is that the contractor apparently received a much larger sum of money than that originally estimated by the Portuguese Government, which resulted in a cost nearly 70 percent above that he had actually spent on the lines.

Table 34. Gross profit made by Salamanca on the construction of the 'eastern/northern' lines (amount in £)

<table>
<thead>
<tr>
<th>item</th>
<th>'eastern line'</th>
<th>'northern line'</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>subvention allowed by the Government</td>
<td>936,000</td>
<td>1,242,000</td>
<td>+2,178,000</td>
</tr>
<tr>
<td>cost to be paid by the company to Salamanca</td>
<td>(£5,294 x 438 km)</td>
<td></td>
<td>-2,318,772</td>
</tr>
<tr>
<td>actual cost of construction paid to Salamanca</td>
<td>1,174,379</td>
<td>1,213,184</td>
<td>+2,387,563</td>
</tr>
<tr>
<td>cost of 68 kilometres purchased by Salamanca and paid to the Government at £9,000 per kilometre</td>
<td></td>
<td>-612,000</td>
<td></td>
</tr>
<tr>
<td>deduction of the subvention (£4,500x68km) on the 68 kilometres purchased by Salamanca</td>
<td></td>
<td>+306,000</td>
<td></td>
</tr>
<tr>
<td>deposit paid by Salamanca to the company for the completion of the 'northern' line</td>
<td></td>
<td>-80,000</td>
<td></td>
</tr>
<tr>
<td>gross profit made by Salamanca</td>
<td></td>
<td></td>
<td>1,723,209</td>
</tr>
</tbody>
</table>

Notes: 1 the subvention allowed was £4,500 per kilometre for a line from Lisbon to the frontier of Spain; 68 kilometres already in operation were not considered;

2 the subvention allowed was £5,400 per kilometre for a line from the junction with the 'eastern' line to the south bank of the river Douro;

3 this appeared to be the agreed cost of construction between the contractor and the company, according to the former's letter addressed to the Paris Committee;

4 this appears to be the sum paid up by the company according to the report for the year 1865 when the two lines were open to traffic;

5 according to clause 31 of the contract of May, 1860 between Salamanca and the Portuguese Government;

6 according to his letter to the Paris Committee the deposit amounted to 2,0 million francs.
Briefly, the contractor paid £2,387,563 to suppliers (assuming that he spent the whole amount actually received by the company) and £306,000 to the Portuguese Government, which represents a cost per kilometre of £5,323; in return, he received from the Government £2,178,000 (subvention on the lines) and £2,387,563 from the company, which represents £9,023 per kilometre. Salamanca made a gross profit per kilometre of no less than £3,700 or 69.5 per cent above the original cost of construction. In the summer of 1860 the British Minister at Lisbon reported to London: "I am informed by an influential deputy, he [Salamanca] will gain at least £500,000 by the transaction. As a consequence it is stated these modifications were obtained by bribery, and whether or not the charge be true, the Government is suspected and discredited". Under the circumstances, it seems hard to believe in Salamanca's words at a banquet in Lisbon in September, 1859: "I begin, gentlemen, by apologising for my speech not being in itself as Portuguese as my heart is at this moment... I do not come to this country in search of fortune; my material ambition is fullfilled, though not my ambition for glory. I have had the honour, gentlemen, to see my name associated with the first railway that placed Madrid in connection with the [Mediterranean] sea; it is my firm intention, as well, to see my name associated with the railway which will connect Madrid to Lisbon".

When the Royal Portuguese took over the lines from the contractor in 1865, this was later than had been stipulated in the contract with Salamanca made in December, 1860. The 'eastern' line was only open to traffic in September, 1863 a delay of 10 months and 19 days; the 'northern' line (up to the south bank of the river Douro) was not completed until July, 1864 - one year and two months after the original deadline. Furthermore, the 506 kilometres of track were taken over in the following condition: first, the railway station at Lisbon was not yet completed; second, the 'northern' line did not reach the city of Oporto, and a further six months were required for works on this line; and third, the 'eastern' line, while having been classified since 1865 as a priority railway by the Spanish Parliament,

1. PRO,F063/860/89, Magenis to Lord John Russell, 28 June 1860
2. GCH (2 October 1859), p. 612.
3. "Rapport... du 17 décembre 1864". In 1867 works were still in progress in the 'northern' line, and in the section Lisbon to Santarém all crossties had to be replaced in the first 25 kilometres; JCF (4 January 1868), "Rapport... du 9 décembre 1867", p. 8.
did not yield more than seven to eight thousand francs per kilometre and "it will remain at that stage until communications with Spain will be completely settled, because only international traffic can account for its profitability". Finally, the cost of the lines at £11,420 per kilometre was an astronomical sum of money, given the deficient condition of the track, the non-existence of a rail connection between Lisbon and Madrid, and the absence of a bridge over the Douro.

The deficient condition of the lines and the lack of connecting roads were reflected in the traffic receipts, to the extent that it was impossible for the company to extend its network - especially the bridge across the river Douro, which would connect Lisbon with Oporto and the northern provinces of Portugal. This was only open to traffic in 1877, and the construction of new lines was delayed until the 1880s. The 'Beira Baixa' section, the longest after the 'northern' and 'eastern' lines, was partially opened to traffic only in 1891.

Moreover, the appointment of a statutory arbitrator whom, according to article six of the statutes, appraised and decided in the last resort all problems between the contractor and the company was, according to a survey on Portuguese railways made in 1860, "not a guarantee of economy for the subscribers". The report, while not pretending to dispute the exalted science of that eminent engineer [Talabot], found that he did not possess "the great art of economy which constitutes the first merit of the real practical man. It is well known that Mr. Paulin Talabot does things on a grand scale and that he never cramps himself when the question is to expend the money of the shareholders. Those of the railway from Marseilles to Avignon could say something on that subject". Not unexpectedly, financial problems harrassed the company from its early stages and dictated the future shape of its network and profitability for many years to come.

The company very rarely succeeded in paying a six per cent dividend to its shareholders, the level stipulated by the statutes. During the construction period the contractor had paid two per cent per quarter, for operating the lines until their completion. Between 1860 and 1865 the company paid an average dividend of 4.95 per cent, and by 1865 its shares were

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1. Ibid. (1864-65), p. 777.
2. PRO, F063/867, The Portuguese Railways, June 1860
quoted 18.4 per cent under par at 408 francs. They had stayed above par "just long enough for the founders to unload on the Bourse".

Table 25. Quotation of shares of the Royal Portuguese and interest paid during construction period, 1860-1865

<table>
<thead>
<tr>
<th>year</th>
<th>average yearly quotation of shares</th>
<th>amount that would have been received if the dividend had been maintained at six per cent</th>
<th>amount actually paid</th>
<th>percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1860</td>
<td>500 Fr.</td>
<td>30 Fr.</td>
<td>30 Fr.</td>
<td>6</td>
</tr>
<tr>
<td>1861</td>
<td>500</td>
<td>60</td>
<td>60</td>
<td>6</td>
</tr>
<tr>
<td>1862</td>
<td>316</td>
<td>90</td>
<td>57</td>
<td>3.8</td>
</tr>
<tr>
<td>1863</td>
<td>362</td>
<td>120</td>
<td>87</td>
<td>4.4</td>
</tr>
<tr>
<td>1864</td>
<td>387</td>
<td>150</td>
<td>116</td>
<td>4.6</td>
</tr>
<tr>
<td>1865</td>
<td>408</td>
<td>180</td>
<td>147</td>
<td>4.9</td>
</tr>
</tbody>
</table>

Source: JCF (various years).

The critical financial situation can be explained by the heavy costs paid to the contractor, to which an additional five-year investment of 3,187,000 francs on the Lisbon to Santarém section has to be added, for the reconstruction of the line. Furthermore, traffic receipts during the second half of the 1860s were poor and this, coupled with the serious financial situation of the country as a whole (the European money markets were closed to Portugal until 1869), contributed to the stagnation in the mileage and the poor results of the service. In 1866 traffic receipts suffered from the political and financial crisis which spread all over Europe; in 1866 and 1867 they were affected by the insurrection in Spain; and in 1867 they fell further due to the poor harvest in both Iberian countries. In 1868 traffic receipts amounted to only 10,000 francs per kilometre (£400), with still

1. Cameron, op.cit., p. 316.
3. Ibid. Operating costs accounted for 65 per cent of traffic receipts.
700 kilometres of subsidiary roads to the railways remaining to be completed by the Government. In the circumstances, it is hardly surprising that the company had to resort, almost from the beginning of its existence, to loan capital and in 1860 the first three per cent debentures of 500 francs nominal value were issued. A further 125,000 bonds were issued over the next two years but the company's banker in Paris, the Crédit Industriel, had only been able to place them at a heavy discount, with the result that the company received merely 18,883,231 francs, that is, 222.5 francs per bond or 55.5 per cent under par. During the period of construction the flotations of bonds rose, substantially, to 239,314, corresponding to 54.8 millions francs. When the company started its service its loan capital was already 56.6 per cent above the amount of its share capital.

Table 36. Debentures issued by the Royal Portuguese during the period of construction, 1861-1865

<table>
<thead>
<tr>
<th>date</th>
<th>debentures issued</th>
<th>market value</th>
<th>yield in percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>number</td>
<td>amount in</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>million francs</td>
<td></td>
</tr>
<tr>
<td>December 1861</td>
<td>15,626</td>
<td>3.6</td>
<td>231.6 or 53.7 up*</td>
</tr>
<tr>
<td>October 1862</td>
<td>125,000</td>
<td>18.9</td>
<td>222.5 or 55.5 up</td>
</tr>
<tr>
<td>October 1863</td>
<td>167,920</td>
<td>40.0</td>
<td>238.3 or 52.3 up</td>
</tr>
<tr>
<td>December 1864</td>
<td>186,307</td>
<td>44.3</td>
<td>237.9 or 52.4 up</td>
</tr>
<tr>
<td>December 1865</td>
<td>239,314</td>
<td>54.8</td>
<td>229.1 or 54.2 up</td>
</tr>
</tbody>
</table>

Notes: (*) under par
Source: JCF (various years).

Furthermore, the company had also been forced at the same time to raise funds through a floating debt. This rose considerably from 1861 to 1866. In late 1867 negotiations with the Portuguese Government took place for an arrangement to help the company to redeem its floating debt which, although it had fallen by 1.5 million francs over the past six months, still stood at 3.3 million francs. The company also asked the Government to advance the funds required to pay the interest on its bonds, together with the

1. Ibid (14 November 1868), p. 740.
arrears of interest due on them (11.5 million francs), and a sum of 2.4 million francs to complete the 'northern' line and build the bridge across the river Douro. The rejection by the Government of this proposal led the company to suspend payments of both dividends and interest on its bonds, within 18 months of taking over the lines from the contractor and starting the service. The company's serious condition resulted in its 35 million francs share capital being reduced to 3.5 million francs at market prices while the 285,000 bonds issued were quoted at no more than 70 francs each. In the following 11 years no dividends were paid to shareholders; dividends on shares which had ceased in 1866 were only resumed in 1887 when a two per cent dividend was paid. Between 1877 and 1890 dividends averaged 4.8 per cent and in six years only reaching the six per

1. Ibib (25 January 1868), "Resumé des Propositions qui furent adressées au gouvernement Portugais le 24 novembre 1867 par le Conseil d'administration de la Compagnie Royale des Chemins de Fer Portugais", p. 62. Also Cameron (op.cit., p. 316) although he overestimates the completion of the 'northern' line by 0.1 million francs. The company concluded an arrangement with the French General Company for Encouraging the Development of Commerce and Industry, by which the floating debt was concentrated into the hands of one single bank. In return, the Royal Portuguese was obliged to make to the French financial concern an average monthly payment of £4,000 and "to exclusively employ the whole of the profits derived from working in the extinction of the floating debt"; The Railway Times (6 February 1869), p.133. The floating debt was extinguished in October, 1869; JCF, (1 January 1870), p. 342.

2. AEFMEF, F30/323, Edouard Dalloz, administrateur de la Compagnie Royale des Chemins de Fer Portugais au Ministre du Conseil de France, 20 November 1868.

3. "The distribution of any dividend for 1875 was, however, out of the question, as the company had a floating debt of £120,000 and is also in arrear in respect to the payment of its obligations to the extent of £160,000", The Railway Times (10 February 1877), p. 125
cent mark. But dividends failed to be paid again in 1891.

Table 37. Dividends paid to the shareholders of the Royal Portuguese Railway Company 1877-1890

<table>
<thead>
<tr>
<th>year</th>
<th>dividend paid</th>
<th>year</th>
<th>dividend paid</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>francs</td>
<td>percentage</td>
<td></td>
</tr>
<tr>
<td>1877</td>
<td>10</td>
<td>2.0</td>
<td>1884</td>
</tr>
<tr>
<td>1878</td>
<td>20</td>
<td>4.0</td>
<td>1885</td>
</tr>
<tr>
<td>1879</td>
<td>25</td>
<td>5.0</td>
<td>1886</td>
</tr>
<tr>
<td>1880</td>
<td>30</td>
<td>6.0</td>
<td>1887</td>
</tr>
<tr>
<td>1881</td>
<td>30</td>
<td>6.0</td>
<td>1888</td>
</tr>
<tr>
<td>1882</td>
<td>20</td>
<td>4.0</td>
<td>1889</td>
</tr>
<tr>
<td>1883</td>
<td>25</td>
<td>5.0</td>
<td>1890</td>
</tr>
</tbody>
</table>

Source: AEFMEF, F30/323, Compagnie Royale des Chemins de Fer Portugais, mouvement des fonds

The payment of interest on bonds was already in arrears by 1866, ceased totally in 1869 and 1870, and was only partially resumed in 1871. After 1871 coupons were promptly paid1, but in 1874 there were still four years(eight coupons in all) outstanding, representing an aggregate sum of about £680,0002. In order to clear these charges the company proposed to the Portuguese Government that the arrears should be provided for by "an issue of obligations to be given to the existing holders of the company's obligations in exchange for their overdue coupons", as "the present increase in the net receipts of the company would assure the interest of new obligations"3. The Government agreed and in 1875 the company started making up the

1. AEFMEF, F30/323, Compagnie Royale des Chemins de Fer Portugais; tableau indicant, année par année les recettes, les dépenses, les produits nets et les coupons payés aux actionnaires et aux obligataires. Also JCF (25 July 1874), p. 162. Cameron gives the resuming of the payment of interest on bonds as late as 1872 (op.cit., p. 317).
3. Ibid.
arrears by means of a loan of £560,000 advanced by the Crédit Industriel. This arrangement, "probably the best which could be made under the circumstances", was secured by "a deposit of unissued obligations to a large nominal value" and all arrears were expected to be paid "by the close of June, 1876".

The company was approaching financial stability in the late 1870s, costs were under control, traffic receipts were increasing, and the company was able to increase the level of dividends on shares and resume the payment of interest on bonds. From then onwards conditions appeared favourable for bonds and a construction program was considered. In 1876 the last section of the 'northern' line was contracted to Eiffel & Compagnie and the railway finally reached the city of Oporto in 1877, 13 and a half years later than had been envisaged in the original contract of December, 1860. The completion of this line brought to an end the situation of traffic coming from Lisbon and the south of the country "being carted by horses or bullocks across the river, and reloaded, causing great expense and delay". The new bridge across the river Douro "has opened direct communication between the south and north of Portugal; as well as the north of Spain, which adds vastly to the general resources of the country". It had taken 18 years to complete the original network of the company at a cost of no less than £13,000 per kilometre.

1. Ibid (31 July 1875), p. 740; (29 January 1876), p. 112; (15 December 1877), p. 1108. Also JCF (22 January 1876), p. 51. "The affairs of the company have not been prosperous, but the arrear drawings of bonds for the past ten years have now taken place, and payment is being made", The Stock Exchange Year-Book, (1878), p.103.

2. The Railway News and Joint Stock Journal (6 July 1878), p. 14. "The whole [of the bridge] was made in Paris and sent out to Portugal in its separate parts. The total length from ent to end is 1,150 ft; span of arch 520 ft; and height from low-water mark to crown is 198 ft, being 30 ft higher than the Falls of Niagara. The builders claim this to be the first bridge to be erected on this principle, and the arch to be the largest in the world"; Ibid.
Map 10. The Building of the 'Eastern' and 'Northern' Lines

NOTE: Dates mentioned above are opening days to traffic
The financial stability achieved in the 1870s, however, did not last long. The real directors of the company, namely those that were members of the Paris Committee, remained obsessed with the idea that the international section of the network of the company was of primary concern to its development. Consequently, new rail connections to Spain (and to Europe) were planned, partly to overcome the circuitous original route between the two Iberian capitals. Such policy disregarded the substantial contribution given by the 'northern' line to the traffic receipts of the company - although receipts per kilometre on the 'northern' and 'eastern' lines were £560 and £320, respectively, no decisions were taken by the company to improve rail transport in central Portugal using the 'northern' line as a trunk section. The Royal Portuguese behaved otherwise, probably because it thought convenient to strengthen its network by uniting it with that of the M.Z.A., given the close relationship between shareholders of both companies. The stable financial condition of the company, then, allowed the adoption of a policy of expansion from the mid-1870s. If the construction of the bridge across the river Douro and the subsequent connection to the city of Oporto were of vital importance to the affairs of the company, its involvement in Spanish railways became the most incredible and reckless arrangement the company ever made. This was largely responsible for a new decade of financial disarray which, in turn, terminated in the financial collapse of 1891.

The issue of debentures, once the payment of interest and arrears had been resumed, continued and 355,771 bonds had been issued by June, 1878, which represented an annual charge to the company of 5.7 million francs. A further issue of 90,000 bonds was negotiated in that summer in order to secure the concession of a new line "to tap the phosphate deposits in the vicinity of Cáceres", which would also provide for a more direct route to Madrid. This new line was considered by the company to be of great importance for future stability and growth of traffic. According to the company's Chairman, "without the construction of this branch one of the main resources of traffic to the company may be lost. The phosphates are currently transported by carts to Merida, wherefrom they are carried on the Ciudad Real-Badajoz line which, in turn, carries them forward to our['eastern']

2. Cameron, op.cit., p. 317.
line to be exported to London through Lisbon. The works on the Merida-Seville railway are progressing actively and 139 kilometres are now completed; we expect it to be open to traffic in 1879, and a concession of a 66 kilometre branch from Merida to Cáceres has just been granted by the Spanish Government. Under the circumstances, the conveyance of phosphates of which we are benefiting at the moment, might escape us and go towards Seville. We can maintain it within our system by means of a straight line to Cáceres, and a further contract which we have signed with the Société des Mines will secure our company the monopoly of transporting its production up to 50,000 tons.¹

It appears that the decision was taken by the Paris Committee of directors where the Count de Camondo, Edouard Blount, Joaquin de la Gandara, and de la Bouillerie were leading figures. As de la Gandara explained to the shareholders, the ultimate aim was to establish "an international transport network between Germany, Holland, Belgium, England, le Havre, Bordeaux, Marseille, through Madrid, using the port of Lisbon"². This involved the construction of 72 kilometres of track in Portugal, and securing its connection to the Madrid-Plasencia line, 430 kilometres of track altogether in Spain comprising the Cáceres section as well. To accomplish this, the Royal Portuguese made a contract with the Spanish concessionnaires of the Cáceres to Plasencia railway, António Elviro y Rosado and José Sanchez y Pascual, in July, 1877³. According to the contract, the Spanish promoters were to form a company to make a railway from Cáceres to the frontier of Portugal which was to be linked to the section on the Portuguese side of the border (72 kilometres branching off the 'eastern' line), and another line from Cáceres to Plasencia where it would meet the Madrid line. The Spanish company - Société de Cáceres à Malpartida de Plasencia et à la Frontière de Portugal - was formed in October, 1877 with a share capital of three million

¹ ANP, F14/8600, Le Président de la Société . . .
² Compagnie Royale des Chemins de Fer Portugais - réponse à la note adressée aux actionnaires de la compagnie par le conseil d'administration nommé par l'assemblée irrégulière et illégale du 13 septembre 1884 (Paris, 1884), p. 12
³ AEFMEF, F30/323, Traités pour la construction et l'exploitation des lignes de Cáceres à Malpartida de Plasencia et à la frontière portugaise.
francs, of which one-half represented the cost of construction of the line from Cáceres to the frontier and the other half the cost of the line from Cáceres to Plasencia. The share capital was totally taken up by the Royal Portuguese, 25 per cent of which was secured by the Count de Camondo, the Marquis de Guadalmina, Edouard Blount, Delahante, de la Bouillerie, and the Marquis de Gandara who, between them held 30,000 shares of the Royal Portuguese. Further, the Portuguese company offered the Spanish company a five per cent guaranteed return on paid-up capital until completion of the works, which was to be covered by bonds of the Royal Portuguese while the former, in return, was to give the latter the same amount of its own debentures. Finally, the Royal Portuguese was to operate the service on a lease-basis for the whole length of the concession (100 years after 1859), the amount of the lease to be calculated on the gross receipts per kilometre. However, when the Madrid-Plasencia Railway Company merged with the Société de Cáceres a new arrangement was made in November, 1880 under which the newly constituted company operated the service and the Royal Portuguese agreed to guarantee gross receipts up to a maximum of 11,500 francs per kilometre during the next three years for the whole length of the system, and then increasing to 12,000 francs per kilometre after the fourth year and lasting until the concession expired. To secure the monopoly of the Cáceres line

1. Ibid, clause one. Only 25 per cent of the proposed share capital was to be paid-up, the balance to be paid "within two years according to the necessities of the company"; Ibid.
2. GCH (26 October 1879), p. 682.
3. Traités..., clause five.
4. This was the duration of the concession of the Royal Portuguese on both the 'eastern' and 'northern' lines.
5. Compagnie Royale... réponse à la note..., pp. 17-18. Also JCF (11 October 1879), p. 32. The Madrid-Cáceres and Portugal Railway Company was formed in December, 1880 with a total capital of 25 million Pesetas divided into 50,000 shares of 500 Pesetas each. After the merger with the Compañía del Oeste de España in 1895 share capital amounted to 47 million Pesetas; Archivos de RENFE, Ministerio de Fomento, Elementos para el Estudio de los Ferrocarriles en España (Madrid, 1920), p. 127.
phosphates which would give the company 900,000 francs per year, the Royal Portuguese invested no less than £600,000 in the construction of the 72 kilometres, subscribed for the whole of the three million francs share capital of the Spanish company, and finally agreed to guarantee gross receipts of a network of no less than 430 kilometres long. "One might accept that an interest guarantee could be granted to the capital required for the construction of the branch line: but to what extent have the interests of the Royal Portuguese been preserved, in order that such sacrifices might have been made?"

The whole of the Càceres affair, later considered as a ruinous undertaking in which the company lost several thousand pounds, appeared to be as dubious with respect to the aims of its promoters as unreliable and insecure in its outcome. The construction of the line and the subsequent merger with the Madrid-Palencia railway did not bring any major advantage to the receipts of the Royal Portuguese. Whatever the intentions of de la Gandara and his partners, it was clear that the new line would draw both passenger and goods traffic from the Badajoz line (the original route between Madrid and Lisbon), with the result that traffic receipts from both lines would suffer from such competition. In sparsely-populated areas like the Portuguese A1entejo and the Spanish Extremadura, with very little development prospects, it was completely foolish to rely on the transport of mineral produce, even more so because receipts would be affected on both lines with subsequent loss to the company.

Early in the 1860s the construction of a new line between Lisbon and Madrid had been put forward by Spanish land-owners in the Extremadura but their plan was wisely rejected by the Spanish Government after strong
pressure from local authorities in the province of Badajoz. It was then rightly observed that "Portugal at the moment neither exports nor imports sufficiently to maintain one line of railway, let alone two lines." Apparently, the lesson of the 1860s had not been learnt and the Royal Portuguese would soon pay the price for this misadventure. To make things even worse, by the mid-1880s a new line was under construction in Spain, proceeding direct from Merida through Zafra, instead of passing through Seville. "This will shorten the route to Huelva by about 70 kilometres, and when completed will more than counterbalance the slight advantage [of 11 kilometres] for the Lisbon route." Not surprisingly, the results were far from encouraging. In 1881 the traffic receipts per kilometre amounted to only 4,874 francs and the charges incurred on by the Royal Portuguese had reached no less than 791,536 francs. The loss to the company at the end of 1883 amounted to 3.6 million francs and although it was expected the annual deficit would gradually be reduced, it was estimated that it would take at least six years to balance the accounts by which time deficit would have reached the impressive amount of six million francs.

The involvement of the Royal Portuguese in this costly and unprofitable undertaking, when there was no promising prospects of support from either the Portuguese Government to honour the company's commitments towards the bondholders or from the French Government to allow the issue of the bonds required, led ultimately to a dispute amongst its shareholders, to

1. GCH (31 January 1864), p. 67
2. Ibid (7 February 1864), p. 83.
5. The Statist (13 December 1884), p. 658. Although traffic receipts per kilometre reached the 12,000 mark in 1883 and 1884, the annual average receipts between 1885 and 1899 were only 7,569 francs whereas for the same period operating costs represented as much as 73.7 per cent of traffic receipts.
the emergence of two boards of directors and even to Cabinet quarrels in Portugal. Overall, "well informed persons who look upon the whole matter impartially are inclined to think that the Portuguese group had good cause for complaint against the Parisian bankers and others connected with the line but that, at the same time, the present violent action of the new Board reflects but little credit on all concerned in it".

The dispute was finally settled in 1885 when the Lisbon agents of Baring Brothers reported to London that "Marquis da Foz and Mr. Mariano de Carvalho have left Lisbon for Paris where their presence is required for the signature of the definitive agreement between the two dissent groups of shareholders of the Royal Portuguese who have come to a satisfactory understanding". There were other important issues which in the meantime had been blocked because of the dispute amongst the shareholders and which were now reviewed and included in the new arrangement. Such issues were concerned with the further extension of the network of the company: the construction of the 'Beira-Baixa' line and the negotiations with the Count de Camondo over a line from Lisbon to Sintra and Torres Vedras for which he had personally contracted for. The most important clauses of the new arrangement were: first, the company accepted its engagement in the construction and operation of the 'Beira-Baixa' line; second, the company might, with the consent of the Government, take over the line from Lisbon to Sintra and Torres Vedras, repaying the firm of Count de Camondo for the sums which it had disbursed; third, the Cãceres railway contract was to be accepted as it stood, but the companies involved were authorised to propose alterations at their next general meeting; fourth, new statutes of the Royal Portuguese were to be framed and were to be submitted to the Government, the most important of which provided that the majority of the board of directors was to consist of Portuguese residing in Portugal; fifth, foreign shareholders might vote by proxy at the meetings held in Lisbon; and sixth, when foreign shareholders held 25 per cent of the capital they were allowed to hold a meeting in Paris and could delegate their powers to a single shareholder who was to have the right to as many votes as the shareholders, whom he repre-

1. PRO, F063/1149/63, Petre to Granville, 13 October 1884.
2. BBP, Ms. 18,321, HC, 14.3, Torlades to Baring Brothers, 29 April 1885.
3. PRO, F063/1165/15, Petre to Granville, 31 March 1885.
sented, were entitled to for the purpose of meetings held in Portugal.

In January, 1880 the company applied for and obtained the con-
cession for a line from Lisbon to Figueira da Foz, with a branch to Sintra
(242 kilometres in all), for which purpose 125,000 bonds of 500 francs we-
re issued. The Government guaranteed an annual net revenue of up to five
per cent of the cost of construction per kilometre (interest and amortisa-
tion of the capital included) and the cost per kilometre was settled at
166,666 francs (£6,667). The works proceeded very slowly, partly because
the Sintra section and the main line (the latter, in turn, was divided in
two stages and further subcontracted to different firms) were contracted
to different contractors. The works on the Sintra line had been contracted
to Henry Burnay& Compagnie in July, 1882 who then had sold their rights to
a French syndicate headed by the Count de Camondo, himself a shareholder
and director of the Royal Portuguese. The main line was contracted at a later
stage to Dauderni & Bartissol in August, 1885. The result was that the whole
line was only open to traffic in June, 1889.

The 'Beira-Baixa' line (212 kilometres) was granted to the
Royal Portuguese in 1883 and a definitive contract was signed in July, 1885.
The concession was for 99 years, but the works were only started in 1887
and the whole line was not open to traffic until 1894. The Government had
offered the company a five per cent interest guarantee on the capital re-
quired for the construction and the cost per kilometre was settled at
198,888 francs (£7,956). Finally, once the traffic receipts had exceeded 5.5
per cent of the capital employed in the construction of the line, the sur-
plus was to be shared equally between the company and the Government.

This expansion further necessitated new issues of capital. Sha-
re capital was increased by three million francs to 38 million francs and
plans were put forward to convert the three per cent obligations into four
or 4.5 per cent bonds. In addition, the Paris Committee of directors was
wound-up and the company established financial agencies in London, Berlin
and Paris to deal with the issues of bonds and the subsequent payment of
coupons. The number of bonds issued at the beginning of the 1880s was well

1. AEFMEF, F30/323, Compagnie Royale des Chemins de Fer Portugais; examen
detaillé des diverses lignes composant le réseau.
2. Ibid.
3. The Railway Times (1 October 1887), p. 443.
over 400,000\(^1\) and reached as many as 630,000 in 1890\(^2\).

By the end of the 1880s, with the company having the concessions for some minor subsidiary lines (the section off the 'northern' line to Coimbra and the Lisbon suburban line; 14 kilometres altogether), average annual receipts per kilometre were approximately £968 and the Royal Portuguese emerged as the largest railway operator in Portugal. It was, however, not only a giant in the land of Tom Thumb but also a giant with feet of clay. The company had managed to raise £1,520,000 in shares (£1,400,000 in 1860 and £120,000 in 1884) and no less than £12,600,000 in bonds, on which it probably received only 50 per cent, i.e., £6,300,000. Altogether, the company had a total available capital for investment of £7.8 million in round figures. This amount was evidently insufficient to cover the cost of the lines, the Spanish adventures and the payment of interest on both shares and bonds. As the following table clearly shows, the company invested £6.4 million in the construction of its network and was forced to spend a further £427,480 on the 'eastern' line.\(^3\) Taking into account the loss to the company in 1884 due to the operation of the Spanish lines, the total amount the company invested in railway construction in both Portugal and Spain comes to £7.1 million. As for financial costs, apart from the £975,818 accounted for in the table a further £191,782 should be added\(^4\), which brings the total cost to £8.3 million. To this amount, the cost of rolling stock and telegraph posts and wires should be added, £340,000 in round figures\(^5\) - this would

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1. 450,000 bonds had been authorised by the Government, of which 441,582 had been taken in 1883;\(\text{JCF}\) (24 February 1883), p. 216
2. AEFMEF, F30/323, Le Ministre des Affaires Étrangères au Ministre des Finances, 1 September 1890.
3. This appears to be the only depreciation charge implicit in the balance-sheets of the company.
4. The financial costs accounted for in the table are those attributable to the 'eastern/northern' lines, the 'Oeste' line and the 'Beira-Baixa' line. By estimating a six per cent interest on bonds (£756,000 over £12.6 million) it seems reasonable to remove the £564,218 (£411,600 accounting for interest on shares were deducted from the £975,818), which leaves a balance of £191,782.
5. The cost of rolling stock for the 'eastern/northern' lines (506 kilometres altogether) amounted to £170,720. It seemed reasonable to estimate that the 'Oeste' and 'Beira-Baixa' combined (454 kilometres) accounted for the same amount.
push the cost up to £8.3 million. As it has been pointed out, the company had no more than £7.8 million (possibly less because bonds were very often quoted at less than 50 per cent) to balance its costs.

Further, the alterations to the statutes of the company after 1884 diverted the centre of power from the French to the Portuguese shareholders and, given the mileage and the strategic connections of the network, strengthened the position of the Portuguese Government in controlling the affairs of the company. These alterations made French bondholders more

### Table 38. Capital investment made by the Royal Portuguese in railway development in Portugal and Spain, 1860-1890

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount in £</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of construction of the 'eastern' and 'northern' lines</td>
<td>2,387,573</td>
</tr>
<tr>
<td>Further works on the 'eastern' line</td>
<td>127,480</td>
</tr>
<tr>
<td>Cáceres branch (72 kilometres)</td>
<td>650,000</td>
</tr>
<tr>
<td>Loss in Spanish railways by the end of 1883</td>
<td>240,000</td>
</tr>
<tr>
<td>Cost of construction of the last section of the 'northern' line, including the bridge across the river Douro</td>
<td>100,000</td>
</tr>
<tr>
<td>Cost of construction of the 'Oeste' line</td>
<td>1,613,414</td>
</tr>
<tr>
<td>Cost of construction of the 'Beira-Baixa' line</td>
<td>1,686,672</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>6,805,139</strong></td>
</tr>
<tr>
<td>Financial costs attributable to the 'eastern' and 'northern' lines</td>
<td>777,813</td>
</tr>
<tr>
<td>Financial costs attributable to the 'Oeste' line</td>
<td>96,805</td>
</tr>
<tr>
<td>Financial costs attributable to the 'Beira-Baixa' line</td>
<td>101,200</td>
</tr>
<tr>
<td>Other financial costs upon the issue of bonds</td>
<td>191,782</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>7,972,739</strong></td>
</tr>
<tr>
<td>Estimated cost of rolling stock</td>
<td>340,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>8,312,739</strong></td>
</tr>
</tbody>
</table>
restless in their demands as the everlasting issue: of bonds, though being increasingly subscribed in Germany, was still largely dealt in on the Paris Bourse. When the payment of both interest on bonds and dividends on shares were again discontinued in 1891 the protests of the foreign bondholders were outspoken: "Are we going to let those who swindle and ransack our fellow-countrymen get away with their prey? Can western Europe afford, now, such depredation, such shame? Great powers in Europe have fleets. Are they going to make use of them? Why not, by means of these fleets, make an effective blockade of two or three months, if necessary, of Lisbon and Oporto? The Portuguese Government has, stubbornly, outlawed itself in the past three years. This Government has made fun of European powers, it has ripped off their citizens. Such an attitude must not remain unpunished"¹.

The suspension of payments was the ultimate stage of financial degradation of a company which had never acted independently from its larger associate (the Franco-Spanish M.Z.A) and which had envisaged the construction and subsequent operation of its network less as an instrument for the growth of internal trade in Portugal than an extension of the Spanish network. Between 1860 and 1891 the Paris directors had decided that the survival of the company relied on international rail communication, rather than on internal rail development². In January, 1892 the board of directors resigned, payments were suspended, and the Government (which incidently held 20 million francs of the bonds of the company) and the foreign bondholders received a collapsed company which they later had to reorganise from top to bottom. After only 30 years, Portugal's largest private railway operator had virtually ceased to exist, leaving behind 1,050 kilometres of track in operation and a floating debt of £2.1 million³.

1. L'Economiste Français (25 November 1893).
2. Although the company built the 'Oeste' and 'Beira-Baixa' lines it should be noted that first, they were imposed upon the company by the Government; and second, both lines were very much in connection with international railway traffic, through the 'Beira-Alta' line.
3. This was the amount which was accounted for in the balance-sheet of the company on 31 October, 1893; AEFMEF, F30/324, Convenção entre a Companhia Real dos Caminhos de Ferro Portugueses e os seus Credores e Documentos relativos à mesma Convenção, p. 53.
Map II. The network of the Royal Portuguese Railway Company in 1890

1 - 'Eastern'
2 - 'Northern'
3 - Cáceres Branch
4 - Sintra
5 - 'Oeste'
6 - 'Beira-Baixa'
(open to traffic in 1894)
By the end of the 1850s, because of the physical length of the 'eastern' line, it was now clear in the mind of the Government that the country had to seek an alternative route for its rail connection to the rest of Europe. This had to avoid Madrid and give Lisbon a more direct link to the Franco-Spanish frontier, so cutting the journey time to Paris. Moreover, a straighter northerly connection would tap the wine-growing regions, as well as the isolated but not economically unimportant woollen manufacturing centres in the upper areas of the Beira-Alta province.

Four reports were then commissioned by the Government, three undertaken by its own engineers in 1858 and 1859 and the fourth in 1861, by M. Fournier, the engineer of the French company engaged in the building of the North of Spain railway. The first of the two reports made in 1859 was the more detailed among those available. It showed that an extensive survey of the areas to be traversed by the railway, including the Spanish districts of Ciudad Rodrigo and Salamanca, had been made by the engineer. A cost per kilometre of about £8,244 to £8,888 was estimated, as opposed to Fournier's estimate of £10,000. It further stated that, although the line should be planned and envisaged as a "peninsular railway", should the Spanish Government not give its full support and extend its network west of Salamanca, then "there is plenty reason to make the line as far as Celorico da Beira, in order to open-up an outlet for the people and produce of the Beira and Traz-os-Montes provinces".

Such promising prospects, however, were never fulfilled, at least not within the context of the original surveys and estimates. In the mid-1860s the great French investment banks were facing a delicate financial situation in both France and abroad (especially Spain). The Crédit Industriel was already involved in the Royal Portuguese while British in-

1. Only the reports of the Portuguese engineers are available. In the one forwarded to the Government in July, 1859 the Fournier report is mentioned.

2. MOPCI (September 1859), "Relatório enviado ao Ministro das Obras Públicas em 14 de Julho de 1859 pelo engenheiro do Governo Francisco Brandão", p. 279.
vestors, for reasons already mentioned above and also because the line in question would become an extension of the French-operated North of Spain, were little disposed to engage in the undertaking. Furthermore, the Portuguese Government was not in a position to involve itself in this new venture, because of the continuing negotiations over both the subvention to the Royal Portuguese and the purchase of the line south of the Tagus. Finally, the second report published in October, 1859 had showed that Brandão's optimistic approach was far removed from reality: 67 kilometres out of the 174 kilometres of the line to be constructed were extremely difficult and costly to build, requiring nine bridges of an average length of 200 metres each and four tunnels with a total length of 6.5 kilometres. The result was that Fournier's estimate of the cost per kilometre at £10,000 proved to be more accurate than Brandão's cost of around £8,500. Consequently, the project of building a railway branching off from the 'northern' line and going through the Beira-Alta province towards northern Spain and then to France was abandoned. Nearly 20 years elapsed until this venture was reconsidered by both the Government and private investors.

New surveys for the 'Beira-Alta' railway were made in 1874. The Royal Portuguese, which had secured the original rail connection to Spain and the rest of Europe, was gravely concerned to the extent that it assigned its own engineers to the surveys. The aim of the Royal Portuguese was to obtain the concession for the line from the Government, without having to go through the bureaucratic and desperately slow procedure of public competition. This would have added to its network an alternative route to the 'eastern' line - a new and shorter line to Paris (1,875 kilometres as opposed to 2,332 kilometres). This, in turn, would have reduced the journey to 48 hours, giving it the prospect of being "the real international railway between Portugal and France". The outcome of the surveys, which in the meantime had been continued by the Government, did not serve the aspirations of

1. However, some of the bonds of the Beira Alta railway were later taken by English and paid in London; The Railway Times (2 July 1881), p. 616.
2. MOPCI (November 1859), "Relatório enviado ao Ministro das Obras Públicas em 9 de Outubro de 1859 pelo engenheiro do Governo José Couceiro", p. 75.
3. JCF (7 February 1874), p. 56.
4. Ibid.
the Royal Portuguese because the Government decided to offer the line to public competition\(^1\). However, no tenders were forthcoming and the same result occurred when the line was put up again in September, 1876 and in March, 1877. Finally, in August, 1878 a contract was signed with the Société Financière de Paris for the construction and operation of 203 kilometres of railway for which purpose a deposit of £600,000, in either cash or three per cent state bonds of the consolidated debt, was to be made by the company. The Government, in return, allowed the company a subvention of £5,111 per kilometre and granted the concession for 99 years\(^2\).

The Société Financière de Paris had been founded in 1868 with a share capital of 15 million francs divided into 30,000 shares of 500 francs each. Despite its charter being initially for only 15 years, the company was successfully committed in several financial and banking operations to such extent that in 1872 its duration was extended until 1894 and its share capital was increased by 25 million francs to 40 million francs, through the issue of 50,000 shares at par value. Its objectives were now specified in greater detail and they allowed the company "to undertake, directly or on behalf of a third party, in France or abroad, all operations and deals related to finance, industry, trade, real estate, and public works"\(^3\). In 1879 the company increased its share capital once more to 80 million francs, through the creation of another 80,000 shares at 500 francs par value, to finance its broad range of affairs. These combined holdings in French banking and finance undertakings (Banque Hypothécaire de France and the Société des Immeubles de Paris) and abroad (Crédit Foncier de Hongrie and the Syndicat Égyptien), with civil engineering in the Panama canal, railways in Brazil (Bahia Railway Company) and America (New York Westshore and Chicago Railroad), and gas companies in Gand and Bucharest\(^4\). In addition, the company in syndicate had obtained the concession for the construction and operation of railways in the north west

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1. Law of 26 January, 1876.
2. Lei e Contrato do Caminho de Ferro da Beira Alta (Lisbon, 1878).
of Spain, for which purpose a new company - the Compagnie des Chemins de Fer des Asturies, Galice et Léon - was founded. The outcome of this undertaking was, according to the report made to the shareholders in 1880, quite rewarding with the result that "such cooperation will but increase our influence in the Iberian Peninsula where, as you know, other contracts with respect to railways are demanding our best attention". Portugal, for which the company, together with Baring Brothers & Company, had acted as brokers for the issue of a three per cent loan in 1877, the operation producing "good results", was the obvious envisaged target. "Thanks to our growing influence in Spain, the supplementary concession which was already discussed in our last meeting has been granted by means of the definitive contract made with the Portuguese Government on the 14th of August 1878".

The contract that the Société Financière had made with the Portuguese Government was passed free of charges to a new subsidiary company - the Compagnie des Chemins de Fer Portugais de la Beira Alta. The share capital of the new company was mostly subscribed by the Société Financière, which was also responsible for the issue of bonds and the appointment of its own Vice-President (Baron Gustave de Boussière) and General Manager (Henri Durangel) as President and Managing Director of the new company, respectively. Eight of the 14 board members of the Beira Alta company were French, one was English, and three were Portuguese. The company's internal organisation resembled that of the Royal Portuguese, with a Paris Committee looking after its affairs abroad (that is, the issue of bonds in the money markets of London and Paris). Apparently, the Paris Committee with the help of Bartissol who, as a contractor for the line on behalf of his firm Dauderni & Bartissol had been appointed director of the company at Lisbon, controlled the situa-

1. Ibid (1880), p.5
2. Ibid (1878), p. 3. The Bank of Lisbon and the Azores took firm £1 million of the loan. "As this amount, together with the subscription in London and Paris, makes up £4,000,000, a sum sufficient to meet the requirements of the Government, the balance of the loan (£2,000,000) has been withdrawn"; The Times (7 July 1877).
3. Ibid (1879), p. 6
4. Frédéric Dubois, Annuaire Officiel des Chemins de Fer, 1881 (Paris, 1882), p. 470
5. GCH (25 April 1880), p. 269.
tion. Finally, the Société Financière remained liable, along with the new
company, for all the obligations derived from the contract made with the
Portuguese Government until the completion of the works; the new company,
in return, subrogated all obligations and rights of the Société Financière
and became subject to all conditions of the contract and abided by the Por-
tuguese laws and courts.

The share capital of the Compagnie des Chemins de Fer Portugais
de la Beira Alta was 10 million francs (£400,000) divided into 20,000 sha-
res of 500 francs each, with the company having powers of issuing an unli-
mited number of bonds for the whole period of the concession, provided that
the annual amounts consigned for interest and amortisation would not exceed
1,388,888 francs, or 6,994 francs per kilometre. According to its statutes
it was possible for the company to operate legally in Portugal without gi-
ving evidence of its share capital having been subscribed, and the Socié-
té Financière soon chose such a matter of operation. In April, 1880 it
was acknowledged in Lisbon that "bills on France are very cheap at present;
cheques on Paris are easily obtained at 536 per three francs, this is conse-
quence of large sums being drawn for account of the Beira Alta Railway Com-
pany on the Société Financière de Paris".

The works on the line had started in 1879 and it was said that
they were proceeding at the rate of one kilometre a day. In March, 1880

1. "La Société Financière de Paris répond solidairement avec la Compagnie
qu'elle constitue, de l'exécution du contrat passé avec le gouvernement
portugais jusqu'à complet achèvement de la ligne"; AEFMEF, F30/323,
Statuts de la Compagnie des Chemins de Fer Portugais de la Beira Alta.
2. Ibid, final article.
3. Ibid.
4. Ibid.
5. The Economist (3 April 1880), p. 386.
the company was allowed by the Portuguese Government, despite strong pro-
tests from the Royal Portuguese, to extend its network by a further 50 ki-
lometres in order to reach the sea-port of Figueira da Foz, so establishing
an outlet for the produce that it exported from the Beira Alta province. In
the summer of that year 11,890 workers were engaged on the line and more
than £1.1 million had been invested. Further, the Portuguese Government
was negotiating a loan with two Portuguese banks (the Bank of Portugal and
the Banco Alliança of Oporto), the Comptoir d'Escompte and Stern Brothers,
to raise money for the subvention which, incidentally, covered only the ori-
ginal line - 202 kilometres corresponding to a total amount of £1,032,422.

The company soon realised that the aggregate sum derived from
its share capital and the Government subvention (£1,432,422 altogether) was
not sufficient to meet the cost of construction. Consequently, 86,117 three
per cent bonds of 500 francs nominal value were issued through the Société
Financière in 1879, 20,000 of which were secured by a group of Portuguese
bankers and reserved to be issued in Portugal. In September of the follo-
wing year a further 35,000 bonds were issued, making in all 121,117 bonds
corresponding to a nominal value of 60,558,500 francs, although the company
only received one-half of that amount. The cost to the company amounted to
£7,493 per kilometre, although the overall cost of the line jumped to over
£12,000 per kilometre.

1. GCH (28 November 1880), p. 751.
3. ANP, F14/8599, Le Ministre des Travaux Publiques au Ministre des Finan-
ces, 26 May 1879. Also Le Petit Parisien (25 March 1879).
4. AEFMEF, F30/323, Comité de Défense des Obligataires de la Compagnie des
Chemins de Fer Portugais de la Beira Alta, Compte-Rendu de l'Assemblée
Générale du 15 février 1905.
Table 39. Cost of construction of the Beira Alta Railway 1879-1882

<table>
<thead>
<tr>
<th>item</th>
<th>amount in £</th>
<th>remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>share capital</td>
<td>400,000</td>
<td>all subscribed and paid-up</td>
</tr>
<tr>
<td>loan capital</td>
<td>1,211,170</td>
<td>issued at 50 per cent under par value to be redeemed in 99 years</td>
</tr>
<tr>
<td></td>
<td>86,117 + 35,000 = 121,117 bonds</td>
<td></td>
</tr>
<tr>
<td>interest on shares</td>
<td>80,000</td>
<td>five per cent until completion of the works</td>
</tr>
<tr>
<td>interest on bonds(^1)</td>
<td>197,010</td>
<td>three per cent or 15 francs per bond</td>
</tr>
<tr>
<td>cost to the company</td>
<td>1,888,180</td>
<td>£7,493 per kilometre</td>
</tr>
<tr>
<td>governmentsubvention</td>
<td>1,032,422</td>
<td>allowed for only 200 kilometres</td>
</tr>
<tr>
<td>financial charges paid by the government until completion of the works(^2)</td>
<td>236,432</td>
<td>based on an annual quotation of the Portuguese three per cent bonds of 52.4 between 1879 and 1884</td>
</tr>
<tr>
<td>cost to the state</td>
<td>1,268,854</td>
<td>£6,344 per kilometre</td>
</tr>
<tr>
<td>total cost of the line</td>
<td>3,157,034</td>
<td>£12,528 per kilometre</td>
</tr>
</tbody>
</table>

Notes: 1 £155,010 represent the interest of the 86,117 bonds issued in 1879 (annual interest of £51,670 based on the nominal value of the bonds); £42,000 represent the interest of 35,000 bonds issued in 1880 (annual interest of £21,000 based on the nominal value of the bonds)

2 the financial charges correspond to an annual interest of £59,108, based on £1,970,270 which accounts for the nominal amount of subvention money at 52.4.

The extension of the line and its cost of construction contradicted the company's statutes with regard to the issue of bonds. In fact, the annual amount to be reserved for the payment of interest on bonds according to article 18 of the statutes, was 1,388,888 francs or 6,994 francs per kilometre corresponding to a line of only 200 kilometres, which contrasted with the original length of the system of 202 kilometres. The issue of bonds totalling 60,558,500 francs gave rise to an annual service charge
of 1,816,750 francs, no less than 7,209 francs for each of the 252 kilometres actually built - this represented 30.8 per cent above the original estimate.

When the company opened the line to traffic in the second half of 1882 its loan capital was already equivalent to three times its share capital. Furthermore, traffic receipts were not sufficient to meet the operating costs and the financial charges. In 1883 it was estimated that traffic receipts would never exceed 8,000 francs per kilometre, of which 6,000 francs would be absorbed by operating costs, leaving a net revenue to the company of only 2,000 francs. The only real alternative left to overcome this delicate financial situation was "to increase traffic along the line in order to allow the company to meet its annual financial commitments". Traffic, however, did not progress sufficiently to enable the company to meet its charges, because the connection to the Spanish network was made only in late 1884, while the feeder roads and the harbour works at Figueira da Foz were not pursued energetically by the Government. Between 1883 and 1889 traffic receipts displayed wide year to year variations and averaged only 1,660,000 francs (£66,000), or 6,561 francs per kilometre, with the result that dividends ceased to be paid from July, 1882 and the payment of interest on bonds went into arrears and was only met by means of an injection of capital from the Société Financière. Furthermore, the liquidation of the Société Financière in 1888, after its failure to merge with the Comptoir d'Escompte in 1881, which held 9,263,860 francs of the equity capital of the Beira Alta railway further aggravated the financial situation of the company.

By the end of the 1880s rumours spread in Paris regarding a merger of the Beira Alta company with the Royal Portuguese, but they did not materialise. The company approached the last decade of the 19th century in such a critical financial situation that it could not meet an outstanding debt of 1,969,047 francs to bondholders and all payments were suspended in

1. GCF (7 April 1883), p. 211.
2. Ibid (30 November 1888), p. 87
3. Société Financière de Paris, Rapport des Liquidateurs...
4. GCF (1 January 1889), p. 315.
January, 1905. Although new statutes were then issued, the company was not able to change the pattern of its financial framework. A situation of financial dependence emerged thereafter with the Royal Portuguese securing the payment of interest on debentures of the Beira-Alta company. After the Second World War the Beira-Alta company was finally absorbed by the Royal Portuguese.
Map 12. The 'Beira-Alta' Railway

PORTO

AVEIRO

FIGUEIRA DA Foz

COIMBRA

GUARDA

'Northern'

'Beira-Alta'
CHAPTER 7

CONCLUSIONS
"And yet, we are in the periphery of Europe."

Oliveira Martins, *A Província* (10 April 1886)
Government policy, and the railway policy in particular, together with case studies of railways financed by foreign capital, have already been examined in the course of this study. In this final chapter the interrelations between state action, the nature of the network, and the adequacy of the railway policy pursued will be examined within the context of the dependent peripheral condition of the Portuguese economy in the 19th century.
7.1 THE EUROPEAN CORE/PERIPHERY SCENARIO

Wallerstein's pioneering analysis of the parameters of economic change in early modern Europe\(^1\) has led to a new approach to the problem of variation in the secular evolution of human society. In particular his stress on the relationship between core and peripheral economies within the context of a world capitalist order has been a further challenge to Rostow's formulation of stages of economic growth. Consequently, Wallerstein's approach has now been applied to other historical periods, in particular 19th century Europe\(^2\). This century has been chosen because it was "le siècle de transition par excellence entre l'économie traditionnelle des siècles (même des millénaires) précédents et l'économie industrialisée du XXe siècle"\(^3\). Historians have remained concerned with Europe because of the "prépondérance très forte de l'économie européenne dans le monde"\(^4\). Such was Europe's predominant status throughout the 19th century that "le développement économique et l'industrialisation [of the world] ont été surtout le développement et l'industrialisation de l'Europe"\(^5\). Accordingly, Bairoch has written: "le XIXe siècle a été le siècle de l'Europe"\(^6\). Moreover, the

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4. Ibid, p.17. The dynamic relationship between the industrialization of Europe and the rest of the world has also received some attention recently; see, for example, Brinley Thomas, Migration and Economic Growth. A Study of Great Britain & the Atlantic Economy, second edition (Cambridge, 1973).


6. Ibid.
'core' and 'periphery' concepts have continued to be applied with both being defined as "historical categories with ever changing reference"\(^1\). The 'periphery' has been further defined as "an area dependent on the core"\(^2\). Finally, two aspects characterise the economic structure of peripheral countries and their relations with core economies: first, "in a peripheral country, the economy, foreign trade, balance of payments, and production developed tied to, influenced by and subordinated to the core countries"\(^3\); and second, "the relationship [between core and periphery] is fundamentally an unequal one and benefits the core"\(^4\).

The ultimate target of the 'new school of development' analysing the early modern period is "the economic development of the periphery and the distribution of gains from trade and not the economic history of Western Europe"\(^5\), with O'Brien speculating that "for the economic growth of the core, the periphery was peripheral"\(^6\). However, it appears that in the 19th century the European periphery, particularly from the 1870s, became able in various ways to react to the industrialisation of the core. Theoretically, the example of the core was easy to follow because the new technology of the industrial revolution was "ingenious but simple"\(^7\). Thus, once peripheral

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1. Iván T. Berend and György Ränki, op.cit., p. 9.
2. Ibid.
3. Ibid.
4. Ibid.
6. Ibid, p. 18. O'Brien, however, did not elaborate on the flux of commerce and trade between 'core' and 'periphery' within the European continent. Although he stressed that "commerce between economies of Western Europe and the Baltic (Russia, Poland, Prussia, Estonia, and Scandinavia) exceeded trade with the East by a large margin" (p. 14), it is not clear whether the contribution of the European periphery to the development of the (European) core was also peripheral.
economy countries were able to modernise their textile and iron industries, they "would then launch on what we now call import substitution". In practical terms, however, the extent of such a response was small because of stagnant agricultural productivity of Central and Southern Europe which, in turn, was the result of low prices and poor technology, together with low entrepreneurial effort in manufacturing and the lack of the right political background. Accordingly, "from the middle of the nineteenth century on Europe became much more divided than she had earlier been, the differences that development and backwardness implied having grown considerably more acute".

There was an ironic situation because if the industrialisation of the core was a 'source of danger', it was also a challenge and an opportunity for change. Pollard observed that one of the significant features of the industrialisation in continental Europe "was its complex regional inter-relationship". In this view, the technology and the knowhow that the core economies had acquired could be a source of inspiration for the periphery and Pollard, by using the financing of the European railways as an example, made the transfer of technology a case in point in the industrialisation of the European periphery: "[Railways] used existing engineering talent in Britain, developed such talent in France and Germany, brought in foreign talent in Austria and Russia. And they were the basis of capital exports from Britain and France, internal capital development in Germany, and massive capital imports into Russia". However, European peripheral economy countries had to face a newly established periphery which possessed far more natural resources and which displayed higher productivity levels - it was, in the words of Brinley Thomas, the 'atlantic economy', formed by the United States, Canada, Australia and Argentina. Consequently, the challenge of the European core was hardly met by the European periphery and the former's industrialisation remained a 'source of danger' to the European periphery. Further, from the 1880s France and Germany adopted policies of agricultural protection and this reduced even more the capacity of the periphery to respond at the level of widening economic development. Between 1876 and 1880, for exam-

1. Ibid.
2. Berend and Rânci, op.cit., p. 20
4. Ibid, p. 646.
ple, more than 20 per cent of the world exports of foods and raw materials came from the European periphery, but by the turn of the century the ratio had fallen to 18 and to 15 before the First World War\(^4\), by which time countries like Canada, Argentina, Australia and New Zealand had become the core's main supplier of foodstuffs. Overall, the periphery was able to respond to the challenge of the core with a modest reply, but the nature of the response, the degree of commitment and the subsequent effects upon the economic and social structure varied widely within each of the peripheral economy countries.

The modest response from the periphery has been attributed to its pre-industrial structure. As Berend and Rānki have put forward, "the countries of the periphery - with their labour force of serfs and sharecroppers, with neither a modern credit nor market, and with what market there was being hindered by local taxes and a thousand other obstacles which the ancien régime put in the way of capitalist development - could never, under such conditions, have answered the challenge of the west"\(^2\). Further, the modesty of the response was also a result of the new geo-economic context within which the peripheral countries had to establish their economic and financial relations in order to survive and preserve their national political sovereignty. Because they were latecomers in the new industrial world, they "found themselves in a world made different by the existence of the leaders themeselves"\(^3\). By the 1870s they had not a single examplar to follow, as Great Britain had been during the first half of the 19th century, but a choice of models. In the words of Pollard, "the industrial revolution in Europe was not merely the national repetition of a pattern; it was also the continuous adaptation to a continent-wide opportunity"\(^4\). However, this choice was limited and the peripheral economies of Europe became "suppliers of grain and other foodstuffs for the industrial core"\(^5\), but now in competition with areas of recent settlement. Consequently, the governments of the periphery were under constant pressure whenever they attempted to launch an 'independent' policy of development. Their policy measures were often blocked

\(^{1}\) Berend and Rānki, op.cit., p. 25.  
\(^{2}\) Ibid.  
\(^{3}\) Sidney Pollard, Peaceful Conquest..., p. 207.  
\(^{4}\) Pollard, "Industrialization...", p. 638.  
\(^{5}\) Pollard, Peaceful Conquest..., pp. 214-15.
by external forces, partly because, if succeeded, import substitution would have been against the interests of the core, as well as those indigenous groups who acted as the core's main support in peripheral countries, and partly because "almost any measure that succeeds among the fortunate advanced countries, fails in their [periphery's] case, and there seems to be a phase when they can do no right".

All in all, the economy countries of the European periphery "exhibited great differences in experience in the period 1870-1914. Several of them industrialised easily, others partially, and others still had hardly made a beginning by 1914". Berend and Ränki explain these differences as a result of the interrelation of various factors within the economic structure of each country and its connections with the other peripheral countries, and the core: the socio-political prerequisites of change, the human factors of economic development, the role of the state, and the integration of the periphery into the world market.

In order to follow the force of each of these factors, it is necessary to establish a geographical division within the European periphery.

1. Ibid, p. 213.
2. Ibid, p. 246.
3. Berend and Ränki, op.cit., p. 28-109. These discrepancies had long been recognised by Gerschenkron when he pointed out that there has not been a single pattern of growth among the European economies. His great contribution for economic growth in history has been "to try to find a unifying principle which makes it possible to grade the diversities and explain the gradations"; William Ashworth, "Typologies and Evidence; Has Nineteenth-Century Europe a Guide to Economic Growth?", EHR, second series, XXX (February 1977), p. 157.
Table 40. The European Periphery by Areas and Countries 1870-1914

<table>
<thead>
<tr>
<th>areas</th>
<th>countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scandinavia</td>
<td>Denmark, Norway, Sweden, Finland</td>
</tr>
<tr>
<td>East-Central Europe</td>
<td>Hungary, Poland, Russia</td>
</tr>
<tr>
<td>Balkans</td>
<td>Greece, Romania, Serbia, Bulgaria</td>
</tr>
<tr>
<td>Southern Europe</td>
<td>Portugal, Spain, Italy</td>
</tr>
</tbody>
</table>

For the purpose of the aims of the present study a limitation of the analysis to just Southern Europe requires no justification. Neither for any of the other peripheral areas nor that which forms the scope of the present analysis, let alone the European periphery as a whole, is it possible to establish a homogeneous pattern of transformation. In general terms, Ashworth warned of the dangers surrounding "proclamations of universal relationship", which "turned out to be no more than accounts of one or two highly individual cases, disguised in the language of generality".

1. Further reading in the other areas is extensively provided in the literature mentioned above in footnote 2 of this chapter (p. 311).
Berend and Räinki have already taken this stance concluding their study: "We are, thus, left with no uniform scheme. The complex variety of the social contexts, the differences in the responses given, the successes and failures are all illuminative of how far Europe's 19th century industrialization was a homogeneous process"\(^1\). For East-Central Europe Ashworth observed: "the most immediately striking thing in the evidence just reviewed is the wide divergence of regional growth rates and qualitative changes underlying the histories of states"\(^2\). Pollard reached the same conclusion when he compared the successful development of Scandinavia with the failure of the Iberian Peninsula to industrialise fully. He pointed out that this was due to factors so varied as the mental and political climate, transport opportunities, and the agrarian structure, concluding: "It was their sum, or rather, as they were all interacting and reinforcing each other, their product, that made for 'success' or 'failure'"\(^3\). With respect to Southern Europe, he further added that "generalization is made difficult not only by the enormous discrepancies among the various countries and by the predominance of the national peculiarities, but also by the fact that the number of variations is in fact greater even than the number of countries involved"\(^4\).

The Southern European periphery, therefore, did not display a homogeneous pattern of growth. Even in its western corner, the Iberian Peninsula, there were important distinguishing factors, internal as well as external, which affected Portugal and Spain differently. There were, of course, other factors which affected both countries in a very similar way. The former consisted of the different availability and allocation of resources, the contrasting process of urbanisation, variations on the structure of foreign trade and, last but by no means least, the different nationalities

4. Ibid.
of Spain as opposed to Portugal's more homogeneous identity. Common to both Iberian countries was the role of foreign capital in financing infrastructure investment, in particular railways, with its impact on their respective economies. As it will be shown later, the pattern of railway finance in both countries was based upon foreign concessions. Largely, foreign railway promoters were more interested in incorporating the Iberian system within the overall European network, rather than meeting the needs of local potential demand for transport services. Overall, the factors listed above, both common and contrasting, led to specific and different peripheral frameworks established by not only international mechanisms but also by unique bilateral relations with the core.

This point has discussed some aspects of the core-periphery relationship in 19th century Europe. Its object was not to open up new avenues for research, but rather to draw on existing works. In this sense, it was not intended to present a conclusion, but merely a general outline within which the dependent peripheral condition of Portugal, and the finance of its railways in particular, can be examined.

1. This does not necessarily dismiss the existence of regional variations in Portugal which, although not so distinguished as those in Spain, were still relevant because they showed different patterns of response to both internal and external demand. David Justino detected three polarised regions in the western part of the Peninsula: the Atlantic Region, which occupies the northwestern corner comprising the Spanish province of Galicia and the Portuguese provinces of Minho and Beira-Litoral; the Continental Region in central Portugal comprising the provinces of Beira-Alta and Beira-Baixa and extending further east to Spanish Castile; the Mediterranean Region, occupying the southern portion of the Portuguese territory, south of the Tagus, with close links with Spanish Andaluzia. See David Justino, "A Formação do Espaço Económico Nacional - capitalismo, mercado e autoconsumo nas disparidades de crescimento regional em Portugal no século XIX", unpublished Ph.D. thesis, quoted by courtesy of the author.
7.2 PORTUGAL: A DEPENDENT PERIPHERAL ECONOMY

Portugal was part of the Southern European periphery in the 19th century. Being a peripheral country, it was dependent upon the dominant core economy which consequently had a strong influence, economically, financially and politically, upon the economy and society of Portugal. Although Platt has criticised dependency theories because they "confuse rather more than they clarify"\(^1\), in the case of Portugal clarity only comes within the framework of dependency. Dos Santos' classical definition is useful in order to establish the pattern of Portugal's peripheral position during the 19th century: "Dependence is a conditioning situation in which the economies of one group of countries are conditioned by the development and expansion of others. A relationship of interdependence between two or more economies or between such economies and the world trading system becomes a dependent relationship when some countries can expand through self-impulsion while others, being in a dependent position, can only expand as a reflection of the dominant countries, which may have positive or negative effects on their immediate development"\(^2\).

Because of its formal nature, Palma considered this definition "both static and unhistorical"\(^3\), but since history is concerned with the past development of human societies, a definition which categorically employs the word development in comparative terms can hardly be taken as unhistorical. For the purpose of the present analysis Dos Santos' definition does apply, to some extent, to the conditions which characterised the Portuguese economy in the 19th century. Generally speaking, the economic development of Portugal was conditioned by the economic development of Great Bri-

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tain - to use Dos Santos' own words, the development of Portugal was a 'reflection' of the development of Britain. However, the practical effects of dependence and government policy pursued in the second half of the 19th century may well have altered this relationship, so that it acquired a less orthodox framework compared with that normally envisaged by the 'dependency school'. Britain's dominant position over Portugal, which was reinforced by an alliance with the Portuguese élite, requires no further comment\(^1\). Such an alliance, however, was less concerned with an "easy access to domestic resources" and the maintenance of "traditional modes of surplus extraction"\(^2\), but rather was founded upon geo-strategic naval facilities for the British fleet in the political warfare of Europe. Further, this alliance helped to preserve the privileges of the Portuguese élite, who would "also be adversely affected by the transformations of capitalist development"\(^3\), because they were largely dependent on foreign trade and so consequently had no interest in any import substitution scheme which would obviously damage their status. Nevertheless, Palma appears to be on firmer ground when he criticises the formalism of Dos Santos' definition. Although the classical definition of dependency applies to Portugal in general terms, it does not lead to a more specific, operational and measurable concept of dependence. Rather, it may, perhaps, be considered as a general determining outline, embracing amorphous areas within which several other more operational definitions could be applicable. Thus, two questions emerge: first, how is it possible to measure dependency; and second, how dependent was Portugal in the 19th century. Sandro Sideri defined a dependent economy in operational terms according to the nature of the specific interrelations between the dependent and dominant economies\(^4\). His definition, which appears to have been developed from Dos Santos' broad conceptualisation, may be accepted, again in general terms, for the peripheral economy countries, but, for the present analysis, it is important to establish if all or any of the eight operational characteristics of dependency analysed by Sideri apply to the

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1. For the more detailed aspects of Anglo-Portuguese relations see chapter 4, pp. 149-54.
3. Ibid.
Portuguese economy.

The first characteristic feature concerns the large share of foreign trade to the gross national product. Sideri did not measure this proportion, but by using Bairoch's estimates Portugal's exports as a percentage of the gross national product at market prices was only 7.6 for the period 1909-11. The ratios for Europe and Spain were 13.2 and 9.0, respectively. Furthermore, the annual rate of growth of Portuguese exports for the period 1860-1910 was only 1.7, the lowest among Europe's peripheral economies, as compared to Spain's 2.7. Portugal, then, appears to be an exception to the situation of most of the European periphery, "where the rate of export growth was faster than the European average". Only a large export sector could stimulate the economy and Portugal had a small sector with an undistinguished rate of growth. Therefore, Sideri's argument which maintained that a dependent country displays "a relatively large share of foreign transactions in the national product", is weak in the case of Portugal. Moreover, the following table, although based on Bairoch's highly imperfect data, shows that there is no significant correlation between the annual rates of growth of both exports and gross national product, which further weakens Sideri's original argument.

Table 4.1. Comparative Annual Growth in Percentage of Exports and Gross National Product in Portugal, 1830-1910

<table>
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<tbody>
<tr>
<td>exports</td>
<td>3.9</td>
<td>2.0</td>
<td>0.5</td>
<td>2.1</td>
<td>1.7</td>
</tr>
<tr>
<td>gross national product</td>
<td>1.1</td>
<td>1.1</td>
<td>1.2</td>
<td>1.2</td>
<td>1.1</td>
</tr>
</tbody>
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Source: Bairoch, op.cit., table 16, p. 74 and table 50, p. 155, adapted.

The annual rate of growth of the gross national product was calculated from the formula

\[ \sqrt[n]{\frac{X_n}{X_0}} - 1 \]

With such a low percentage of foreign trade to gross national product the case of Portugal does not fit with Sideri's conclusions. Rather, it could be maintained that, on the contrary, Portugal was not sufficiently dependent on, and sufficiently integrated in, the 'dynamic world market' to benefit from the challenge of the industrialised core to modernise its economy. This was due to the fact that Portugal was, at the beginning of the 19th century, just still a colonial metropolitan country, perhaps a core economy dependent on its own periphery (Brazil). Throughout the 19th century, however, particularly after the loss of the Brazilian market, Portugal became part of the European periphery and the turbulent first half of the century may well have been a consequence of Portuguese society attempting to adjust and adapt to its new position in Europe.

A second feature of dependent economies is the dominant position in exports of one or two primary products. This does apply to Portugal where wine, and sardines later in the century, accounted for more than 50 per cent of total exports. These basic exports enjoyed only comparatively stagnant markets, causing the slow growth of total Portuguese exports which were marked by periods of no expansion in value terms during the last quarter of the 19th century. On the one hand, exports of sardines experienced no growth on world markets, while on the other hand, Portuguese wines did not become a mass-product on the British market. This was due to both the competition from the French, Spanish and Cape wines, and phylloxera after 1873. British imports of Portuguese wines, as a percentage of the total value of wine imported, fell from 60 per cent at the opening of the 19th century, to 32 per cent in the mid-1850s and to 21 per cent by the turn of the century. The annual average value of Portuguese wine imported by Great Britain stagnated at around £1.13 million between 1861 and 1900.

Sideri's fourth, fifth, seventh and eighth characteristics can be accepted and have been the subject of comment during the course of this study. They are concerned with the large share of manufactured goods in total imports, the high proportion of total trade made with the core economy,

1. This argument has been reinforced and supported by Prof. Jaime Reis unpublished study on the historical perspective of Portugal's economic backwardness; Jaime Reis, "O Atraso Económico Português em Perspectiva Histórica", unpublished paper.
the relative and absolute scale of the gross national products of Great Britain and Portugal, and the technological gap between the two countries.

Overall, they reflect the basic features which explain the very slow growth of Portuguese foreign trade, which Bairoch has summarised in the three following points: first, the loss of the Brazilian market; second, the stagnation of wine exports; and third, only a modest diversification of exports, with wine accounting for around 50 per cent of total Portuguese exports by the end of the century.

However, particular attention should be paid to Sideri's sixth argument because it is intimately connected with the building of Portuguese railways: "capital flows also take place with the dominant economy". The bilateral nature of capital flows for railway finance has already been considered in the course of this thesis. It is now relevant to establish the overall general pattern of capital imports into Portugal. Portuguese imports of capital during the 19th century were the reflection of both the economy's visible trade deficit and a shortage of indigenous savings. Furthermore, the context within which the import of capital occurred during the second half of the 19th century is an illustration of Gerschenkron's point that "in several very important aspects the development of a backward country may, by the very virtue of its backwardness, tend to differ fundamentally from that of an advanced country". In this view, the role of the state tended to be of paramount importance because "in the more backward countries of the European continent, neither the size of previous accumulation nor the sympathy with industrial development was consonant with the much greater capital requirements of a delayed industrialisation".

With neither a strong business community, nor an adequate rate of savings, and with large sectors of the economy unresponsive to the market, the Portuguese state had to embark on the 'perilous waters' of raising capital,

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2. Its effects have been outlined in the course of this study. See chapter 2, p. 27.
by means of foreign loans negotiated in European money markets. In the words of Berend and Räni, with respect to European peripheral economy countries, "it was precisely state intervention that was the most important factor in the mobilization of auxiliary foreign capital sources"¹.

Although foreign capital was important for economic change, this does not necessarily mean that the import of capital was always and in itself a positive factor, or component, for the borrowing economy's development. Overall, and according to the classical theory, "foreign investment was a means, along with foreign trade, by which the effects of development in one part of the world were transferred to others"². However, this importance of capital exports in giving rise to growth in 19th century borrowing economies has tended to be exaggerated, and an exploratory survey of the issue has suggested that "there is nothing to be gained from thinking that nineteenth-century exports [of capital] represented real resource transfers essential for the growth of production in developing countries if in fact they were nothing of the sort"³. In order that such transfers might be beneficial to the receiving dependent economy they had to be accompanied by the adoption of new technology, a suitably mobile social structure, both physically and mentally, and the development of human capital. If these factors were not present, then, foreign investment could be seen as Knapp's concept of excess borrowing. This he defined as "imports of capital which arise otherwise than in connection with a need to finance such supplies of goods and services from abroad as are, in a given state of tastes, techniques and available resources, and of a given amount and composition of output and growth both indispensable and unrequitable"⁴. The positive effects of foreign investment, therefore, depended upon the structure of the host economy. Portugal did not have many of these necessary complementary factors, while a

¹. Berend and Räni, op.cit., p. 73.
large amount of imported capital was diverted away from the nascent modern sectors of the economy, such as transport and communications, where it was badly needed. For example, for the period 1855-80 Fenn on the Funds reported that the Portuguese Government had invested about £14 million in roads and railways, while the total public debt increased from under £20 million to about £100 million. This disparity can be explained by a substantial portion of imported capital being required to pay the interest on previous loans and to redeem short-term advances made to the Treasury. This made Portugal a similar example to that of New Zealand in the late 19th century, where foreign investment "did not make available new capital funds, but merely represented interest payments not remitted and accumulating in the shape of an ever-increasing debt burden - or what amounts to the same, payment of interest and subsequent borrowing of the amount so paid". Further it raises the suspicion that excess borrowing in the case of Portugal was, perhaps, a case in point. Imported capital flows, then, were dominated by the "cupidity and stupidity of rulers", with the result that they reduced Portugal to being ruled in the interests of foreign bondholders and, in the end, left the economy and the people no better off than before.

The high rates of interest paid on state bonds led to the limited Portuguese capitalist class subscribing for state bonds issued in foreign money markets, and the London Stock Exchange in particular. Therefore, they did not occupy a dominant place in the establishment of the ca-

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2. Rosenberg, op.cit., p. 95. Rosenberg concluded his article by stressing categorically: "Not only did foreign investment not contribute any real capital resources to New Zealand's development between 1887 and 1950, it positively harmed development" (p. 107).
4. "The London money market was oriented to a remarkable degree towards foreign lending, a circumstance which arose largely because of the unusual prominence of the export of goods and services in the British economy, and because the needs of British industry were met to a high degree by more localized sources of finance and by 'ploughing back' profits"; Gould, op.cit., p. 180.
pital-intensive sectors of the economy. This, in turn, contributed to the slow growth of the domestic market and the overall modest size of Portugal's development in the 19th century. Whatever the amount of capital required for development, it was the state that had to create the conditions for raising the funds on European money markets. The overall prevailing poverty of the country made state intervention a basic component for growth because the domestic market alone did not possess sufficient resources to develop. This has already been shown time and time again in the chapters above.

But state intervention did not necessarily mean that the conditions for sustained growth were established. To foster growth the Portuguese state had to increase the public revenue by raising taxation, by increasing the public debt, or by some combination of the two, in order to establish a pattern of finance for investment leading to higher levels of growth. However, a balanced budget strategy implied strict limits to expenditure which, in turn, reduced the pace of state-induced development. Further, loans contracted by the state during the second half of the 19th century were, to a large extent, obtained at heavy discount. Loans negotiated at a discount, that is, at high rates of interest, resulted in lower inflows of capital for development. In this sense it is sufficient to point out that the market value of the £49.71 million nominal negotiated abroad between 1862 and 1890 amounted to no more than £20.61 million.

An alternative policy to state foreign indebtedness was to expand taxation among the rural community which could have led, in the medium term, to peasant agriculture becoming more responsive to the market. However, the burden of any such taxation in Portugal would have fallen upon the rural plutocracy, particularly in the south, who were in fact Fontes main support. Consequently, in this politico-economic situation the only recourse was foreign loans with the attractive possibility of future generations benefiting from development and, therefore, being able to carry the burden of foreign debt servicing. As has been shown, the conditions within which foreign capital was invested did not permit future generations to reap the benefits. Portugal, then, could not exploit the advantages of capital im-

2. See chapter 3, pp. 103-105.
ports and foreign demand to accelerate economic development. In the end, the economy's long-term loss was far more substantial than the Treasury's short-term gains.

Portugal's ability to react to the challenge of the industrialised core was, to a very large extent and despite the potential of foreign capital to animate local trade and industry\(^1\), the product of government policy\(^2\). This is not to say, however, that government policy was the only factor which explains both the failure of Portugal's industrialisation in the 19th century and the speculative character of the finance of its railways. Bairoch, however, has not hesitated to point out that Portugal's economic backwardness "est dû largement à l'échec d'une politique de complémentarité avec une économie développée"\(^3\). His statement may be misleading because it focuses the issue of Portugal's backwardness upon the policy pursued by a peripheral dependent country, the parameters of which were largely dictated by the dominant core economy. The 'imperialism of free trade', stemming from the adoption of economic liberalism by those countries which were part of Britain's 'informal empire' was the cause explaining backwardness. However, such a conclusion, although necessary to establish at least a first approach to the issue, is too narrow for an understanding of Portugal's failure to modernise its economy. It has been said that Portugal was not sufficiently dependent and this might have been one of the reasons why its economy did not benefit totally from its economic links with, and the transfer of technology from, its dominant trading partner. It should be added, now, that Portugal appears to have been a typical example in which the nature of its backwardness was the result of factors other than the economic policy pursued by the various Governments. Actually, neither economic liberalism nor protectionism "could [have] significantly accelerate[d] the pace of economic development"\(^4\). Furthermore, and with instances of protectionism as early as the late 1830s, it is now clear that government policy from the mid-1850s was not typically free trade. The tariff of 1852, for exam-

\(^1\) "Foreign investment was a characteristic feature of the development of all peripheral countries during the industrial revolution"; Berend and Ränki, op.cit., p. 89.

\(^2\) This is in accordance with the pattern that Berend and Ränki have established for the European periphery as a whole; Ibid, p. 141.

\(^3\) Bairoch, op.cit., p. 269.

\(^4\) Ibid, p. 266.
pie, had even higher duty rates than that of the protectionist régime of 1837, while in 1875 Gerardo Pery categorically maintained that Portugal was a protectionist country.

Neither free trade nor protectionism worked out properly and the lack of an effective policy might have been one of the reasons which explains Portugal's failure to modernise. Philosophical dogma, in the case of Fontes and other liberals in the second half of the 19th century, was set aside by the need to service foreign debt which led to increases in customs duties. Despite corrupt government officials, the absence of a strong middle-class, the loss caused by foreign speculators, the state's submission to Britain, it is likely, however, that Portugal could have advanced further along the path of modernisation. If one of the two policies would have been adopted rigorously, the attitudes of both government officials and private entrepreneurs may have been different. Moreover, Portugal's peculiar free trade policy with the high degree of protectionism that it actually involved also contributed to the lack of the economy's full integration into the European core-periphery relationship. Ironically, it may have assisted the near stagnation of the Portuguese economy by sheltering inefficient producers and thereby retarding technological change. The combination of free trade and protectionism did not produce serious structural changes upon the economy.

However, Portugal's backwardness could not be ameliorated, substantially, by the application of doctrine, as it was also the result of the availability of resources. Resources are considered here in their broadest sense, comprising natural as well as social factors, and standards of education, and patterns of culture and political institutions amongst the latter should by no means be disregarded. Carlo Cipolla has pointed to the significance of the social factors in the process of industrialisation when he wrote: "An Industrial Revolution is above all a socio-cultural fact, coal

1. Duties levied on coarse and stamped cottons increased by 10 and 21 per cent, respectively, while duties on raw and dyed cottons rose by 12.3 and 15.3 per cent, respectively; David Justino, op.cit.
by itself does not create and does not move machines". In Portugal, as with some other peripheral countries, the question of the availability of resources was "rather a matter of there having been present none of the favourable conditions - neither external nor domestic - which could have rendered state intervention either necessary or successful". No matter what general economic policy was adopted, Portugal had little to offer to the increasingly dynamic and sophisticated markets of the industrialised core, so that the outcome of this or that policy would not have produced structural alterations in the economy and society as a whole. Not surprisingly, The Economist commented in 1868: "Compared with our total foreign trade, any increase in our exports to Portugal is likely to be infinitesimal; and we are not excessively anxious to get cheaper wines of the kind that Portugal supplies".

Briefly, Portuguese government policy pursued during the second half of the 19th century was responsible for the poor performance of the economy, but only to a certain extent and in particular terms. The nature of Portugal's peripheral condition, therefore, was not only dictated by its dependence on Britain and domestic government policy, but also by

2. Berend and Râåki, op.cit., p. 66.
3. The Economist (21 March 1868), p. 321. For 19th century Latin America Platt reached the same conclusions: "There is also some unreality in the view, so often repeated in the literature, that an alternative, more attractive route to autonomous economic development, to industrialisation and a balanced economy, was blocked by an enforced integration into the world economy as exporters of foodstuffs and raw materials in exchange for manufactured goods. Was there any realistic alternative?"; Platt, op.cit., p. 122.
The initial obstacles to Portuguese economic development were formidable. The country lacked skilled labour and whenever it was imported its financial costs were tremendous - and the financing and building of the early railways provides a striking example of both the initial scarcity of railway expertise and the pernicious effects on the construction and operation of the first lines. The poor quality of the soil, coupled with an unbalanced structure of property and a low level of education of the peasantry, made agriculture the more backward sector of the economy, with the result that increasing imports of foodstuffs, even with a low rate of population growth, were required. Portugal's agrarian structure seems to be in accordance with Gerschenkron's sixth proposition on the course and character of the industrialisation of backward countries: "The more backward a country, the less likely was its agriculture to play any active role by offering to the growing industries the advantages of an expanding industrial market based in turn on the rising productivity of

1. The percentage of working population employed in the primary sector was 62.3 per cent in 1890 and still 58.0 per cent 20 years later, in 1910. For the same years rural population accounted for no less than 78.0 and 72.6 per cent, respectively; Antônio Lopes Vieira, "Noções Operatórias sobre Cidade, População Rural e População Urbana", Rhes, no 1 (January-June 1878), pp. 126-27.

2. Cereals (wheat, corn and flour) represented 13.7 per cent of total imports for the period 1875-84 and, despite the creation of a strong tariff after 1890, still accounted for 11.8 per cent for the period 1885-94; Relatório Propostas de Lei e Documentos Apresentados na Câmara dos Senhores Deputados da Nação Portugueza na Sessão de 3 de Julho de 1908 pelo Ministro e Secretário de Estado dos Negócios da Fazenda Manuel Afonso de Espregueira, Parte II, Documentos (Lisbon, 1908), pp. 212, 214, 216 and 228. "Portugal is becoming more and more dependent for her chief staple of food on foreign sources of supply"; FOCR (1885), "Report by Consul Brackenbury on the Trade and Commerce of Lisbon for the Year 1884", p. 1427.
agricultural labour”\(^1\). Portugal also suffered from an endemic shortage of industrial fuels: domestic coal had a very poor burning quality and was scarce in workable quantities, which resulted in substantial imports\(^2\). Other exploitable domestic raw materials were practically non-existent. Consequently, the opportunities for industrial development were very restricted and the domestic market came to rely largely on imports.

The combination of all these factors appears to establish a new and strong argument explaining Portugal's economic backwardness in the 19th century. This was the result of an internally inconsistent government policy which led to only a partial integration of the economy within the European core-periphery relations. Yet, a further irony is that Portugal's poor resource endowment led to a high propensity to import food, raw materials and manufactures, once a taste for industrial products had developed. This, coupled with the very slow growth of exports, produced a widening visible trade gap which required compensating inflows of capital which, in part, were serviced by high import duties, so that Portuguese consumers thereby carried a part of the burden of the debt service. This is to say that Portugal obtained all the negative advantages of the core-periphery relationship, but, except in the area of infra-structure development, appeared to be unable to respond positively to the challenge of the industrialisation of the core. As The Statist put it in the late 1870s, "Portugal

\(^1\) Gerschenkron, op.cit., p. 354. Gerschenkron's proposition was later tested and partially rejected by Steven Barsby through the application of "three rather arbitrary and specific definitions of backwardness - per capita income, share of employment in agriculture, and lateness [of the spurt]" to six countries which experienced a "great spurt": France, Germany, Denmark, Sweden, Russia and Italy. Barsby's tests of the three definitions of backwardness mentioned above on the six contemplated countries made him conclude that "the data did not support the proposition that the rate of agricultural labor productivity increase was negatively related to relative backwardness"; Steven L. Barsby, "Economic Backwardness and the Characteristics of Development"; JEH, XXIX (1969), pp. 449-72.

\(^2\) Coal imports came from Great Britain and showed the well-known pattern: an increase of value from £146,000 in 1866 to £316,666 in 1882; Sideri, op.cit., p. 156.
is known to English investors as a poor country which is susceptible of much development, which has a large debt and a small trade, a population like the soil-developing, but still backward and uncultivated\(^1\). However, the final result by 1890 was an expansively-constructed railway system the development of which was marked by local corruption, foreign speculation and disputes between, on the one hand, the Portuguese Government and, on the other, the Governments and private investors of Britain and France.

7.3. THE FINANCING OF THE PORTUGUESE RAILWAYS

It has been stressed that the government policy adopted during the second half of the 19th century was responsible for the poor performance of the Portuguese economy, but only to a certain extent and in particular areas. The financing and construction of the Portuguese railways would appear to have been one of those areas in which the policy pursued proved to be inadequate, given the available financial resources of Portugal, and was the more damaging to both the potential needs of its economy and the degree of mobility of its population. It has also been pointed out that the development of the Portuguese economy was the combined product of government policy and the availability of resources. If the latter seems to have played a dominant role overall, the former was crucial with regard to the financing of the railways and in the 40 years which form the scope of this study it can be pointed to as the ultimate causal factor which determined the nature and structure of the system.

Although all the various possible combinations of policy instruments with regard to railway finance were used by the Portuguese Government, from a review of the development of the system it seems that they were adopted at the wrong time, executed in the wrong areas, and put into practice by the wrong men. It was not, as Hammond has suggested, more generally, that "the fault lay with circumstances rather than with policy"\(^2\). The case stud-

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dies reviewed in the course of this thesis provide sufficient indications that with a different policy, aimed at the creation of more favourable conditions for both the negotiation of foreign capital and its subsequent application within the context of a general transport strategy, it would have been possible not only to have obtained lower costs of construction but also to have reduced, if not eliminated, some of the negative effects of foreign investment. These two points require further attention.

It has been demonstrated that the cost of the lines either built or contracted directly by the state was about 26 per cent lower than that of the lines which were constructed by the private companies but with the aid of a government subsidy. Further, no evidence of either an inferior quality of construction or a subsequent deficient operation of the service with respect to the state lines has been found. In other words, had the state pursued a different policy at least £4.1 million could have been saved out of the total cost of construction of the lines built by the private companies. The reasons which made Fontes and his successors reject any direct state intervention in the construction of the railways are still not entirely clear. However, between 1852 and the early 1870s, during which no less than £4.7 million of capital, consisting of equity, loan and state subsidies, were obtained by the private companies, the state showed no signs of embarking on a railway development strategy and only became involved directly in railway construction, if and when a particular line was handed over to the Portuguese Government because financial problems had emerged and its promoters, contractors and directors wanted to move the burden on to the shoulders of the state. Fontes' philosophical arguments regarding non-direct state involvement, which have already been discussed, were soon overturned in practice in 1856 after the fall of the Cabinet in which he had been the Minister of Finance and Public Works. Why did he not

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1. The purchasing of private lines by the Portuguese state appears to have been a common feature among railway development in the European Southern periphery. In Italy, for example, Pollard observed that "because of the losses, typical for an economy at that stage, made by the railways, the state had to buy back the Roman railway line in 1875 and gradually also the bulk of the others"; Pollard, Peaceful Conquest..., p. 230.
change his policy when he returned to office at the turn of the 1850s and in subsequent Cabinets some of which he led as Prime Minister? As has been pointed out, there seems to have been a contradiction in general economic policy after the mid-century, in that the economic liberalism prevailed only at a doctrinal level while the Government actually pursued a protection-orientated policy, dictated by the necessity of increasing the public revenue through augmenting the customs receipts, a consequence of perennial critical state of the public finances¹. In the particular case of the railways another contradiction was apparent. The state did not wish to intervene directly because of the meagre resources of the Treasury and the poor credit status of Portugal in the foreign money markets. But the prevailing scarcity of capital forced the Government to subsidise the companies and even to become their partner in one of the schemes. Thus, the state was forced to intervene and had to apply for resources abroad, with loans being obtained at heavy discount. A vicious cycle became established and the principle of non-interventionism actually led to intervention and the payment of heavy financial costs. It is clear that, even if the construction of the system had been undertaken directly by the state, financial assistance from foreign money markets would have always been required. Foreign investments, at least in the early stages of railway development, would have occurred because the domestic market was unable to mobilise sufficient capital for such an intensive-capital sector of the economy. But the point to raise concerns the proportion of financial costs to the total cost of construction when a comparative calculation between state lines and private lines is made. This leads to the second of the two points mentioned above.

The nature of foreign investments in railways of the European periphery, at a political level, is well illustrated in the general distinguishing features of private foreign investments analysed by Reuber: "The key element is that private foreign investment is not only owned and con-

¹. In a suggestive study of Portuguese political economy of the 19th century Maria Ribeiro observed that even great supporters of free-trade as Antônio Serpa and Ribeiro de Sá openly admitted the advantages of a more protectionist policy. See Maria Manuela Tavares Ribeiro, "Conflitos Ideológicos no Século XIX", Revista de História das Ideias, I (Coimbra, 1977), pp. 41-118.
trolled by private groups in pursuit of private profits but also by private interests who are non-residents to boot\textsuperscript{1}. Reuber further stresses that "this means that the owners and managers are less firmly under the jurisdiction of local governments than those in state enterprises or resident-owned and controlled private enterprises. To some extent these owners and managers are within the jurisdiction and under the influence of a foreign government, usually of a comparatively rich developed country. Moreover, there is concern, in some instances reinforced by historical experience, that in cases of dispute the power and influence of the investing country will be exercised on behalf of the foreign investor against the host country or, alternatively, the investing country will use the economic power of its foreign investors to further its political ends\textsuperscript{2}. Reuber's analysis of private foreign investment applies to the economy countries of the European southern periphery in the 19th century. Although national, and regional to some extent, discrepancies should be taken into account, railway development was very similar in Italy and Spain between 1850 and 1880. It was dictated by "government policy and foreign investors' preferences\textsuperscript{3}" and prevented a sustained growth of industry, manufactures in particular. For both countries Casares concluded that "the construction of the railways had a much smaller stimulating effect than in other [European Core] countries\textsuperscript{4}. Reuber's analysis also applies to the situation of foreign investment in 19th century Portuguese railways and is reinforced by the fact that Portuguese capitalists who possessed capital to invest and who were eventually willing to do so, were usually associated with, very often dependent on, foreign businessmen and foreign interests. Their behaviour, therefore, did not differ substantially from that of the foreign investor - - they were also keen on the prospects of high interest rates on state bonds because they knew how difficult, perhaps impossible, it was to obtain an equivalent return on capital in the domestic market. Thus, only direct state intervention, that is, a different government policy, could have

\begin{enumerate}
\item Grant L. Reuber and others, Private Foreign Investment in Development (Oxford, 1973), p. 16.
\item Ibid.
\item Rosario Romeo, Breve storia della grande industria in Italia, third edition (Cappelli, 1970), pp. 35-36, quoted by Casares, op.cit., p. 179.
\item Casares, op.cit., p. 179.
\end{enumerate}
changed the situation and establish more favourable conditions for the loans which were negotiated. Had the state opted out for direct railway construction, the actual sum invested would have been lower and the servicing of the debt would have been smaller, providing that Portugal had an efficient bureaucracy to supervise the construction works.

Briefly, the policy adopted by the various Governments remained a major causal factor which determined the structure of the railway system. As in Spain, where government policy constituted "the principal obstacle which prevented railway expansion during the first half of the 19th century"\(^1\), the policies which Fontes and his successors adopted were largely responsible for speculative concessions and the inefficient network.

There were, of course, other causal factors which also affected railway development and the following seem also to have played a significant role: geographical obstacles to construction; political events; general economic backwardness; lack of railway expertise; lack of capital; lack of banking and credit institutions\(^2\). The geographical aspects are important but they affected all forms of transport. Railways could have enjoyed a comparative advantage in the transportation of passengers and goods, as long as there was a potential demand to fulfil. Further, despite all the shortcomings, the railways were built which means that the geographical constraints did not constitute an insurmountable obstacle to railway development. They might have increased the cost of construction, at least for some lines, but primarily they were responsible for the delay in the outset of construction as much as any of the other factors. The burden of political events is similar; continuing conflicts of the first half of the 19th century did not prevent the emergence of several schemes in the mid-1840s. After the 1850s political instability (that is, the permanent cabinet rotation)

\(^1\) Casares, op.cit., p. 166. After 1855, however, with the promulgation of the Railway Law (1855), the Spanish Government adopted a pro-railway policy which was a major contribution to the growth of the network. In the 10 years between 1857 and 1867 the length of the system multiplied by nine, from 672 to 5,108 kilometres; Ibid, pp. 169 and 182.

\(^2\) These are the causal factors which were considered by Casares for Spanish railways and there is no reason why they should not be applied to Portuguese railways. See Casares, op.cit., p. 164.
might have accounted for the speculative nature of the concessions and the exhorbitant contracts, but still, over 2,000 kilometres were nonetheless built by the early 1890s. Political events were, probably, a consequence of the general, economic backwardness of the country, rather than a determining factor for the structure of the network. General economic backwardness, in which the lack of capital, technology and lack of financial institutions may be included, is certainly an important aspect and it may well have restricted demand. But this was the general situation in the European peripheral countries and yet, by 1914, the length of railway in the periphery was 10.4 per cent higher than in the European core - in 50 years the European peripheral countries, despite their backwardness, had managed to build 161.8 thousand kilometres against 146.5 thousand of the core. As to the significance of both the lack of capital and technology, although they may have been an important obstacle in the early stages of railway development, and such was the case in the Portuguese 'eastern' line, both could be imported. Of course, this meant higher costs, higher fares and eventually higher taxes; but it did not mean that they contributed significantly to delaying railway construction, let alone being an absolute barrier in the way of constructing the system.

Given the substantial amount of capital invested in the railways, it seems important to investigate its proportion to the total capital invested in other sectors of the economy. Casares has undertaken this comparative analysis for Spain and arrived at the surprisingly ratio of 6.6 which he considers "clearly exaggerated", when compared with the ratio of 0.7 which he calculated for England. The same comparative analysis reveals a complete different situation in Portugal. Even when allowances are made for all the shortcomings of 19th century government statistics, it appears that the total investment in limited liability companies and partnerships between 1852 and 1882, during which 257 companies were formed, amounted to £26.3 million, banks excluded.

2. Casares estimate was based on Deane and Cole. See op. cit., p. 178-79.
According to the following table, total investment in railways for the period 1852 to 1890 was £25.7 million, which, allowing for the imperfection of the data, shows that the amount of capital invested in railways was very similar to that invested in commercial and industrial schemes.

Table 42. Total Amount of Capital Invested in the Portuguese Railways, 1852-1890

<table>
<thead>
<tr>
<th>item</th>
<th>amount in £ million</th>
</tr>
</thead>
<tbody>
<tr>
<td>share capital</td>
<td>4.3</td>
</tr>
<tr>
<td>loan capital</td>
<td>8.9</td>
</tr>
<tr>
<td>total equity capital</td>
<td>13.2</td>
</tr>
<tr>
<td>government subsidies</td>
<td>7.2</td>
</tr>
<tr>
<td>total capital invested in private companies</td>
<td>20.4</td>
</tr>
<tr>
<td>state railways</td>
<td>5.3</td>
</tr>
<tr>
<td>total</td>
<td>25.7</td>
</tr>
</tbody>
</table>

Note: the amount shown above is higher than the total cost of construction shown in table 24, p. 132, because the issue of debentures by the Royal Portuguese beyond the period of construction was considered herein.

Sources: 1. Central Peninsular Railway Company £0.7; Companhia Nacional dos Caminhos de Ferro ao Sul do Tejo £0.3; South Eastern of Company £0.2; Beira-Alta Railway Company £0.4;
2. South Eastern of Portugal £0.4; Royal Portuguese £7.2; Lisbon Steam Tramways Company £0.1; Beira-Alta Railway Company £1.2;
3. Table 21, p. 131.
4. Table 20, p. 130.

This further shows the difficulty of the domestic capital market to attract savings to private direct investment in economic areas such as the railways, and commercial and industrial undertakings. The Portuguese ratio
is in sharp contrast to the Spanish ratio of 6.6 but is closer to the English ratio of 0.7 also calculated by Casares. If, on the one hand, the ratio for Spain is exaggerated as Casares has suggested, on the other hand, the ratio for Portugal denotes a low level of private economic activity which, in turn, is in accordance with investors' preference for investment in state bonds. Bearing in mind all the statistical shortcomings, it appears that Portugal had lower levels of economic progress, and railway development in particular, than the other members of the southern periphery of Europe.

As has been pointed out, government policy dictated the shape of the Portuguese railway system in the second half of the 19th century. But how relevant for the economy as a whole was the potential saving of £4.1 million during the period of railway construction? The amount above mentioned represents an annual average saving of £107,895; it is sufficient to point out that this sum accounted for over 20 per cent of the annual budget deficit for the same period and about 3.5 per cent of the annual debt charge between 1877-78 and 1889-90. In the end, the finance of the Portuguese railways was a lucrative affair for those who purchased state bonds which, in turn, were issued for the construction of the lines and the subsidising of the private companies. Given the structure of the domestic capital market and the leading role of the London Stock Exchange private investors obtained, indirectly, a higher return on capital than that which direct investment in the equity capital of the companies could offer. Thanks to the specific condition of Portuguese finance and the policy pursued by the various Governments, the seven per cent interest on Portuguese funds was a very rewarding affair for both Portuguese and foreign investors and speculators. State bonds were an attractive investment area, particularly for the increasing number of Portuguese who were seeking for a safe yield on their savings which could not be secured on the domestic capital market. Further, by investing indirectly, Portuguese bondholders retarded the development of the domestic capital market in a sound basis. The Fontismo made it possible for a generation of men to benefit greatly from the railway policy adopted, which enriched them but neither developed the economy nor modernised Portuguese society.
STATISTICAL ANNEX
Table I. Population of Portugal, 1841-1890

<table>
<thead>
<tr>
<th>Year</th>
<th>Population</th>
<th>Total increase</th>
<th>Annual average increase</th>
<th>Annual average increase in percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1841</td>
<td>3,396,972</td>
<td>102,149</td>
<td>7,858</td>
<td>0.23</td>
</tr>
<tr>
<td>1854</td>
<td>3,499,121</td>
<td>85,556</td>
<td>17,111</td>
<td>0.49</td>
</tr>
<tr>
<td>1858</td>
<td>3,584,677</td>
<td>108,685</td>
<td>27,171</td>
<td>0.78</td>
</tr>
<tr>
<td>1861</td>
<td>3,693,362</td>
<td>136,256</td>
<td>34,064</td>
<td>0.92</td>
</tr>
<tr>
<td>1864</td>
<td>3,829,618</td>
<td>330,697</td>
<td>22,046</td>
<td>0.58</td>
</tr>
<tr>
<td>1878</td>
<td>4,160,315</td>
<td>499,780</td>
<td>38,445</td>
<td>0.92</td>
</tr>
<tr>
<td>1890</td>
<td>4,660,095</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


Notes: The island of Madeira and the Azores are not included; the counting in 1864 and 1878 was held on the 1st of January; the counting in 1890 was held on the 1st of December; previous countings are merely estimates made for fiscal and/or military purposes.
Table II. Portuguese Emigration, 1866-1890

<table>
<thead>
<tr>
<th>Year</th>
<th>Number</th>
<th>Annual average</th>
</tr>
</thead>
<tbody>
<tr>
<td>1866-70</td>
<td>38,792</td>
<td>7,758</td>
</tr>
<tr>
<td>1871-75</td>
<td>73,245</td>
<td>14,649</td>
</tr>
<tr>
<td>1876-80</td>
<td>57,826</td>
<td>11,565</td>
</tr>
<tr>
<td>1881-85</td>
<td>84,682</td>
<td>16,936</td>
</tr>
<tr>
<td>1886-90</td>
<td>104,952</td>
<td>20,990</td>
</tr>
<tr>
<td>Total</td>
<td>359,497</td>
<td>14,380</td>
</tr>
</tbody>
</table>

Source: Relatório..., p. 164
Table III. Portuguese Foreign Trade, 1851-1894
(annual average)

<table>
<thead>
<tr>
<th>Year</th>
<th>Imports (£ million)</th>
<th>Exports (£ million)</th>
<th>Deficit (£ million)</th>
<th>Coverage of imports by exports in percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1851-55</td>
<td>4.20</td>
<td>2.90</td>
<td>1.30</td>
<td>69.0</td>
</tr>
<tr>
<td>1856-60</td>
<td>3.00</td>
<td>1.80</td>
<td>1.20</td>
<td>60.0</td>
</tr>
<tr>
<td>1861-65</td>
<td>5.80</td>
<td>3.80</td>
<td>2.00</td>
<td>65.5</td>
</tr>
<tr>
<td>1865-69</td>
<td>5.56</td>
<td>3.71</td>
<td>1.85</td>
<td>66.7</td>
</tr>
<tr>
<td>1870-74</td>
<td>6.43</td>
<td>4.96</td>
<td>1.47</td>
<td>77.1</td>
</tr>
<tr>
<td>1875-79</td>
<td>7.48</td>
<td>4.87</td>
<td>2.61</td>
<td>65.1</td>
</tr>
<tr>
<td>1880-84</td>
<td>7.25</td>
<td>5.03</td>
<td>2.22</td>
<td>69.4</td>
</tr>
<tr>
<td>1885-89</td>
<td>8.32</td>
<td>5.18</td>
<td>3.14</td>
<td>62.3</td>
</tr>
<tr>
<td>1890-94</td>
<td>8.38</td>
<td>5.10</td>
<td>3.28</td>
<td>60.9</td>
</tr>
</tbody>
</table>


1865-1879, Mapas das principais mercadorias importadas e exportadas em Portugal de 1861 a 1879, excluindo os anos 1862, 1863 e 1874 de que não se fez estatística (Lisbon, 1881), adapted.

1880-1894, Comércio do continente e ilhas adjacentes com países estrangeiros e com as províncias portuguesas do ultramar (Lisbon, various years), adapted.
### Table IV. Proportion of Anglo-Portuguese Trade to Total Portuguese Foreign Trade, 1851-1890

<table>
<thead>
<tr>
<th>Years</th>
<th>Imports from Great Britain as percentage of total Imports (%)</th>
<th>Exports to Great Britain as percentage of total exports (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1851-1855</td>
<td>31</td>
<td>52</td>
</tr>
<tr>
<td>1856-1860</td>
<td>60</td>
<td>83</td>
</tr>
<tr>
<td>1861-1865</td>
<td>38</td>
<td>53</td>
</tr>
<tr>
<td>1866-1870</td>
<td>46</td>
<td>43</td>
</tr>
<tr>
<td>1871-1875</td>
<td>61</td>
<td>48</td>
</tr>
<tr>
<td>1876-1880</td>
<td>46</td>
<td>39</td>
</tr>
<tr>
<td>1881-1885</td>
<td>42</td>
<td>40</td>
</tr>
<tr>
<td>1886-1890</td>
<td>34</td>
<td>40</td>
</tr>
</tbody>
</table>

Table V. Government Budgets 1860-1890
(amounts in £ million)
(annual average)

<table>
<thead>
<tr>
<th>Financial Year</th>
<th>Receipts</th>
<th>Expenditure</th>
<th>Deficit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1850-51</td>
<td>2.38</td>
<td>2.82</td>
<td>0.44</td>
</tr>
<tr>
<td>1854-55</td>
<td>2.50</td>
<td>2.86</td>
<td>0.36</td>
</tr>
<tr>
<td>1855-56</td>
<td>3.14</td>
<td>3.46</td>
<td>0.32</td>
</tr>
<tr>
<td>1859-60</td>
<td>3.62</td>
<td>4.70</td>
<td>1.08</td>
</tr>
<tr>
<td>1860-61</td>
<td>4.42</td>
<td>5.10</td>
<td>0.68</td>
</tr>
<tr>
<td>1864-65</td>
<td>5.48</td>
<td>5.90</td>
<td>0.42</td>
</tr>
<tr>
<td>1865-66</td>
<td>6.78</td>
<td>7.34</td>
<td>0.56</td>
</tr>
<tr>
<td>1869-70</td>
<td>7.84</td>
<td>8.16</td>
<td>0.32</td>
</tr>
</tbody>
</table>

### Table VI. Portuguese Internal and External Funded Debt, 1850-1890

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Debt in £ million</th>
<th>Year</th>
<th>Total Debt in £ million</th>
<th>Year</th>
<th>Total Debt in £ million</th>
<th>Year</th>
<th>Total Debt in £ million</th>
</tr>
</thead>
<tbody>
<tr>
<td>1850</td>
<td>18.5</td>
<td>1858</td>
<td>24.1</td>
<td>1863</td>
<td>38.9</td>
<td>1875</td>
<td>77.4</td>
</tr>
<tr>
<td>1854</td>
<td>20.0</td>
<td>1859</td>
<td>25.6</td>
<td>1864</td>
<td>41.2</td>
<td>1880</td>
<td>97.0</td>
</tr>
<tr>
<td>1855</td>
<td>20.7</td>
<td>1860</td>
<td>27.8</td>
<td>1865</td>
<td>42.4</td>
<td>1885</td>
<td>106.9</td>
</tr>
<tr>
<td>1856</td>
<td>21.0</td>
<td>1861</td>
<td>29.2</td>
<td>1866</td>
<td>43.3</td>
<td>1890</td>
<td>140.0</td>
</tr>
<tr>
<td>1857</td>
<td>22.2</td>
<td>1862</td>
<td>33.3</td>
<td>1870</td>
<td>66.2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source:
- 1850 - Sideri, op.cit., p. 176.
- 1875 - PRO, FO63/1023/6, Gobbold to the Earl of Derby, 13 January 1875; Sideri, op.cit.. The Economist estimated £78.3 million.
- 1880 - Feis, op.cit., The Economist estimated only £80.0 million.
- 1885 - Relatório..., p. 145.
- 1890 - Feis, op.cit.
Table VII. Consolidated Foreign Loans Negotiated By
The Portuguese Government, 1862–1890

<table>
<thead>
<tr>
<th>Date of issue</th>
<th>Nominal value of the loan (£)</th>
<th>Market value of the loan (£)</th>
<th>Issue value in percentage (%)</th>
<th>Actual interest in percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 July 1862</td>
<td>5,000,000</td>
<td>2,109,410</td>
<td>42.19</td>
<td>7.11</td>
</tr>
<tr>
<td>17 October 1863</td>
<td>2,500,000</td>
<td>1,137,417</td>
<td>45.50</td>
<td>6.59</td>
</tr>
<tr>
<td>7 December 1867</td>
<td>4,750,000</td>
<td>1,683,295</td>
<td>35.44</td>
<td>8.47</td>
</tr>
<tr>
<td>21 August 1869</td>
<td>12,000,000</td>
<td>3,540,516</td>
<td>29.50</td>
<td>10.17</td>
</tr>
<tr>
<td>15 June 1877</td>
<td>4,000,000</td>
<td>1,925,512</td>
<td>48.14</td>
<td>6.23</td>
</tr>
<tr>
<td>19 June 1878</td>
<td>2,500,000</td>
<td>1,180,000</td>
<td>47.20</td>
<td>6.38</td>
</tr>
<tr>
<td>22 November 1880</td>
<td>8,700,000</td>
<td>4,143,375</td>
<td>47.63</td>
<td>6.34</td>
</tr>
<tr>
<td>23 December 1883</td>
<td>1,880,000</td>
<td>897,888</td>
<td>48.06</td>
<td>6.24</td>
</tr>
<tr>
<td>20 May 1884</td>
<td>8,380,000</td>
<td>4,002,288</td>
<td>47.46</td>
<td>6.28</td>
</tr>
<tr>
<td>Total</td>
<td>49,710,000</td>
<td>20,619,701</td>
<td>41.48</td>
<td>7.23</td>
</tr>
</tbody>
</table>

Source: Relatório..., p. 67, adapted.
Table VIII. Annual Debt Charge of the Consolidated Debt, 1877-1890

<table>
<thead>
<tr>
<th>Financial Year</th>
<th>Annual debt charges (£ million)</th>
<th>Proportion of debt charge to Government receipts in percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1877-78</td>
<td>2.47</td>
<td>43.7</td>
</tr>
<tr>
<td>1878-79</td>
<td>2.56</td>
<td>41.8</td>
</tr>
<tr>
<td>1879-80</td>
<td>2.66</td>
<td>50.1</td>
</tr>
<tr>
<td>1880-81</td>
<td>2.78</td>
<td>48.2</td>
</tr>
<tr>
<td>1881-82</td>
<td>2.91</td>
<td>45.8</td>
</tr>
<tr>
<td>1882-83</td>
<td>2.83</td>
<td>45.3</td>
</tr>
<tr>
<td>1883-84</td>
<td>2.87</td>
<td>43.4</td>
</tr>
<tr>
<td>1884-85</td>
<td>3.18</td>
<td>46.0</td>
</tr>
<tr>
<td>1885-86</td>
<td>3.22</td>
<td>45.1</td>
</tr>
<tr>
<td>1886-87</td>
<td>3.31</td>
<td>42.9</td>
</tr>
<tr>
<td>1887-88</td>
<td>3.69</td>
<td>43.4</td>
</tr>
<tr>
<td>1888-89</td>
<td>3.84</td>
<td>45.5</td>
</tr>
<tr>
<td>1889-90</td>
<td>4.03</td>
<td>46.1</td>
</tr>
</tbody>
</table>

Source: Relatório..., p. 144.
Table IX. Portuguese State Bonds, 1850-1890

<table>
<thead>
<tr>
<th>Year</th>
<th>Quotation</th>
<th>Year</th>
<th>Quotation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1850</td>
<td>33.9</td>
<td>1870</td>
<td>31.6</td>
</tr>
<tr>
<td>1851</td>
<td>33.7</td>
<td>1871</td>
<td>31.2</td>
</tr>
<tr>
<td>1852</td>
<td>37.0</td>
<td>1872</td>
<td>41.1</td>
</tr>
<tr>
<td>1853</td>
<td>41.1</td>
<td>1873</td>
<td>41.9</td>
</tr>
<tr>
<td>1854</td>
<td>38.2</td>
<td>1874</td>
<td>46.2</td>
</tr>
<tr>
<td>1855</td>
<td>42.9</td>
<td>1875</td>
<td>50.9</td>
</tr>
<tr>
<td>1856</td>
<td>46.9</td>
<td>1876</td>
<td>53.0</td>
</tr>
<tr>
<td>1857</td>
<td>44.8</td>
<td>1877</td>
<td>51.6</td>
</tr>
<tr>
<td>1858</td>
<td>46.2</td>
<td>1878</td>
<td>50.5</td>
</tr>
<tr>
<td>1859</td>
<td>44.9</td>
<td>1879</td>
<td>51.6</td>
</tr>
<tr>
<td>1860</td>
<td>44.5</td>
<td>1880</td>
<td>52.0</td>
</tr>
<tr>
<td>1861</td>
<td>46.7</td>
<td>1881</td>
<td>52.9</td>
</tr>
<tr>
<td>1862</td>
<td>46.4</td>
<td>1882</td>
<td>53.2</td>
</tr>
<tr>
<td>1863</td>
<td>48.5</td>
<td>1883</td>
<td>53.2</td>
</tr>
<tr>
<td>1864</td>
<td>47.8</td>
<td>1884</td>
<td>50.1</td>
</tr>
<tr>
<td>1865</td>
<td>47.3</td>
<td>1885</td>
<td>45.3</td>
</tr>
<tr>
<td>1866</td>
<td>44.1</td>
<td>1886</td>
<td>49.8</td>
</tr>
<tr>
<td>1867</td>
<td>41.0</td>
<td>1887</td>
<td>55.9</td>
</tr>
<tr>
<td>1868</td>
<td>39.5</td>
<td>1888</td>
<td>61.9</td>
</tr>
<tr>
<td>1869</td>
<td>34.9</td>
<td>1889</td>
<td>66.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1890</td>
<td>61.7</td>
</tr>
</tbody>
</table>

Source: Average annual quotation of the bonds in percentage of their nominal value based on daily quotations, The Economist (various years).
### Table X. Banking Operations in Portugal, 1858–1890

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of banks in operation</th>
<th>Nominal share capital (£ million)</th>
<th>Average nominal share capital per bank (£ million)</th>
<th>Paid-up capital (£ million)</th>
<th>Paid-up capital as percentage of nominal share capital (%)</th>
<th>Average paid-up capital per bank (£ million)</th>
<th>Amount of dividends allotted per year (£ million)</th>
<th>Dividends as percentage of paid-up capital (%)</th>
<th>Discount operations (drafts) (£ millions)</th>
<th>Amount of Deposits (£ millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1858-62</td>
<td>6</td>
<td>2.92</td>
<td>0.49</td>
<td>2.88</td>
<td>96.6</td>
<td>0.48</td>
<td>0.15</td>
<td>5.23</td>
<td>6.64</td>
<td>3.99</td>
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<td>1863-67</td>
<td>14</td>
<td>11.66</td>
<td>0.83</td>
<td>5.11</td>
<td>43.8</td>
<td>0.37</td>
<td>0.28</td>
<td>5.41</td>
<td>16.28</td>
<td>6.28</td>
</tr>
<tr>
<td>1868-72</td>
<td>15</td>
<td>11.69</td>
<td>0.78</td>
<td>5.36</td>
<td>45.9</td>
<td>0.36</td>
<td>0.36</td>
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<td>15.67</td>
<td>8.91</td>
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<tr>
<td>1873-77</td>
<td>51</td>
<td>20.90</td>
<td>0.41</td>
<td>9.88</td>
<td>47.3</td>
<td>0.19</td>
<td>0.50</td>
<td>5.02</td>
<td>26.22</td>
<td>20.50</td>
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<tr>
<td>1878-82</td>
<td>48</td>
<td>18.61</td>
<td>0.39</td>
<td>9.74</td>
<td>52.3</td>
<td>0.20</td>
<td>0.48</td>
<td>4.96</td>
<td>25.07</td>
<td>23.51</td>
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<tr>
<td>1883-87</td>
<td>44</td>
<td>18.14</td>
<td>0.41</td>
<td>9.79</td>
<td>54.0</td>
<td>0.22</td>
<td>0.48</td>
<td>4.91</td>
<td>24.75</td>
<td>34.40</td>
</tr>
<tr>
<td>1888-92</td>
<td>40</td>
<td>20.74</td>
<td>0.52</td>
<td>11.64</td>
<td>56.1</td>
<td>0.29</td>
<td>0.58</td>
<td>4.99</td>
<td>33.60</td>
<td>47.96</td>
</tr>
</tbody>
</table>

Source: Relatório..., p. 195, adapted.

Notes: The number of banks in operation, the amount of share capital (nominal and paid-up), the amount of discount operations, and the amount of deposits are related to the last day of the last month (31 December) of the last year for each of the five-year periods above mentioned.
Table XI. Length of Railway, in Thousands of Kilometres

<table>
<thead>
<tr>
<th>Country</th>
<th>1860</th>
<th>1870</th>
<th>1880</th>
<th>1890</th>
<th>1900</th>
<th>1914</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sweden</td>
<td>0.5</td>
<td>1.7</td>
<td>5.9</td>
<td>8.0</td>
<td>11.3</td>
<td>14.4</td>
</tr>
<tr>
<td>Denmark</td>
<td>0.1</td>
<td>0.8</td>
<td>2.6</td>
<td>0.2</td>
<td>2.9</td>
<td>3.7*</td>
</tr>
<tr>
<td>Norway</td>
<td>-</td>
<td>0.4</td>
<td>1.1</td>
<td>1.5</td>
<td>2.9</td>
<td>3.1*</td>
</tr>
<tr>
<td>Finland</td>
<td>0.1</td>
<td>0.5</td>
<td>0.9</td>
<td>1.9</td>
<td>2.9</td>
<td>3.4*</td>
</tr>
<tr>
<td>Spain</td>
<td>1.9</td>
<td>5.4</td>
<td>7.5</td>
<td>10.0</td>
<td>13.2</td>
<td>14.8*</td>
</tr>
<tr>
<td>Portugal</td>
<td>-</td>
<td>0.7</td>
<td>1.1</td>
<td>2.1</td>
<td>2.4</td>
<td>3.1</td>
</tr>
<tr>
<td>Italy</td>
<td>2.4</td>
<td>6.4</td>
<td>9.3</td>
<td>13.6</td>
<td>16.4</td>
<td>18.9</td>
</tr>
<tr>
<td>Greece</td>
<td>-</td>
<td>-</td>
<td>0.2</td>
<td>0.7</td>
<td>1.0</td>
<td>1.6</td>
</tr>
<tr>
<td>Hungary</td>
<td>1.6</td>
<td>3.5</td>
<td>7.1</td>
<td>11.2</td>
<td>17.1</td>
<td>22.0</td>
</tr>
<tr>
<td>Russia</td>
<td>1.6</td>
<td>10.7</td>
<td>22.9</td>
<td>30.6</td>
<td>53.2</td>
<td>70.2</td>
</tr>
<tr>
<td>Romania</td>
<td>-</td>
<td>0.3</td>
<td>1.3</td>
<td>2.5</td>
<td>3.1</td>
<td>3.5</td>
</tr>
<tr>
<td>Serbia</td>
<td>-</td>
<td>-</td>
<td>0.3</td>
<td>0.5</td>
<td>0.6</td>
<td>1.0</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>0.2</td>
<td>0.2</td>
<td>0.5</td>
<td>0.8</td>
<td>1.2</td>
<td>2.1</td>
</tr>
<tr>
<td>Periphery, Total</td>
<td>8.4</td>
<td>30.6</td>
<td>60.7</td>
<td>83.6</td>
<td>128.2</td>
<td>161.8</td>
</tr>
<tr>
<td>European core, Total</td>
<td>38.0</td>
<td>61.7</td>
<td>90.5</td>
<td>114.4</td>
<td>131.1</td>
<td>146.5**</td>
</tr>
</tbody>
</table>

- Signifies either that there were no railways, or less than 100 km of line altogether
* Data for 1910
**Great Britain, France, Germany, Belgium, Holland, and Switzerland together

Table XII. Level of Railway development in 1911

<table>
<thead>
<tr>
<th>Country</th>
<th>Land area per 1 km of railway (in sq. km)</th>
<th>Length of railway per 100,000 inhabitants (in km)</th>
<th>Weight of goods transported per inhabitant (in 100,000 tons per annum)</th>
<th>No. of railway journeys per inhabitant (per annum)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core, total</td>
<td>10.14</td>
<td>90.2</td>
<td>8.18</td>
<td>21.9</td>
</tr>
<tr>
<td>Great Britain</td>
<td>9.70</td>
<td>71.3</td>
<td>11.62</td>
<td>28.6</td>
</tr>
<tr>
<td>Germany</td>
<td>8.72</td>
<td>95.5</td>
<td>9.50</td>
<td>25.3</td>
</tr>
<tr>
<td>France</td>
<td>13.20</td>
<td>103.7</td>
<td>3.09</td>
<td>12.6</td>
</tr>
<tr>
<td>Belgium</td>
<td>6.30</td>
<td>63.0</td>
<td>10.89</td>
<td>26.8</td>
</tr>
<tr>
<td>Holland</td>
<td>10.34</td>
<td>54.5</td>
<td>2.63</td>
<td>7.7</td>
</tr>
<tr>
<td>Switzerland</td>
<td>9.12</td>
<td>120.8</td>
<td>4.84</td>
<td>31.0</td>
</tr>
<tr>
<td>Scandinavia</td>
<td>48.55</td>
<td>180.9</td>
<td>4.09</td>
<td>8.8</td>
</tr>
<tr>
<td>Sweden</td>
<td>32.32</td>
<td>252.5</td>
<td>6.89</td>
<td>10.9</td>
</tr>
<tr>
<td>Denmark</td>
<td>10.37</td>
<td>133.9</td>
<td>2.66</td>
<td>11.0</td>
</tr>
<tr>
<td>Norway</td>
<td>105.44</td>
<td>129.0</td>
<td>2.42</td>
<td>6.0</td>
</tr>
<tr>
<td>Finland</td>
<td>109.21</td>
<td>16.2</td>
<td>1.52</td>
<td>5.1</td>
</tr>
<tr>
<td>Southern Europe</td>
<td>25.14</td>
<td>61.0</td>
<td>1.37</td>
<td>3.3</td>
</tr>
<tr>
<td>Spain</td>
<td>34.14</td>
<td>74.2</td>
<td>1.46</td>
<td>2.5</td>
</tr>
<tr>
<td>Portugal</td>
<td>31.16</td>
<td>48.1</td>
<td>0.81</td>
<td>2.5</td>
</tr>
<tr>
<td>Italy</td>
<td>15.69</td>
<td>53.1</td>
<td>1.29</td>
<td>3.8</td>
</tr>
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<td>Greece</td>
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<td>0.28</td>
<td>3.5</td>
</tr>
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<td>Central and Eastern Europe</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Eastern Europe</td>
<td>(20.49*)</td>
<td>50.4</td>
<td>1.59</td>
<td>1.7</td>
</tr>
<tr>
<td>Hungary</td>
<td>15.73</td>
<td>110.0</td>
<td>3.00</td>
<td>5.6</td>
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<td>Russia</td>
<td>324.17</td>
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<td>1.47</td>
<td>1.3</td>
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<td>Romania</td>
<td>37.66</td>
<td>34.3</td>
<td>1.30</td>
<td>1.6</td>
</tr>
<tr>
<td>Serbia</td>
<td>51.21</td>
<td>32.6</td>
<td>0.26</td>
<td>0.3</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>49.98</td>
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<td>0.8</td>
</tr>
<tr>
<td>Periphery, total</td>
<td>157.66</td>
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<td>1.66</td>
<td>2.5</td>
</tr>
<tr>
<td>(27.53*)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Periphery's level</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>of development</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>as % of core's</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(36.8*)</td>
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</table>

*Russian data excluded

Table XIII. Annual Mileage of Track in Kilometres Open to Traffic in Portugal, 1856-1890

<table>
<thead>
<tr>
<th>Year</th>
<th>Mileage</th>
<th>Year</th>
<th>Mileage</th>
<th>Year</th>
<th>Mileage</th>
</tr>
</thead>
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<tr>
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<td>37</td>
<td>1868</td>
<td>-</td>
<td>1880</td>
<td>96</td>
</tr>
<tr>
<td>1857</td>
<td>14</td>
<td>1869</td>
<td>20</td>
<td>1881</td>
<td>14</td>
</tr>
<tr>
<td>1858</td>
<td>18</td>
<td>1870</td>
<td>47</td>
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<td>254</td>
</tr>
<tr>
<td>1859</td>
<td>-</td>
<td>1871</td>
<td>25</td>
<td>1883</td>
<td>39</td>
</tr>
<tr>
<td>1860</td>
<td>-</td>
<td>1872</td>
<td>-</td>
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<td>9</td>
</tr>
<tr>
<td>1861</td>
<td>77</td>
<td>1873</td>
<td>27</td>
<td>1885</td>
<td>2</td>
</tr>
<tr>
<td>1862</td>
<td>61</td>
<td>1874</td>
<td>-</td>
<td>1886</td>
<td>-</td>
</tr>
<tr>
<td>1863</td>
<td>246</td>
<td>1875</td>
<td>120</td>
<td>1887</td>
<td>299</td>
</tr>
<tr>
<td>1864</td>
<td>246</td>
<td>1876</td>
<td>-</td>
<td>1888</td>
<td>92</td>
</tr>
<tr>
<td>1865</td>
<td>-</td>
<td>1877</td>
<td>15</td>
<td>1889</td>
<td>149</td>
</tr>
<tr>
<td>1866</td>
<td>-</td>
<td>1878</td>
<td>99</td>
<td>1890</td>
<td>59</td>
</tr>
<tr>
<td>1867</td>
<td>-</td>
<td>1879</td>
<td>62</td>
<td>Total</td>
<td>2,127</td>
</tr>
</tbody>
</table>

Annual Average 60.8

Source: GCF (1 November 1906), p. 342.
Table XIV. The Operation of the Portuguese Railways, 1877-1890

<table>
<thead>
<tr>
<th>Year</th>
<th>Passenger receipts (000s £)</th>
<th>Freight receipts (000s £)</th>
<th>Total traffic receipts (000s £)</th>
<th>Total traffic receipts per km (£)</th>
<th>Operating Costs (000s £)</th>
<th>Operating Costs per km (£)</th>
<th>Operating Costs as a percentage of total traffic receipts (%)</th>
<th>Number of Passengers (000s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1877</td>
<td>270</td>
<td>306</td>
<td>576</td>
<td>605</td>
<td>208</td>
<td>218</td>
<td>36.1</td>
<td>1,893</td>
</tr>
<tr>
<td>1878</td>
<td>286</td>
<td>304</td>
<td>590</td>
<td>582</td>
<td>235</td>
<td>232</td>
<td>39.8</td>
<td>1,967</td>
</tr>
<tr>
<td>1879</td>
<td>293</td>
<td>345</td>
<td>638</td>
<td>581</td>
<td>265</td>
<td>241</td>
<td>41.5</td>
<td>2,064</td>
</tr>
<tr>
<td>1880</td>
<td>312</td>
<td>402</td>
<td>714</td>
<td>606</td>
<td>278</td>
<td>236</td>
<td>38.9</td>
<td>2,130</td>
</tr>
<tr>
<td>1881</td>
<td>319</td>
<td>411</td>
<td>730</td>
<td>597</td>
<td>301</td>
<td>246</td>
<td>41.2</td>
<td>2,188</td>
</tr>
<tr>
<td>1882</td>
<td>355</td>
<td>432</td>
<td>787</td>
<td>580</td>
<td>353</td>
<td>260</td>
<td>44.9</td>
<td>2,340</td>
</tr>
<tr>
<td>1883</td>
<td>366</td>
<td>448</td>
<td>814</td>
<td>548</td>
<td>352</td>
<td>237</td>
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</tr>
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<td>1884</td>
<td>372</td>
<td>469</td>
<td>841</td>
<td>551</td>
<td>350</td>
<td>230</td>
<td>41.6</td>
<td>2,581</td>
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<td>359</td>
<td>475</td>
<td>834</td>
<td>546</td>
<td>360</td>
<td>235</td>
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<td>2,617</td>
</tr>
<tr>
<td>1886</td>
<td>405</td>
<td>506</td>
<td>911</td>
<td>595</td>
<td>365</td>
<td>239</td>
<td>40.1</td>
<td>2,920</td>
</tr>
<tr>
<td>1887</td>
<td>448</td>
<td>536</td>
<td>984</td>
<td>580</td>
<td>398</td>
<td>235</td>
<td>40.4</td>
<td>3,531</td>
</tr>
<tr>
<td>1888</td>
<td>496</td>
<td>588</td>
<td>1,084</td>
<td>577</td>
<td>459</td>
<td>244</td>
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<td>4,257</td>
</tr>
<tr>
<td>1889</td>
<td>544</td>
<td>656</td>
<td>1,200</td>
<td>600</td>
<td>525</td>
<td>263</td>
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<td>4,861</td>
</tr>
<tr>
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<td>561</td>
<td>654</td>
<td>1,215</td>
<td>583</td>
<td>594</td>
<td>285</td>
<td>48.9</td>
<td>5,783</td>
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</tbody>
</table>

Source: GCF (1 December 1898), "Elementos Estatísticos dos Caminhos de Ferro do Continente de Portugal de 1877 a 1897", pp. 208,...
### Table XV. The Operation of the Portuguese State-Lines, 1877-1890

<table>
<thead>
<tr>
<th>Year</th>
<th>Passenger receipts (000s £)</th>
<th>Freight receipts (000s £)</th>
<th>Total traffic receipts (000s £)</th>
<th>Total traffic receipts per km (£)</th>
<th>Operating Costs (000s £)</th>
<th>Operating Costs per km (£)</th>
<th>Operating Costs as a percentage of total traffic receipts (%)</th>
<th>Number of Passengers (000s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1877</td>
<td>78</td>
<td>73</td>
<td>151</td>
<td>359</td>
<td>74</td>
<td>176</td>
<td>49.0</td>
<td>697</td>
</tr>
<tr>
<td>1878</td>
<td>89</td>
<td>75</td>
<td>164</td>
<td>347</td>
<td>94</td>
<td>199</td>
<td>57.3</td>
<td>776</td>
</tr>
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<td>1879</td>
<td>101</td>
<td>91</td>
<td>192</td>
<td>350</td>
<td>123</td>
<td>224</td>
<td>64.1</td>
<td>905</td>
</tr>
<tr>
<td>1880</td>
<td>112</td>
<td>127</td>
<td>239</td>
<td>407</td>
<td>122</td>
<td>208</td>
<td>51.0</td>
<td>971</td>
</tr>
<tr>
<td>1881</td>
<td>113</td>
<td>126</td>
<td>239</td>
<td>402</td>
<td>132</td>
<td>222</td>
<td>55.2</td>
<td>974</td>
</tr>
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<td>129</td>
<td>248</td>
<td>418</td>
<td>134</td>
<td>226</td>
<td>54.0</td>
<td>958</td>
</tr>
<tr>
<td>1883</td>
<td>121</td>
<td>128</td>
<td>249</td>
<td>416</td>
<td>128</td>
<td>214</td>
<td>51.4</td>
<td>953</td>
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<td>1884</td>
<td>121</td>
<td>133</td>
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<td>419</td>
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<tr>
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<td>138</td>
<td>255</td>
<td>421</td>
<td>146</td>
<td>241</td>
<td>57.3</td>
<td>969</td>
</tr>
<tr>
<td>1886</td>
<td>122</td>
<td>142</td>
<td>264</td>
<td>436</td>
<td>137</td>
<td>226</td>
<td>51.9</td>
<td>1,012</td>
</tr>
<tr>
<td>1887</td>
<td>126</td>
<td>153</td>
<td>279</td>
<td>427</td>
<td>145</td>
<td>222</td>
<td>52.0</td>
<td>1,038</td>
</tr>
<tr>
<td>1888</td>
<td>135</td>
<td>159</td>
<td>294</td>
<td>422</td>
<td>163</td>
<td>234</td>
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<td>1889</td>
<td>155</td>
<td>186</td>
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<td>442</td>
<td>172</td>
<td>223</td>
<td>50.4</td>
<td>1,211</td>
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<tr>
<td>1890</td>
<td>161</td>
<td>190</td>
<td>351</td>
<td>424</td>
<td>202</td>
<td>244</td>
<td>57.5</td>
<td>1,241</td>
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Source: Ibid.
Table XVI: The Operation of the Portuguese Private Lines, 1877-1890

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<tr>
<th>Year</th>
<th>Passenger receipts (000s £)</th>
<th>Freight receipts (000s £)</th>
<th>Total traffic receipts (000s £)</th>
<th>Total traffic receipts per km (£)</th>
<th>Operating Costs (000s £)</th>
<th>Operating Costs per km (£)</th>
<th>Operating costs as a percentage of total traffic receipts (%)</th>
<th>Number of Passengers (000s)</th>
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<td>192</td>
<td>233</td>
<td>425</td>
<td>800</td>
<td>135</td>
<td>254</td>
<td>31.8</td>
<td>1,196</td>
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<td>1878</td>
<td>198</td>
<td>228</td>
<td>426</td>
<td>787</td>
<td>142</td>
<td>262</td>
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<td>1879</td>
<td>193</td>
<td>253</td>
<td>446</td>
<td>811</td>
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<td>31.8</td>
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<td>1880</td>
<td>200</td>
<td>275</td>
<td>475</td>
<td>805</td>
<td>156</td>
<td>264</td>
<td>32.8</td>
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<td>1881</td>
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<td>285</td>
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<td>781</td>
<td>169</td>
<td>269</td>
<td>34.4</td>
<td>1,214</td>
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<td>1882</td>
<td>236</td>
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<td>539</td>
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<td>287</td>
<td>40.6</td>
<td>1,382</td>
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<td>245</td>
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<td>639</td>
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<td>237</td>
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<td>1885</td>
<td>242</td>
<td>337</td>
<td>579</td>
<td>627</td>
<td>214</td>
<td>232</td>
<td>37.0</td>
<td>1,648</td>
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<td>283</td>
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<td>700</td>
<td>228</td>
<td>247</td>
<td>35.2</td>
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<td>1887</td>
<td>322</td>
<td>383</td>
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<td>675</td>
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<td>361</td>
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<td>1889</td>
<td>389</td>
<td>470</td>
<td>859</td>
<td>700</td>
<td>353</td>
<td>288</td>
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<td>1890</td>
<td>400</td>
<td>464</td>
<td>864</td>
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<td>4,542</td>
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Source: Ibid.
APPENDIX
<table>
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<th>Date</th>
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<th>Prime Minister</th>
<th>Date of portfolio</th>
<th>Finance Minister</th>
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<tbody>
<tr>
<td>1 May 1851</td>
<td>Regenerator</td>
<td>Duke of Saldanha</td>
<td>7 July 1851</td>
<td>Miguel Franzini</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>21 August 1851</td>
<td>Silva Ferrão</td>
</tr>
<tr>
<td>6 June 1856</td>
<td>Progressive</td>
<td>Marquis of Loulé</td>
<td>23 January 1857</td>
<td>Jorge Loureiro</td>
</tr>
<tr>
<td>16 March 1859</td>
<td>Regenerator</td>
<td>Duke of Terceira</td>
<td>14 March 1857</td>
<td>Júlio Silva Sanches</td>
</tr>
<tr>
<td>1 May 1860</td>
<td>Regenerator</td>
<td>Joaquim António Aguiar</td>
<td></td>
<td>António José d’Ávila</td>
</tr>
<tr>
<td>4 July 1860</td>
<td>Progressive</td>
<td>Duke of Loulé</td>
<td></td>
<td>José Maria Casal Ribeiro</td>
</tr>
<tr>
<td>21 February 1862</td>
<td>Progressive</td>
<td>Duke of Loulé</td>
<td></td>
<td>António José d’Ávila</td>
</tr>
<tr>
<td>5 March 1862</td>
<td>Progressive</td>
<td>Duke of Loulé</td>
<td></td>
<td>Joaquim Thomás Lobo d’Ávila</td>
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<tr>
<td>17 April 1865</td>
<td>Reformist</td>
<td>Marquis Sá Bandeira</td>
<td></td>
<td>Matias C. Vasconcelos</td>
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<tr>
<td>4 September 1865</td>
<td>Coalition (Regenerator + Progressive)</td>
<td>Joaquim António d'Aguiar</td>
<td></td>
<td>António José d'Ávila, Count d'Ávila e Bolama</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Fontes</td>
</tr>
<tr>
<td>Date</td>
<td>Political Party</td>
<td>Prime Minister</td>
<td>Date of portfolio</td>
<td>Finance Minister</td>
</tr>
<tr>
<td>-----------------</td>
<td>-----------------</td>
<td>----------------------</td>
<td>-------------------</td>
<td>---------------------------</td>
</tr>
<tr>
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<td>Reformist</td>
<td>Count d'Ávila</td>
<td></td>
<td>José Dias Ferreira</td>
</tr>
<tr>
<td>22 July 1868</td>
<td>Reformist</td>
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<td></td>
<td>Carlos Bento da Silva</td>
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<tr>
<td>11 August 1869</td>
<td>Reformist</td>
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<td>- 1869</td>
<td>Count Samodães</td>
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<tr>
<td>19 May 1870</td>
<td>Iberist</td>
<td>Duke of Saldanha</td>
<td></td>
<td>José Dias Ferreira</td>
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<tr>
<td>29 August 1870</td>
<td>Reformist</td>
<td>Marquis Sá Bandeira</td>
<td></td>
<td>Marquis d'Ávila</td>
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<tr>
<td>29 October 1870</td>
<td>Reformist</td>
<td>Marquis of Ávila</td>
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<tr>
<td>13 September 1871</td>
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<td>11 October 1872</td>
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<tr>
<td>5 March 1877</td>
<td>Progressive</td>
<td>Duke of Ávila</td>
<td></td>
<td>Carlos Bento da Silva</td>
</tr>
<tr>
<td>29 January 1878</td>
<td>Regenerator</td>
<td>Fontes</td>
<td></td>
<td>José Melo Gouveia</td>
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<td></td>
<td></td>
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<td>António Serpa Pimentel</td>
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### The Portuguese Cabinets, 1861-1890

<table>
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<th>Prime Minister</th>
<th>Date of portfolio</th>
<th>Finance Minister</th>
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<tbody>
<tr>
<td>1 June 1879</td>
<td>Progressive</td>
<td>Anselmo José Braancamp</td>
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<td>Henrique Barros Gomes</td>
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<tr>
<td>25 March 1881</td>
<td>Regenerator</td>
<td>António Rodrigues Sampaio</td>
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<td>Lopo Vaz Sampaio Melo</td>
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<tr>
<td>14 November 1881</td>
<td>Regenerator</td>
<td>Fontes</td>
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<td>24 October 1883</td>
<td>Regenerator</td>
<td>Fontes</td>
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<td>Ernesto R. Hintze Ribeiro</td>
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<td>20 February 1886</td>
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<td>José Luciano de Castro</td>
<td>23 February 1889</td>
<td>Henrique de Barros Gomes</td>
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<td>Augusto José da Cunha</td>
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<td>14 January 1890</td>
<td>Regenerator</td>
<td>António Serpa Pimentel</td>
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<td>João Franco Castelo Branco</td>
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<tr>
<td>14 October 1890</td>
<td>Independent</td>
<td>João Crisóstomo A. Sousa</td>
<td>24 November 1890</td>
<td>José Melo Gouveia</td>
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<td></td>
<td></td>
<td>Augusto José da Cunha</td>
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- 1851-1859

736/2; 965/63; 771/98; 759/161; 771/161; 771/58; 739/82; 793/84;
793/88; 800/39; 800/49; 801/52; 801/64; 740/237; 801/107; 803/122;
802/61; 802/75; 802/226; 802/6; 804/258; 804/261; 804/262; 804/278;
804/299; 816/37; 817/66; 817/88; 817/89; 756/69; 817/108; 817/110;
830/47; 831/132; 867; 832/185; 833/265; 846/61; 847/74

- 1860-1869

867; 859/44; 867; 860/89; 873/34; 875/116; 900/132; 916/22; 933; 924;
952/2; 935/25; 963/66; 963/14; 963/28; 963; 945/6; 945/32; 945/4;
963/376; 863/43; 953/18

- 1875-1877

1023/2; 1030; 1034/2; 1033/57; 1062/9; 1064

- 1882-1887

1119/46; 1201/74; 1142/25; 1143/112; 1202/28; 1149/63; 1202; 1165/15

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