

Connecting disconnections: The International Porto-Salamanca railway line

Abstract:

Cross-border railways are pivotal links in the development of integrated continental railway networks. The 1882-87 cross-border rail link construction from Salamanca to the Portuguese border was a financial disaster for the Syndicate of Porto banks that funded the project. Exceptionally high sunk investment was required, against hopeful free-trade grain and wine exportation benefits through the Douro valley railway, linking Spain to Porto. Duplicating a rail connection with Salamanca from the Portuguese seaport of *Figueira da Foz* through the *Beira Alta* railway, the interoperability system for the regional Spanish production could not sustain such a high-cost seaport competition. Banking repercussions followed up for the city of Porto. Long-run spillover effects on Portuguese coastal regions must be added.

INTRODUCTION

Connecting continental regions to a foreign seaport is a cross-border case of special interest from a cost/benefit perspective. This is a topic on cross-border communication for regional economic integration at a subnational level.¹ **The theory of railroad rates has proved how much important it is to operate under conditions of decreasing average costs, in order to increase the transport of passengers and freight to reap increasing returns thanks to price discrimination (Miller, 1955).** This issue has not received much attention in what respects cross-border railways, and the railway line from Salamanca to

the Portuguese border to connect the railway link with Porto seaport in the 1880s is an interesting case study.

It was intended that the connection between Porto and Salamanca would promote a new cross-border co-operation in this region, because between these two poles a vast desert region separated wine-producing agricultural areas in Portugal, from grain-producing areas in Spain. The purpose of the project was to stimulate continental regional integration to reinvigorate foreign trade and exports through the Portuguese seaport of *Matosinhos* on the outskirts of Porto, in an historical era when cross-border linkages were plentiful all over Europe.

The Portuguese-Spanish border established in medieval times was an unfriendly environment. The terrain was very harsh, mountains were an obstacle, climate was severely extreme, in both winter and summer, and soils very poor. Sectorial differentiation was not an outcome of the inter-territorial process of economic integration to be created by the rail line. Differentiation already existed thanks to natural resources and comparative advantages in the national and international markets. The Portuguese Port wine had been produced along the Douro-river since the early eighteenth century. Improved river navigation facilities to reach Porto for export to England and other international markets were duplicated thanks to the *Douro*-valley railway construction (1875-87). As this railway line stopped at the small village of *Barca d'Alva*, on the border, the supporters of the rail connection to Salamanca intended to open market opportunities for the Portuguese wine and industrial commodities from Porto, at the Spanish market, while transporting the agricultural surpluses of the Salamanca region to the Porto seaport. The cross-border railway was intended to

provide the two regions with a technical means to enable the continuation of their natural differentiation and integration.

There was a prevailing perception of distance between Porto and Salamanca, despite the fact that in fact the distance was not great. A cross-border railway should be an historically decisive linkage, because co-operation should result from complementary productions. In the Portuguese Douro valley, Mediterranean micro-climates allowed for large vineyard farms and abundant wine for export. In Spain, after crossing the border, a continental climate and a large plateau were devoted to wheat production, which could also be exported through the railway line to be built, instead of looking for connections to alternative (Spanish) seaports. No economic competition would occur, due to unlimited interdependence thanks to dissimilarities in natural resources. A main argument had to do with the competition against another Portuguese seaport, Figueira da Foz, which could also export the Spanish surpluses, because since 1878 a railway connection (the *Beira Alta* railway line) was being built from this seaport to the small village of *Vilar Formoso*, on the Spanish border, which would also be completed to reach Salamanca. If such a connection were to prevail, grass would cover the streets of Porto, it was said, because industrial activities as well as commerce and international trade would plummet.

In Portugal the main trunk railway system was north/south oriented, but the *Douro* and the *Beira Alta* lines were east-west axes, reaching the most remote interior zones of the country, and both of them were intended to be linked to the Spanish rail network, as the same Iberian gauge prevailed in these two countries.² Throughout Europe and the Americas, railway construction stimulated foreign direct investment in hopeful networks to cross borders, in reaching remote zones for linking critical large-

scale transport infra-structures. On the British foreign direct investment Edelstein (1981: 73) says that, "Between 1865 and 1914 almost 70 percent of British new portfolio investment went into social overhead capital (railways, docks, tramways, telegraphs etc.). The international capital co-operation in large corporations was sufficient to build trans-continental networks and all kinds of tunnels and bridges to serve connections for international trade.

In Spain, according to Nuno et al. (2011: 13-14) there was an important 1855 "Railroads Law (Ley de Ferrocarriles). It provided state aid and reduced the administrative burden for building railway lines in Spain, including the possibility of foreign investment (etc.), the total exemption of custom tariffs in the import of iron, machinery, wagons and other transport equipment, and the public subsidizing of, at most, the third part of the construction budget. This law soon showed its effectiveness. (etc.) Most of these lines, according to a radial scheme, went from Madrid to the French and Portuguese borders etc.

On July 1881 the Lisbon banker Henri Burnay promoted the creation of a financial group made up of four issuing banks from Porto (*Banco Comercial do Porto*, *Banco União*, *Banco Aliança*, and *Nova Companhia de Utilidade Pública*) that could underwrite the initial capital of 1,000,000\$000 (equivalent to 222,222 pounds sterling) for building the railway from Salamanca to *Barca de Alva* on the Spanish/Portuguese border to link it to the *Douro* railway line in order to promote the Porto seaport and all the commercial activities and businesses of the second-ranked Portuguese city.³ This financial group, *Syndicato Portuense* (Porto Syndicate) feared that the *Beira Alta* railway corporation, *Société Financière*, would be the only bidder in the Spanish government's international contest for railway connections to the Portuguese border,

and would favor the *Vilar Formoso-Salamanca* track in a first phase, leaving the Porto outlet interests for a later rail-construction opportunity.⁴ Thanks to the cross-border railway connection between Salamanca and Porto, new synergies should stimulate production throughout the entire line and reinforce the complementarities between the whole region of Léon, where Salamanca is located and the Portuguese Douro valley.

Henri Burnay was the pivotal agent for raising the capital from the Porto banks. He had interests in the construction of other Portuguese railway lines (the *Beira Baixa* railway, the *Ramal de Viseu*, and the *Foz-Tua-Mirandela* line).⁵ Burnay had the trustful of the Porto Syndicate of bankers, because he began his business career in Porto, was well connected in political circles and the royal family in Lisbon,⁶ and his banking house in the Portuguese capital was well respected.⁷ Moreover, his Belgian origin made him a natural-born French speaker, which provided him with excellent banking connections in France and Belgium, namely with the *Comptoir d'Escompte*, and the *Société Générale*.⁸ If credit issues were to arise, Henri Burnay could be counted on to put all his efforts into solving the financial problems of the project.

Based on the law of 22 July 1882, the contract of 12 October 1882 (signed between the Porto Syndicate and the Portuguese government to build the line from Salamanca to the Portuguese border), established a guarantee of 5% annual revenue on the capital that was considered to be necessary for the railway line construction in the Spanish international contest, limited to an annual ceiling of 135,000\$000 (30,000 pounds sterling).

In spite of the existence of a natural mountain barrier between Porto and Salamanca, there was considerable black market trade of commodities through the

difficult ravines, but political and administrative authorities persecuted smugglers. Family links also existed through marriage between families on opposite sides of the border, establishing many private connections based on blood ties. No antagonistic communities existed to threaten cooperation. On the contrary, natural and mutual cross-border learning experiences must have been strong.

In spite of all these positive features, the business was a disaster and a political nightmare. The financial consequences affected the banks, as well as the Portuguese banking system, confirming a second-rank position to the city of Porto. What went wrong? How could bankers' forecasts be so off the mark? How to explain such optimistic perspectives? The next sections will address these questions and historically exemplify a cross-border project failure.

THE POLITICAL DISCUSSION: OPPOSITE ARGUMENTS ON CROSS-BORDER LINKS

Political parties and opinion-makers not always have seen cross-border connections or inter-territorial coordination as transfer and creation of innovation or as path toward progress.⁹ In fact, the opposition often characterizes the government politicians as representatives of certain interests of groups. While some voices remark on how cross-border railways represent good policies against routines and the past, others speak of the existence of external pressure and business coalitions for vexing private interests, triggering political conflict. This occurred with the construction of the railway from Salamanca to the Portuguese border. **At the same time, political discussion did no care about conditions of decreasing average costs.**

The great enthusiasm for railway impact on economic activities was quite usual in the 1880s, in the UK, continental Europe, and in Portugal. The Portuguese *Regenerador* Party had a special political blueprint based on the promotion of progress, economic growth, and modernity. The two Ministers of Finance and Public Works supported the Porto Syndicate's project in the government, which became quite close to the city's ambitions and electoral votes.¹⁰ For the *Regenerador* Party, all arguments on the advantages of the cross-border railway effects on the Portuguese economy strengthened their government position, in stating the plans, the aims, and the future common benefits to be reaped from the project. Space fragmentation and regional compartmentalization required a planned coordination and cooperation, they said. In practice, the railway line was an alliance between the Salamanca and Porto common interests, as both regions planned to benefit when both countries would be more connected. The two cities were contact zones to implement the economic synergies of the connection and benefit from their own hinge transfers. Both cities were united in disregarding the importance of the nation-state. The rules of the border space and the opportunities for participating in international trade in the borderless nineteenth-century world economy drove the two cities's self-governance vision on this issue.

The Portuguese *Progressista* Party organized large popular demonstrations against the construction of this cross-border railway, in both Lisbon and Salamanca, to contest the political hopes of co-operation between Porto and León in Spain. As the initiative was Portuguese, it was difficult for them to use the argument of imperialistic behavior on the part of the railway promoters in Salamanca. However, it was argued that large regions of Portugal (such as *Trás-os-Montes*, in the northern part of the country, and *Algarve* in the south) still had no railway lines either working or under construction. Portugal was much poorer than Spain, and the Portuguese investment

abroad would weaken the Portuguese economy at a time when it was so much in need of it, it was said. The Portuguese balance of payments depended on emigrants' remittances, which were quite volatile, and the application of Portuguese capital abroad was a risky national strategy. It was considered politically wrong to build a railway for the powerful Spanish neighbor.¹¹ Moreover, the Spanish government would certainly retaliate against the possibility of promoting Portuguese seaports as outlets for Spanish exports, as this country would prefer to stimulate domestic connections and trade throughout Spanish seaports, such as Santander and Gijon on the Biscaya bay.¹²

At the same time bad weather ravaged the Porto seaport every winter, and its closure for one or two weeks was quite normal every year, decreasing the competitive advantages of Portuguese strategies. It was added that the province of Salamanca was large (12,800 km²), but it was sparsely populated. Having only 180,000 inhabitants this means 14 inhabitants/ km², and Salamanca was a town of only 18,000 inhabitants, too small to provide a large number of passengers on railways. So, the Syndicate's estimation of a Spanish regional grain surplus of 1 407,300 hl was too optimistic, it was said, and mining was quite exhausted in the whole province to feed the transportation capacity of the rail line. Moreover, the grain price at Salamanca was 3,600\$000, and the American grains reached Porto at 3,400\$000, which should mean that no exportation would take place, it was argued. Moreover, it would be irrational to consume Spanish grain in Porto (where 38,000 annual tons were in need), if American grains were cheaper. So, the railway line would become useless, and the government support to such a business only resulted from political electoral convenience. Public expenditure should be selective and rationally applied to respect the Portuguese taxpayers.

Support to northern banks could only mean a collusive alliance between the political power and the social élites at Porto. Such an accusation was very emotional in

the debates, and moved people in Lisbon, because regional cleavages between the capital (Lisbon) and Porto were (and still are) a sensitive issue in Portugal.

The Syndicate's argument that the contest could have no bidders was not confirmed. Beyond the Syndicate and the *Soci t  Financiere* three more bidders applied to the Spanish contest. According to the arguments, their withdrawal could signal that an agreement should have been reached with the Syndicate, and the suggestion of corruption arrangements was present in all debates. The guarantee of interest for such a business was intolerable, it was said, because the government was increasing taxes over all the Portuguese.

The dispute was genuinely intense, because two antagonistic perspectives existed on what the cross-border connection should accomplish. According to Blatter, (2000: 427) 'Ideas are independent factors which shape the identities and preferences of political actors'.¹³

BUILDING THE RAILWAY LINE

The construction of this Iberian-gauge line, which traversed very challenging terrain from the Portuguese village of *Barca da Alva* to the first Spanish station of *La Fregeneda*, was very expensive, and posed tremendous technical problems. To minimize sunk investment a track was chosen that passed far from many villages, but even so it required a series of 13 bridges and 21 long and expensive tunnels over a mere 17 km stretch of track. The continuation through *Lumbrales* and *Fuentes de San Esteban/Boadilla* to Salamanca was much easier (straighter and smoother) and did not require curves and expensive works.

As far as the railway was planned, regional equipment should help to solve any inter-sectorial production disconnections in order to overcome regional cleavages.

Uniformity in gauge and signaling, harmonized operational procedures for freight operations, trans-border railway traffic, bilateral agreements for cross-acceptance policies, co-operation for cross-border services including customs checks and control of persons, were (and still are) considerable costs in all cross-border rail undertakings.¹⁴ To offset these costs of systems interoperability, the benefits expected to accrue from cross-border links should include high profits derived from the cross-border traffic.

The Syndicate of Porto founded the railway company to build the line from Salamanca (in Spain) to the Portuguese border only on 8 January 1885, and could not place the shares throughout the European Stock Exchange markets.¹⁵ The Banks of the Syndicate had no capacity to check the construction, technical direction was inefficient, contractors passed their commitments along to sub-contractors and made profits, one tunnel collapsed and was rebuilt at high cost, and the Syndicate needed to ask for financial support from *Le Comptoir d'Escompte*, through the help and services of Henri Burnay, who received the respective commissions for his interventions. The late completion of the railway line led to losses. As the Syndicate had feared, the *Société Financière* was able to finish and open to traffic the connection from Salamanca to *Vilar Formoso* on 25 June 1886, giving to the Spanish surpluses the opportunity of using the alternative *Beira Alta* railway line and the seaport of *Figueira da Foz*. The banks from Porto had in their hands an exhausted business. They asked the Portuguese government for help in March 1888¹⁶ and could open their railway line from Salamanca to the Portuguese border at *Barca d'Alva* only on 8 December 1888, completing a 202 km linkage extension from Salamanca to Porto. Political discourse on the Portuguese railway projects in Spain turned again to the old arguments, and the debt to the *Comptoir d'Escompte* evoked the interpretations based on fraud and corruption between

the Portuguese government and international finance. It was called *the Salamanca* match. Heading the financial aspects of this business, and being very close to the Portuguese government, Burnay was a successful banker and businessman, who was made count by the Portuguese king in 1886, and attracted great criticism throughout the political debates. Curiously, Burnay also participated in the improvement of the Lisbon harbor to favor the capital's competition with other Portuguese seaports, and joined the largest association of shipping entrepreneurs of Lisbon, the so-called "National Group", supported by the Lisbon Commercial Association, *Associação Comercial de Lisboa*.¹⁷

RUNNING THE BUSINESS OF THE SALAMANCA RAILWAY LINE

Considering the March 1888 Syndicate of Porto's claim, the government decided to compensate them for their construction losses and assume all the assets and liabilities of the Syndicate's balance sheet. The Syndicate was offered the possibility of building a new seaport, at *Leixões*, slightly north of Porto to avoid the annual weather inconvenience effects on exports, assumed the same 5% interest guarantee as in the past business, and even raised the annual ceiling constraint to 270,000\$000. The Portuguese Parliament approved this decision in the law of 29 August 1889. As a result, the Syndicate created for this purpose the *Companhia das Docas do Porto e Caminhos de Ferro Peninsulares*, in 1889, in Porto, to manage the whole line from Porto to Salamanca. It was a remote manager. In Madrid, one section of the Board could help to manage this business, but it was a distant decision-making and management pole. According to (Chandler 1965) the railroad corporations were the first modern corporate management organizations, because they "had to devise new methods for mobilizing, controlling, and apportioning capital, for operating a widely dispersed plant, and for

supervising thousands of specialized workers.¹⁸ The Syndicate of Porto did not develop such an expertise for managing this small railway line.

The law of 29 August 1889 also approved the statutes of this mixed company (*Companhia das Docas do Porto e Caminhos de Ferro Peninsulares*). It was made of private and public capital, as the distribution of ownership control demonstrates. Table 1 shows the distribution of shares, where we see that Burnay continued with a small amount of capital.

Table 1 ó The ownership of the *Companhia das Docas do Porto e Caminhos de Ferro Peninsulares* (1889).

Entity	Number of shares
Portuguese government	13,582
Henry Burnay & Cº	823
Syndicate of Banks from Porto	10,288
Total	24,693

Source: Portuguese Historical Archive ANTT, Fundo Burnay, box 5.er

According to (Sousa, 1978: 143), once more this corporation could not place its shares throughout the European Stock Exchange markets.

A FAILED BUSINESS? THE EFFECTS ON THE PORTUGUESE BANKING AND MONETARY SYSTEM

The *Barca d'Alva* link across the Portuguese/Spanish border had one focal activity (the transportation of grain against wine), although all other sectors could also benefit from

the rail connections. The point is the relationship of international economic activities of the sub-national actors with the political intergovernmental relationships of the two countries, Spain and Portugal. Any kind of cross-boundary co-operation has been found to serve important functions in furthering policy goals.¹⁹ However, the distance from railway stations to many villages was considerable (because of minimizing sunk investment for the construction), and the road transportation connection very ineffective. Moreover, the economic interdependence between the two regions of Porto and Salamanca has proved to be very low. Other Spanish railway lines to Northern (and Southern) Spanish seaports could offer outlet solutions for Salamanca's grain production. The Portuguese *Beira Alta* railway line to the Portuguese seaport of *Figueira da Foz* also offered the same possibility, in spite of being a longer connection.

The 1891 global crisis that afflicted the European and South American national economies (which is usually known as the Baring crisis) led to a general slump. Slavery abolition in Brazil precipitated local economic difficulties, and the emigrants' remittances to Portugal plummeted. In 1891 Portugal could not maintain the convertibility of the Portuguese currency to gold, which was an essential element of the prevailing gold-standard monetary regime, and abandoned this monetary system. The banks of Porto were short of capital and could no longer meet their responsibilities. The effects of the global crisis and the failed Salamanca railway business combined.

A new agreement with the government led to the decree of 10 June 1891, which concentrated in the Bank of Portugal, in Lisbon, the exclusive privilege of issuing banknotes. The banks of Porto lost their traditional issuing rights, and received financial support from the Bank of Portugal.

The Portuguese government had halted the agreed payments to the *Companhia das Docas do Porto e Caminhos de Ferro Peninsulares*. The balance sheet included in the annual report of 1892 records a government accumulated debt of 900,000\$000 (200,000 pounds sterling) plus 45,574\$492 (1,012.76 pounds sterling) of interest.²⁰ The company was not profitable, for a number of reasons. Landlocked regions are very dependent on neighbors for exportation,²¹ but the Salamanca region was not landlocked.

Spanish connections to the seaports of Santander and Gijon, as well as the *Beira Alta* railway line connection to the Portuguese seaport, *Figueira da Foz*, provided competitive alternatives. The competition for cargo between the two Portuguese seaports of Porto and *Figueira da Foz* was disastrous for the Porto-Salamanca railway line. Because the Syndicate line traversed difficult mountains near the *Águeda* river, the short-curve radius of 200 m reduced speed and required short trains, a fact that prevented larger freight and passenger transportation to reap scale economies under decreasing average costs. Moreover, the agricultural year of 1891-92 saw bad weather and poor crops, and the business cycle was unfavorable. Under these conditions it was impossible to use the available transportation capacity, cancelling all possibilities for operation under decreasing average costs. By this time the financial losses amounted to 109,991.98 pesetas (4,361.29 pounds sterling).²² As the depreciation of the Portuguese currency after the abandonment of the gold-standard regime exacerbated the difficulty of foreign credit payments, the company again asked the government help in 1892, when its losses amounted to 103,957.59 pesetas (4,122.03 pounds sterling). The grain harvest in the Salamanca region was very poor, making for poor railway demand, and an outbreak of cholera during 1891 and 1892 throughout the regions crossed by this line also meant lower demand for passenger traffic. This seems to be a clear business failure.

Again the *Companhia das Docas do Porto e Caminhos de Ferro Peninsulares* sought help from the Portuguese government. The government attended the claim, and decided in the company's favor. The decree of 5 April 1892 transferred all the operations of the Salamanca railway line to the state-owned railway company of Minho e Douro, as well as the accumulated losses. A partial payment of the interest guarantee was made, and the remaining debt to the *Companhia* gave place to a new agreement with the Portuguese banks and bankers. The *Companhia* preserved the rights for building the new port of *Leixões*. This means that building public works was an appreciated business, while running the railway operation was not a desired business.

The law of 29 August 1889 had established this concession, and the nationalized losses did not prevent the government from assuming the commitments with the financial group of bankers and businessmen of the *Companhia das Docas do Porto e Caminhos de Ferro Peninsulares*. This was a compensation for the partial payment of the interest guarantee. This opened the door to a new business opportunity for this group. Moreover, the government surrendered for 10 years, the established division of profits. In the Portuguese Parliament, the opposition (comprising the *Progressista* Party and the Republican Party) protested the government decision,²³ but could not prevent it.

The Portuguese government declared a partial bankruptcy on June 1892.²⁴ From this moment on international financial markets were closed to Portugal, as the country defaulted on its public debt contract commitments. No more lending could be secured abroad, and Henri Burnay developed considerable expertise (and personal wealth) in obtaining domestic and foreign funding for the bankrupt Portuguese Treasury.²⁵

EPILOGUE

As an epilogue, we should stress the merger and acquisition process combining seven banks of Porto into two,²⁶ which occurred immediately thereafter, in 1894, in order to survive. In Sousa (1978: 144) this is described as the epilogue of the Salamanca railway, and a consequence of the decision-making process related with the infrastructure turmoil under the Syndicate's management. However, the way from the existence of a multiplicity of issuing banks to a single money issuer is a general trend in the monetary history of all European national economies. Many distinguished economists have argued the advantages and disadvantages of both systems, but the single issuer system has prevailed. Moreover, an impartial analysis of the critical impact of the railway's effects must admit that such an assessment cannot forget that larger regions can benefit from the spillovers generated, resulting from new patterns of network transportation usage.²⁷ This was an interconnection that was at work for almost a full century (until 1 January 1985). In calculating its efficiency we must consider that new links can promote network synergies and local development, as railway bridges and tunnels substantially reduce costs of land transportation, benefiting several regions. This means that an impartial assessment of performance must also consider distributive effects over populations and social groups. Of course this means a transfer of costs and benefits among regions, wherever the location of the political border. Because political decision-making processes tended to develop segmented domestic systems of transportation, cross-border links result from the need to connect disconnected areas. However, political decisions can never disregard technical aspects related with the operation under decreasing average costs in assessing the success of cross-border rail links.

CONCLUSION

The railway line from Salamanca to the Portuguese border (at *Barca d'Alva*) was the only railway line that was built out of the Portuguese territory by Portuguese initiative and capital entrepreneurship. It had the Portuguese government's support. Its construction was undertaken by a syndicate of four banks from Porto (*Banco Comercial do Porto, Banco União, Banco Aliança, and Nova Companhia de Utilidade Pública*) and the Lisbon banker Henri Burnay. The construction of the *Salamanca-Barca d'Alva* railway lasted for six years, from 1882 to 1887, and the line was inaugurated on 9 December 1887.

This case study illustrates how important the political and governmental financial support was to strengthen such a programmatic blueprint for the Portuguese city of Porto.

The connection between two such different regional systems should fruitfully join local abilities to find the ways for international trade and the means for economic integration. The cross-border railway line from Porto to Salamanca should have been a connection of two dynamic regional platforms that in turn should have been ideal for differentiating continental areas from seaboard conditions. **This appraisal would not be complete if the accessibility effects of this railway line were not considered. The transport infra-structure's impact on the cross-border movement of freight and passengers certainly included productivity changes from interregional linkages and crucial redistributive effects.** Failed expectations on the profitability of this railway line and government failure in meeting its contract commitments with the investors (because of the Baring crisis of 1891-92) can justify that some compensation be found for this entrepreneurship group. This was realized in the construction of the seaport of *Leixões*.

However, this case study also illustrates how government volunteer policies may lead to regional results that are the opposite of hopeful formulated goals. The cross-border infra-structure gains enjoyed in remote and isolated regions was hopeful, but as Portugal abandoned the gold-standard, this financial disaster for the banks of Porto led them to merged into two and loose their issuing rights, while Lisbon improved its seaport and confirmed the Bank of Portugal as the only Portuguese issuer.

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¹ Mun, and Nakagawa (2010): 228-229.

² Alegria, 1983. Alegria, 1990.

³ Sindicato Portuense (1882):19-21.

⁴ Sousa (1978): 132.

⁵ Mata, 2010: 11.

⁶ Burnay cooperated with the governments by providing funding to official festivities and public centenaries (for Camões, Pombal, and Santo António). Mata (2010).

⁷ In 1939 it was transformed into the Banco Burnay. In 1967 this bank merged with Banco Fonseca Santos & Viana, and was named Banco Fonseca & Burnay. In 1975 it was nationalized. Privatized and merged with Banco Borges & Irmão, it was transformed into the Portuguese BPI.

⁸ Mata (2010).

⁹ Blatter, 2000: 416.

¹⁰ António Maria Fontes Pereira de Melo and Hintze Ribeiro, respectively. For the political aspects of the Salamanca railway see Fernandes, 2010.

¹¹ Mariano Cyrillo de Carvalho was the main voice of these arguments. He was a brilliant speaker, and faced many street mobs. Fernandes (2010): 404.

¹² As would write (Pimentel, 1892: 217).

¹³ Blatter,, 2000:427.

¹⁴ Mun and Nakagawa (2010): 229.

¹⁵ Sousa (1978): 140.

¹⁶ Portuguese Parliament Historical Archive, *Diário da Câmara dos Senhores Deputados*, letter from 15 March 1888.

¹⁷ Portuguese Historical Archive ANTT, Fundo Burnay, box 5, letter of 31 August 1885.

¹⁸ Page 16.

¹⁹ Blatter (2000):419.

²⁰ National Archive ANTT, Fundo Burnay, box 5, *Relatório Annual da Companhia das Docas do Porto e Caminhos de Ferro Peninsulares*, 1891 and 1892.

²¹ Faye, et al., 2004: 32.

²² At the Exchange rate of the gold-standard monetary system (1 pound sterling = 25,22 pesetas). The peseta was not convertible into gold since 1883, but the depreciation was small, according to Tortella (2006): 120.

²³ Portuguese Parliament Historical Archive, Diário da Câmara dos Deputados, session of 8 February 1892, speech of José Maria Alpoim, p. 6.

²⁴ Decree of 13 June 1892.

²⁵ Mata, 2010.

²⁶ Decree of 10 May 1894.

²⁷ Boarnet, 1998. López, et al., 2009.