

# Sustained British Investment in Overseas' Railways, 1830–1914: The Imperial Dream, Engineers' Assurances or an 'Investment Hungry' Public?

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## 1 Introduction

By the latter part of the nineteenth century, the early twentieth century and probably well into the inter-war period (my research for this paper stops in 1914), British investment in railways took place across many borders and on a colossal scale, becoming a huge and **the** most decisive force in creating and sustaining railways throughout the World. Estimates that provide an overview of the scale and geographical distribution patterns of British investment in railways abroad for the entire period 1830-1914 are practically impossible to obtain. However Fieldhouse, using earlier estimates produced by Feis, considers that by 1914 British-based markets had some £1,531 millions invested in railway capital throughout the World. This made up 40.68% of Britain's total capital investment overseas which equalled £3,763.3 million by that year.<sup>75</sup>

The following paper attempts to provide a more detailed examination of British investment in overseas' railways throughout the period 1830-1914, together with a consideration as to *why* this level of investment was so significant throughout this time period; was it the British Imperial Dream, the assurances of her railway engineers in their work on overseas' railways, or the British public 'hungry' for new enterprises in which to invest their excess cash that determined Britain's pre-eminent role in railways across the border'? Drawing on some of my previous work,<sup>76</sup> the paper explores the importance of each of these factors

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<sup>75</sup> DK Fieldhouse, *Economics and Empire, 1830-1914*, 1984, Table 5 p.56.

<sup>76</sup> 'Observing the Imperial Mind: Railways and Visions of the British Empire 1850-1900', Paper presented at the Leeds Centre for Victorian Studies Seminar, 12<sup>th</sup> December 2003, Trinity and All Saints' College, Leeds and 'British Railway Engineers, 1830-1900 and the Development of Internationality in Railway Engineering: A Declining International Influence?', paper presented at the International of Railways, 1850-1970 Symposium, 3<sup>rd</sup>-5<sup>th</sup> November, 2002-10-15 The Swiss Museum of Transport and Communication, Lucerne.

in initiating and sustaining this form of British foreign investment. Much of this work is based on extensive research carried out on contemporary 'trade/professional' journals such as *The Engineer*, *Engineering* and the *Proceedings of the Institute of Civil Engineers*.

However, subsequent research focuses on the role that the 'financial press', 'money-markets', and **most** particularly, officials of both the British government and various of the British Empire's colonial governments played in informing, assuring, more essentially, making secure and increasingly, guaranteeing, investment in these railways across so many borders.

## **2 Sustained British Investment in Overseas' Railways: 1830-1914 – An Preliminary Analysis**

### **A) Introduction**

Gaining an overview of British investment in overseas' railways for the complete period 1830-1914 is by no means an easy task, especially given the nature of the historical record regarding this. Records for the pre-1900 era are intermittent and patchy and can only provide some notion of the relative importance, magnitude and direction of flow of British capital to railways overseas. Economic historians such as Rippy and Jenks,<sup>77</sup> or economists from the latter part of the nineteenth century,<sup>78</sup> tend to concentrate on investment in railroads in one, at the most two nations. The financial indicators used in constructing these various national indices vary considerably, the work of producing anything more than an intermittent and inconsistent summary of Britain's investment in foreign railways throughout the period 1830-1914 is near impossible. However, as will be seen, other factors and commentaries provide at least some idea of the volume, nature and destination of this investment.

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<sup>77</sup> J Fred Rippy, 'British investment in Latin America at the end of 1913', *Journal of Modern History*, vol.9, No3, September, 1947 and Leland H Jenks, 'Capital Markets and Transportation: British and American Railway Development', *Journal of Economic History*, vol.111, No4 Autumn 1951, 375-86.

<sup>78</sup> For example see Theodore H Boggs, 'Capital Investments and Trade Balances within the British Empire', *The Quarterly Journal of Economics*, Vol.29, No.4 August, 1915, p. 776.

## B) British Investment in Overseas' Railways in 1914

As more precise estimates regarding British foreign investments in railways are more certain for the post-1900 period this paper will begin with a consideration of this in order to establish the nature of this during this key period when Britain's role in railway financing and building, was **measurably** pre-eminent.

The first factor to note in establishing this is that Britain was by far the most important nation in providing foreign investment for **all types of activity** in 1914. **Table 1** illustrates this with Britain supplying 44% of foreign investments throughout the World during this key year. British foreign investment levels were more than twice those of France, the next leading nation in this, while the USA, the nation that was to, in many ways, inherit Britain's World investment 'mantle' after the First and Second World Wars, supplied a mere 7.7%.<sup>79</sup>

Table 1 Foreign Investments of Leading countries in 1914

	Foreign Investment (£m.)	As % of total
<b>UK</b>	4115	44
<b>France</b>	1860	19.4
<b>Germany</b>	1193	12.8
<b>USA</b>	720	7.7
<b>Others</b>	1460	15.6

**Source:** BWE Alford, *Britain in the World Economy since 1880*, 1996, p.81.

The fact that out of her total foreign investments of £3,763.3 million for that same year 1914, some £1,531 million or 40.68%, were lodged in railways suggests that Britain was not only the World's leading investor, but also the most important financial supporter of foreign railways too.<sup>80</sup>

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<sup>79</sup> BWE Alford, *Britain in the World Economy since 1880*, 1996, p.81.

<sup>80</sup> Fieldhouse, *op cit*, p.56 and see table 2.

Table 2: British Foreign Capital Investment, and Capital Invested in Foreign Railways, 1914.

Railway Securities	Total (in millions of £s)	Grand Totals (in millions of £s)	As a % of total British investment in overseas railways	As % of total British Overseas Investment
<b>British Empire</b>				
Dominions and colonies	306.4		20	8.06
British India	140.8		9.1	3.73
(Total for British Empire).		(447.2)	(29.2)	11.88
U.S.A.	616.6		40.27	16.38
Other Foreign countries*	467.2		30.5	12.4
Total investment in foreign railways		1531.0		40.6
<b>Total British Foreign Investment (all classes).</b>		3763.3		

Source: Fieldhouse, *op cit*, Table 5 p.56.

Fieldhouse's estimates of the level of British capital invested in railway securities 'across the borders' in 1914 is very useful as it also provides a relative measure of the volume of capital going towards railway construction in various areas throughout the World at that time.

From this it can be seen that it was not Britain's own Empire, but significantly the USA and 'other foreign countries', that drew the highest level of British capital investment in their railways. Funds involved in supporting railroad development in the USA took up a colossal £616.6 million or 40.27% of the total of British capital going to overseas' railways.<sup>81</sup> Adler in her *British Investment in*

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<sup>81</sup> *Ibid*, p.56.

*American Railways, 1834-1898*, states that 'In the nineteenth century no other sector of the World attracted foreign capital as did the railroads of the USA. In 1910 half of the UK's investment portfolio abroad (£1,637,684,000 out of £3,191,836,000) was in countries outside of the British Empire. Of this proportion more than 42% (£688,078,000) was in the USA and of this 85% (£586,227,000) was in its railroads'.<sup>82</sup> However, such was the scale of demand for capital from American railways that British investment made up only some 15% of US railroad capitalization in the immediate pre-War era.<sup>83</sup>

After the USA, it was the rather imprecisely dubbed 'Other foreign countries' that drew the most British capital (£467.2 in 1914). These 'other foreign countries' undoubtedly included certain of those in Continental Europe, although Latin American nations also provided a strong area of investment in railroads for Britain at this time. Some indication of the relative importance of European and South American railway investments can be gained from Sir George Paish's analysis of Britain's investment in 'other lands' in 1905-6. He suggests that the British portfolio in European railways generated some £30m in interest while that in the railways of Britain's informal empire (South America), produced a return of £13m.<sup>84</sup> (See Appendix A Table 1).

Despite all this, British investment in the railways of Britain's Empire (her Dominions and colonies together with British India) were still very significant, taking up some 20% of her financial interests in overseas' railways in 1914, but limited when compared with that going to the USA and other countries. Investment in Indian railways was clearly high (£140.8 million), but estimates gathered by Paish concerning the levels of **annual interest** paid on British investment in railways elsewhere in the Empire for the single year 1905-6, show

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<sup>82</sup> Dorothy Adler in her *British Investment in American Railways, 1834-1898*, University of Virginia Press, Charlottesville, Eleuthesia Mills-Hagley Foundation, 1970- p.2.

<sup>83</sup> Sir George Paish, 'Great Britain's Capital investment in other lands', *Journal of Royal Statistical Society*, LXXX, pt.111 (September, 30<sup>th</sup>, 1909), p.47 and see Table A in the appendix for a full resume of Paish's estimates.

<sup>84</sup> 'ibid'.

that Canada produced some £7.6 millions in interest in comparison with India's £4.8 millions.<sup>85</sup> (See Table A in appendix).

In conclusion, clearly from these sources, British investment in overseas' railways in 1914 (and presumably for the years of the twentieth century prior to the First World War), were world-wide, colossal and of huge significance in financing and building railways. It was British capital that built the globe's railways, not only in the British Empire, which by this time covered some quarter of the Earth's surface by 1900, but in areas, such as South America, and most particularly, the USA.<sup>86</sup>

### **C) British Investment in Overseas' Railways, 1830-1900s**

#### **I) 1830-1870**

What was the character of British investment in railways 'across the border' prior to this period leading up to the First World War? Some historians have attempted to provide some kind of periodisation of this, most particularly the late Michael Robbins in *The Railway Age*, first published in 1962. For him British activity constituted 'the heart and centre of railway activity throughout the World until 1870'. **The** leading investor in railways across the World in this pre-1870 period because of her pre-eminence in railway development and railway-building, her level of investment after that date was phenomenal as this turned from 'a trickle to a torrent'.<sup>87</sup> The reasons for this change in British investment after 1870 will be reviewed later in the paper, but meanwhile, British investment in foreign railways will now be considered for each of these two eras.

#### **B) 1830s-1870**

Chronologically during the pre-1870 era the first geographical two areas to draw both British investment capital, and initially, expertise and imports were those of Europe and the USA, although interest in India's railways followed soon after

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<sup>85</sup> 'ibid'

<sup>86</sup> Niall Ferguson, *Empire: How Britain made the Modern World*, 2003, p.4.

<sup>87</sup> *ibid*,p.92.

with activity commencing in a rather piecemeal fashion there during the 1840s but gaining a real pace in the late 1850s.<sup>88</sup>

Certainly many of Britain's railway contractors were involved not only in planning and constructing a number of the Continent's earliest lines, but in generating the capital investment too. For instance the British railway engineer, Joseph Locke, with his close contacts with various major bankers was able to raise the financial support that one French railway company had been unable to find, although an undertaking from the French government to underwrite the enterprise obviously helped. Other British contractors such as Thomas Brassey and Robert Stephenson and, to a lesser extent, George Stephenson, were involved in the early development of railways in France, Belgium, Austria, various German states, Switzerland, Holland, Denmark, Norway and Russia during the period 1840-1868.<sup>89</sup>

Economic historians have supported this view that British expertise and capital was important in generating the capital for and carrying out Europe's earlier examples of railway construction. David Landes in *The Unbound Prometheus* for instance argues that Britain was the important source for 'the early construction of early continental railways, [providing] labour and skill as well as capital and materials'.<sup>90</sup> Others have argued that Initially this was because many European railway companies, or as in the case of Belgium, the State, were unable to meet the financial needs of railway building, certain nations lacking well developed capital investment markets. In Britain, the early development of railways and supporting railway production industries, gave the nation an important start and lead both in providing railway expertise and equipment and

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<sup>88</sup> W J Macpherson, 'Investment in Indian Railways', *The Economic History Review*, New series, vol.8, No.2 (1955), 178.

<sup>89</sup> Michael Robbins, *The Railway Age*, 1962, p.92, and O S Nock, *Railways in Western Europe*, 1977, p.37.

<sup>90</sup> See David S Landes, *The Unbound Prometheus: Technical Change and Industrial Development in Western Europe, 1870 to the Present*, Cambridge, 1969, p.201; Platt, 'op cit' and such contemporary publications as; *The Economist*, *The Banker's Magazine*; *The Investor's Guardian and Almanac* and *Cassell's Handbook of Investment*.

in supplying capital. However DCM Platt in reviewing Britain's overseas' investment portfolio before the all-important date of 1870 has concluded that this was not always the case, with specific European nations, such as France and Austria, enjoying longstanding capital markets or quickly developing new ones in order to finance and increasingly, to build, their own railway lines.<sup>91</sup>

The second area that drew British capital investment during this era (and presumably sustained and increased this throughout the nineteenth century), was that of the USA. Jenks in his article on British involvement in railway development there and in the Argentine states that the London market was key to the flotation and financing of many of the States' earlier railroads (e.g. Baltimore and Ohio) and continued to play a similar role throughout much of the period.<sup>92</sup> While British investment in the USA's railroad system continued and increased, particularly as the period of constructing her transcontinental lines began in the 1860s, British supply of contracting skills, rolling stock and other equipment soon evaporated, American engineers and railroad promoters preferring to build 'the American Way' from the 1830s.<sup>93</sup>

Elsewhere in the World, it was British interest and investment in India that was the most important and marked. Macpherson estimated that between 1845 and 1875 some £95m was raised from Britain in support of building India's 'guaranteed' railway lines, while Thorner considers that £80m of this sum had been raised by 1868.<sup>94</sup>

Brassey and other notables such as Locke were instrumental in the early development of railways in other areas of the British Empire, Brassey being the contractor and often the organiser of investment on some of Australia's early

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<sup>91</sup> Platt, 'op cit', p.2.

<sup>92</sup> Jenks, 'op cit', 376 and 377.

<sup>93</sup> 'British Railway engineers, 1830-1900 and the Development of Internationality in Railway engineering: A Declining International Influence?', Paper presented at the International of Railways, 1850-1970 Symposium, 3<sup>rd</sup>-5<sup>th</sup> November, 2002, The Swiss Museum of Transport and Communication, Lucerne.



railways (1859-63), India (1858-63), and British Guiana (1845).<sup>95</sup> However it should be noted that while railway investment and building in these areas was commenced well before 1870, much of what occurred was experimental or piecemeal, investment being a novelty rather than a clearly sustained effort. Sustained investment in railways had to wait for the post-1870 era, or even well beyond that where the population and economic development of the areas occurred much later in the nineteenth century or at a slow and insignificant pace.

The geographical range of British involvement in railway construction (and not it should be noted, investment), is provided in the following table.

Table 3: Establishment Dates of the earliest British-built railways

<b>County/Area</b>	<b>Date first railway built</b>
<b>Formal Empire – Dominions</b>	
Canada	1840-50s
New Zealand	1860
Australia	1852-3
<b>Formal Empire</b>	
<b>Asia</b>	
India	1850-3
<b>Caribbean</b>	

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<sup>94</sup> Macpherson, 'op cit' and Daniel Thorner, 'Capital Movement and Transportation: Great Britain and the Development of India's railways', *The Journal of Economic History*, vol.11 No 4 (Autumn, 1951), 389-402..

<sup>95</sup> *Dictionary of National Biography*, Entry on Robert Stephenson, p.188.

Jamaica	1845/1866-7*
<b>Informal Empire</b>	
<b>South America</b>	
Brazil	
Argentina	1862*
Mexico	1854
Guiana	1845 (Joseph Locke and Frederick Catherwood)&
<b>Africa</b>	
South Africa	1863\$
Uganda	1894@
Mauritius	1860s+
<b>'The Wider World'</b>	
Russia	1851^
China	1870%
Japan	1872

Sources:

- \* Railway had been built between Kingston and its old Harbour in 1845, but the railway was not successfully established until Britain's Crown Agents provided sound finance in 1866. *Railway Engineering*. 1880, vol. 1, p.319.
- " William J Fleming, 'Profits and Visions: British Capital and Railway Construction in Argentina. 1854-1886'. in Davis, Wilburn and Robinson (eds.), *Railway, Imperialism*, p.75. Railways were begun in the Argentina as a result of the Argentinian government's initiative and predominantly British capital. The Argentinian system. that was completed by 1886, was majorly the work of Argentinian contracting firm, Juan E Clark and Company, and members of the Clark family such as Juan and Mateo Clark. *ibid*, p.76.

- & *Railway Engineering*, 1880, vol. 1, p.177.
- \$ 'First Special Number South Africa Railway Number'. *The Railway Gazette and Railway News*. 21<sup>st</sup> November, 1927, p.4. @Uganda – *The Engineer*, February 2<sup>nd</sup>, 1894, p.77.
- + The Colonial government appointed Mr Hawkshaw as the consultant for this and Brassey and Co as the Contractors. *Railway Engineering*, 1880, vol. 1.
- ^ The first railway in Russia was the result of Tsar Nicholas I's interests and was claimed to be, 'the best built railway in the world... at least outside of England'. See Richard Mowbray Haywood, *Russia Enters the Railway Age. 1842-55*, East European Monographs, Boulder, Colorado University Press, New York. 1998. p.4.
- % The first railway in China was sponsored by the famous British Far Eastern trading firm, Jardine, Matheson and Company, and was constructed between Shanghai and Woosung. The system was completed by the earlier part of the twentieth century. However, even by the latter nineteenth century, railway building in China was carried out by a range of European and Eastern European. Asian imperialist powers (Britain, France, Germany, Belgium, USA, Japan and Russia) as their various spheres of influence penetrated China. Clarence B Davis, 'Railway Imperialism in China. 1895-1939' in Davis, Wilburn and Robinson (eds.), pp. 175-8.

Britain's entry into railway-building, and presumably, railway financing in her 'informal' empire (most usually South America), also began in this pre-1870 era, although during this period it was confined to a few nations and lines and had not yet taken on the scale and form that it was to generate after 1870.

## **II) 1870-1900**

By 1870 therefore British investment in overseas' railways already had some of the features that were to characterise it more and more after this era. Surprisingly it was the USA and Europe that provided the main draw for British capital, while certain significant areas of Empire had begun to attract investment. For America British investment was already large and very important, but it had yet to take on the massive scale and sustained character that it was to enjoy in the coming decades, a feature that was ushered in with the commencement of transcontinental railroad building that started in the USA in the late 1860s. In contrast the level of British investment in certain areas of her formal, and in her informal empire were, as yet, very limited and spasmodic. The years following 1870 not only saw a significant escalation in the level of British capital being invested in overseas' railways, but also a further geographical widening of British involvement.

Investment in the USA's ever-growing railway network, which by this time included transcontinental railway construction, together with, to a lesser extent, those on the European continent, continued to lead the way. However

investment in railways in Britain's informal empire, particularly in the railways of South American nations, became a key feature. Commencing with railway-building in the 1850s, by 1913 the British had invested in some 118 railway companies in 16 South American countries.<sup>96</sup>

Within the British Empire India took an ever-widening share of British investment as a widening complex of lines were built.<sup>97</sup> Canada also saw an initial phase of regional trunk lines being constructed in the 1850s with early more easterly railways linking key cities around the Great Lakes being built without a great deal of British financial support,<sup>98</sup> but after this important British figures such as Brassey, in league with Peto and Betts, played an important part in financing lines such as the Grand Trunk Railway between 1852-5 for instance.<sup>99</sup> The development of major transcontinental routes after this encouraged even greater British investment in Canada's railways, with this being far greater than levels involved in India's railways (£7.8m versus £4.8m) according to Paish's figures. Elsewhere in the British Empire both investment and the building of railways was slower, but nonetheless of growing significance, some 22,000 miles of line having been constructed in Australia by 1907 (see next table).

Table 4: Length of British-built railways across the World in 1907

Area/country	Railway Miles constructed by 1907	British-built total
Asia (rest of)	8700	

<sup>96</sup> Rippy, 'op cit', 228.

<sup>97</sup> Macpherson, 'op cit', 180.

<sup>98</sup> See Donald Roman. 'Railway Imperialism in Canada,' in Clarence B Davis and Kenneth E Wilburn with Ronald E Robinson(eds.), *Railway Imperialism*, Greenwood Press, New York and London, 1991, p.19.

<sup>99</sup> John Marshall, *Biographical Dictionary Of Railway Engineers*, 1978, p.38.

<i>British India</i>	30000	
Siberia/Manchuria	5500	
Japan	5000	
China	4000	
Russian Central Asia	2800	
	<b>Total</b>	56,000
		30,000
<b>Africa</b> (rest of)	5100	
<i>Egypt</i>	3400	3,400
Algeria and Tunis	3000	
<i>British South Africa</i>	7000	7,000
	<b>Total</b>	18500
		10,400
<b>Australasia</b>	22500	22,500
<i>Canada</i>	22500	22,500
<b>Latin America</b>		
<i>Argentina</i>	13600	
<i>Mexico</i>	13600	
<i>Brazil</i>	10700	
	<b>Total</b>	37900
		37,900
<b>USA</b>	237000	

<b>Europe</b> (rest of)	177000	23,000
<i>United Kingdom</i>	23000	
<b>Total</b>	796,400	156,700

**Source:** Sir George Paish, 'Great Britain's Capital investment in other lands', *Journal of Royal Statistical Society*, LXXX, pt.111 (September, 30<sup>th</sup>, 1909), p.471.

Amongst all this the importance of the role of the British-trained railway contractor and engineer should be noted. Britain was not only responsible for financing much of the World's railway network that was constructed in the nineteenth and early twentieth centuries, but for building it too (although it should be noted that the US provided its own engineers and contractors from the earlier days of that nation's railroad development). Elsewhere across the globe engineers who trained in the various British colonies rather than those who were British born and trained, became a little more responsible for railway construction as the nineteenth century drew on, but this was not of any great significance.<sup>100</sup>

## **2. The Imperial Dream, Engineers' Assurances or An Investment Hungry Public? : Reasons for British Investment in Overseas' Railways, 1830-1914**

From considering the scale and patterns of British investment in railways 'across the borders', the paper now turns to investigate WHY this investment took the form that it did. Contemporary British sources, particularly the 'trade journals' of Britain's engineering profession, often suggest that it was the British Empire and the profits that it promised, together with the encouraging

information that British engineers working abroad sent home. However, there is also much evidence to suggest that while these factors played some role, it was the vision of the railroad and the profits that it would generate, that did the most to encourage British investment in railways not just in Britain's 'formal' and 'informal' empire, but, as has been seen in section 1 of this paper, most especially in the USA and Europe too. Britain had developed both her institutional investment markets and her railways early, generating a shareholding public who, having found the railways an exciting if not always lucrative form of investment at home were hungry to put their money into them abroad.

### **I) The Imperial Dream?**

By the latter part of the nineteenth century there is much to suggest that investment in and the building of railways had become a key part of the British Imperial Dream. The railways had become to be appreciated as 'the sinews of empire',<sup>101</sup> the very means by which colonial areas could be 'tied together' (as in the case of Cecil Rhodes' fantastic proposition, the Cape-to-Cairo Railways).<sup>102</sup> Railways would allow these various areas' natural resources to be exploited, borders would be protected and rail lines would be placed strategically for the future extension of the British Empire, as in the case of proposed railway construction in South East India towards Burma.<sup>103</sup> Most especially a railway system would allow the people of the colony to be 'better governed' by the British it being seen to be essential to subduing and training

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<sup>100</sup> Drummond, 'Internationality' paper presented at Luzern.

<sup>101</sup> Davis, Wilburn and Robinson(eds.). *op cit.* p.19.

<sup>102</sup> See Nicholas Faith, *The World the Railways Made*, 1990 and Leo Weinthal, *The Cape to Cairo Railway*, 1927.

<sup>103</sup> Davis, Wilburn and Robinson, *op cit.* p.2 and British Parliamentary Paper. *Memorandum by Captain Williams*, Inspector of Public Works, Rangoon District of British Burma. on Railway Communication between Rangoon and West China, 1865: (373), XL.518 Mf 71.308 for example.

‘the lesser races’ so that areas of Empire could prove more profitable and reliable.<sup>104</sup>

However the history of British investment in overseas’ railways strongly suggests that while dreams of Empire were paramount to the British and key colonial governments, it was far from being the main motive for Britain’s investors. Certainly the building of imperial railways promised good returns, both for those who directly invested in them and those whose wider economic enterprise were dependent on railway development in some way, but for most British railway investors a sure and short-term dividend was far preferable to some future hope. In the first instance during each of the eras considered (1830-70, 1870-1900 and 1900-1914), the **lion’s share** of British capital went to areas that lay outside of her Empire, being drawn quite logically to those areas that promised the surest and best return, either because, as in the case of the USA and Europe, the level of wider economic and industrial development would provide a certain, even a comparatively large return, or because projected railroads were key to exploiting these areas economically. The US and various European economies were growing rapidly at this point while urbanisation was continuing apace. Just as in Britain from the 1830s onwards, British investors perceived that these were exactly the conditions that demanded a railway, and as a result, would bring a reasonable and safe return on investment.

Elsewhere, notably in Britain’s informal empire in South America, railway investment and building were seen as being of vital importance in developing

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<sup>104</sup> See for instance, a comment from Fred Shalford, an engineer for the Colonial Office in East Africa: The education of the native in the practical arts and crafts is a most important effect of the introduction of the iron horse, although railways share this influence with mining operations and other industries...The native if left to himself will nothing and will aspire to nothing but the simple husbandry of his father. But when railway construction is begun he is called upon to assist in surveying, clearing the forest, excavation of cuttings, blasting of cuttings in rock, building embankments etc erection of bridges, station-buildings, workshops, telegraphs, laying of permanent way for which must educate him and advance him in the scale of civilisation. Shalford quoted in Michael Adas, *Machines as the measure of men: Science, technology, and Ideologies of Western Dominance*, Cornell University, 1989, p230.



and exploiting the natural resources there, but it should be noted that this was only seen to be a worthwhile risk if the owners of those resources were British. Britain's considerable support of railways in the Argentine seemed assured because not only were the majority of lines built there were British owned, but as railways promised to enable other British -owned enterprise to be established, develop or prosper. These enterprises varied in form from beef-raising ranches on the Argentinian pampas where British families were important, to mining, firms such as Rio Tinto Zinc developing rail lines in Brazil and Chile to provide the means to remove and export their products.<sup>105</sup>

In the areas of the Empire where such a degree of industrialisation or urbanisation was most seriously lacking or where past experience suggested that the exploitation of natural resources and resident product markets would prove to be difficult, privately generated investment in railways was slowly gathered or non-existent unless some form of incentive could be provided by colonial or the British government. Often, as in the case of Jamaica, British Guiana and Cape Province, South Africa, capital could be scarcely raised for even the simplest and cheapest of small but essential structural investments such as port railways.<sup>106</sup>

In the case of India, while the motive for railway-building during the 1840s-50s was a commercial one (cotton and coal) and not merely born of a political and military concern to defend British interests and the Indian border as some historians have argued, certain railway companies there already appreciated the fact that railroads might prove to be essential in consolidating British rule, and that the government of India could be pressurised into 'underwriting' their commercial endeavours. The East Indian Railway company for instance perceived this, forwarding statistics of the riches to be exploited from the region that their line would serve while seeking government support at the same time.

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<sup>105</sup> Jenks, 'op cit'.

<sup>106</sup> 'First Special Number South Africa Railway Number'. *The Railway Gazette and Railway News*. 21<sup>st</sup> November, 1927, p.4 records that a British standard width railway line was

This resulted in the Government of India guaranteeing a minimum return (4-5%) from 1849 onwards. The system of support that the government in India provided changed throughout the nineteenth and twentieth centuries, but essentially the guaranteed return remained with the level of British investment in Indian railroads growing accordingly.<sup>107</sup> Clearly this case provides an interesting twist on Cain and Hopkins' concept of 'gentlemanly capitalism', with the British government protecting the interests of Britain's investors, in order to encourage their investment!<sup>108</sup>

Elsewhere in Empire the financial underpinning of railway development became integral to the new nations' constitution. For instance section 145 of the British North America Act, passed in the British Parliament in 1867 and declared in Ottawa on the 1<sup>st</sup> July 1867, allowed for the financial support of the intercontinental railway. As Leggett comments, the Canadian Constitution '...may well be the only written national constitution that specifically links the construction of a major railway with the establishment a new country'.<sup>109</sup> Similar ideas and bills were forwarded in regard to the development of both Australia and New Zealand.<sup>110</sup> In these areas it was often only the intervention of British imperial authorities, usually in the form of the Colonial Office and colonial governments on the periphery, that guaranteed the loans needed for railway construction that made railway development possible.<sup>111</sup>

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begun in 1859 to connect Cape Town to Stellenbosch and Wellington. All these were in the Cape Colony. This line was eventually completed in 1863.

<sup>107</sup> These talks resulted in the 'guaranteed railway' system that began in 1849 and characterised railways in India for much for the period of the Raj, see Macpherson, 'op cit'.

<sup>108</sup> P J Cain and A G Hopkins, *British Imperialism, 1688-2000*, first published in 1993, second edition, 2002, p.664.

<sup>109</sup> Robert F Leggett, *Railways in Canada*, David and Charles, Newton Abbot, Douglas and McIntyre, Vancouver/Toronto, p.13-14.

<sup>110</sup> *Contracts*, 31: 1889 (Cd 5753) 3, 81-139. 32: 1890 (160) 174-5, 181. *Railway Commissions*, 18:1854 (1849) 82-83. 24: 1863 (54), 5, 8-11, 31, 33-35. *Surveys* 31:1889(C 5753), 88, 92-3, 96, 109-110, 113, 116, 121-123, 135-6. 32:1890 (160) 47. *New Zealand* 17: 1883 (C 3689) 62-63. 36: 1884-5 (C 4492), 7-41.

<sup>111</sup> See Roman in Clarence B Davis. K E Wilburn and R E Robinson, *op cit.* p.7 where he states that 'between 1847 and 1865 on eleven different occasions, imperial authorities in London and responsible colonial ministries in North America negotiated terms for an imperial guarantee of a loan for intercontinental railway'. See also, *Canada Railway Loan Act 1867*. 27:1868-69. LXLIII (272). 1-1: 1870 XLIX (244), 1-28.

The imperial dream, for the British investing public, if not for mid to late nineteenth century British governments, was therefore always subject to the capitalist one of ensuring and protecting investments, an argument that has been a feature of the historiography of Empire from its earliest days.<sup>112</sup> However it would appear that as the nineteenth century drew on investors were more willing to support railway projects that were built far more on dreams of imperial conquest, even English racial dominance and rule, and on promises of fabulous riches at some even distant point in the future, rather than simply relying on profit and government guarantees.

## II) Engineers' Assurances?

What of the second proposition, that it was the writings and reports of Britain's railway engineers that went abroad to build so many of the World's railways that did so much to encourage and assure British investors? This is undoubtedly the perspective given in the various trade journals such as *The Engineer*, *Engineering* and the *Proceedings of the Institute of Civil Engineers*. There is also another possible link between the work and enterprise of British Engineers and Britain's dominance of investment in railways throughout the World, that is that Britain was responsible for building a huge proportion of railways, both within her Empire and beyond. Could it be that British provision of railway engineering expertise, rolling stock and equipment could have required overseas nations to rely on British capital investment, thereby producing British dominance in this area too?

British railway engineers' were employed in planning and constructing railroads in much of the World,<sup>113</sup> their professional opinions and ideas being published in *The Engineer*, and *Engineering*. These men and their periodicals were always anxious to buoy up the expertise and wisdom of British engineers, often at the expense of those from the USA and, increasingly, various British colonies. Their aim was to both promote the careers of these British men and to encourage

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<sup>112</sup> For example see J R Gallagher and R Robinson, *Africa and the Victorians*, 1953.

<sup>113</sup> Drummond, 'Internationality of railways', Luzern paper, 2002.

investment in their railway-building across the World, irrespective of the financial viability of their proposals.

However, engineers' accounts, with their concentration on the 'vital statistics' of the wonderful railway lines that they were responsible for building and the financial benefits that, it was **hoped**, would soon follow, soon appeared to be what they were, speculation and distant promise to would-be investors. In short, the dreams of British railway engineers abroad were swiftly seen to be just that 'dreams'. What British investors required were sober judgements and, if at all possible, guarantees of returns, preferably government guarantees, on their investments. Overseas' railways, along with many other forms of shares abroad, were often seen as risky enterprises, Such a scenario was seen in popular myth and Anthony Trollope's novel, *The Way we live now*.<sup>114</sup> Undoubtedly investors relied not upon the prognostications of engineers in their various trade journals, no matter what those various journals claimed, but rather publications on investment such as *The Investor's Guardian* and *The Banker's Magazine* and increasingly, *The Times*, particularly its financial section.

Both the investment journals and *The Times* pre-dated engineering professional papers such as *The Engineer* and *Engineering* regarding the commencement date of their publications. They were also far more avidly read by the investing public and their professional advisors than material produced by British railway engineers. Such periodicals not only provided essential information on various overseas' railways and their stocks and shares, but also gave a comparative consideration of investment markets and how they were fairing. This was far more useful to would-be investors than the often exaggerated promises of British Railway engineers. However increasingly as the nineteenth century went on, it was *The Times* that provided the information that was most necessary for British investors in overseas' railways for in its

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<sup>114</sup> First published in 1875. In the character of the railway promoter Melmotte (possibly modelled on Britain's failed 'Railway King' George Hudson or Europe's Albert Gottheimer) and the youthful and garrulous railway engineer with his dreams of building a railway from

columns they found not only commentary from various railway companies, but also the assurances and promises of official representatives of the British government, the Government of India or various colonial administrators regarding railways abroad. This can be seen most readily in regard to India with the various Government Directors of the Indian Railway Companies, and the Secretary of State for India, writing comments.<sup>115</sup> However by the late nineteenth century similar government generated columns and assurances were being published concerning railways in India, Australia, Argentina, China and Africa.<sup>116</sup>

In addition to the development of a 'financial press' that provided constant advice regarding the profitability of investing in railways abroad, the London Stock Exchange also saw the development of expert brokerage houses that specialised in trading in railways in various nations. This was certainly the case for US railway companies, with a large number of brokerage firms solely selling shares in American railroads on the London Stock Exchange by 1875.<sup>117</sup>

The final question to be asked concerning British engineers' assurances is 'Was Britain's huge level of investment in overseas' railways the result of British railway engineering firms' dominance of the World-wide railway construction, rolling stock and equipment market and the presence of an economic 'tie-in' between provision of expertise and equipment, and British investment?' The immediate answer to this is no, for there is much evidence to suggest that such linkages between equipment and capital investment were infrequent and weak. For instance the USA drew the largest share of Britain's investment in overseas' railways, but in no way relied on British expertise and equipment, except for the

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the USA to Mexico, Trollope characterised contemporary understanding of Britain's involvement in the development of overseas' railways.

<sup>115</sup> e.g. *The Times*, July 11<sup>th</sup> 1870, p.7, column E and July 3<sup>rd</sup>, p.6 column G, although such commentaries are supplied in *The Times* from 1849 onwards.

<sup>116</sup> See *The Times*, October 20<sup>th</sup> 1866 p.9 column C for start of reports on Australia; December 25<sup>th</sup> 1890 p.9 column F for the Argentine; December 15<sup>th</sup> 1875 p.7 column E for China; May 1<sup>st</sup> 1879, p.11 column B for start of reports on Africa.

<sup>117</sup> Anon, 'The Railroads of the USA', *Journal of Royal Statistical Society*, vol. XXXVIII, 1875, 372.

supply of rail during the height of railway building. Within the Empire, while British Crown Agents tried to ensure that British engineers and engineering firms were key to railway building there, the combination of the wish of colonial governments to use cheaper American railway constructing methods, and the bottleneck in the supply of essential railroad equipment from Britain, meant that colonial railways were beginning to look elsewhere for expertise and supply by the late 1890s.<sup>118</sup>

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<sup>118</sup> Drummond, 'Internationality', Luzern, 2002.

### III) 'An Investment Hungry Public'?

The final question to be considered is 'Was Britain's dominance in providing capital for the construction of railways throughout the World during the nineteenth and early twentieth centuries a product of the British being 'an investment hungry public' for railway shares abroad?' A subsidiary question here is why did that 'trickle' of British capital investment become a 'flood' in 1870 as Robbins suggests?

Certainly the trade journal *Engineering* realised the strength of British involvement in railways 'across the borders' in February 1870 when it commented that:

'the mercantile people of England .... were [always] alive to the needs and demands of railways overseas'. 'Railways [being] constructed out of capital supplied from hence'.<sup>119</sup>

Britain had enjoyed a long period of capital accumulation together with the development of complex financial institutions for many, many years prior to the inception of the railways. This together with her own longer history of railway development and generally acceptable returns on investments in domestic railways, had not only brought about a huge level of financial support to the railways there, but a financial system where railway investment was of leading importance. The British public had developed the habit of investing in railways at home, usually with an acceptably good return. This helped to promote confidence in investing in foreign railways when they began to be constructed.<sup>120</sup>

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<sup>119</sup> *Engineering*, February 11<sup>th</sup> 1870, p.85.

<sup>120</sup> M C Reed, *Investment in Railways in Britain, 1820-1844*, Oxford University Press, 1975.

Table 5: level of Paid-Up Capital in Britain's Railways, 1825, 1844, 1854 and 1874.

Year	Paid-Up Capital in Britain's Railways (in £s million).
1825*	0.17
1844*	67.22
1854+	286.00
1874+	609.00

**Source:** \* = Reed, *op cit*, Table 6 p.37 and + = Platt, 'op cit', 4.

While Platt argues that other European nations had also developed important domestic capital markets, some that were involved in a good deal of overseas' investment, it was only Britain that had the capital and the institutional infrastructure to support investment in railways abroad.<sup>121</sup> The will and the way to invest in railways across many different borders was aided in Britain by the fact that so much of the World had already become a direct or indirect part of the British Empire, in some instances some time prior to the commencement of railway history. As a result Feis noted that Britain was:

'virtually the only important source of capital for those countries that lay outside of the circle of Western Europe'.<sup>122</sup>

Why that trickle of investment should have become a flood after 1870 can be seen in a number of different factors both relating to the nature of the fortunes of Britain's investment market, the general development of railways coupled with the 'opening up' of new areas and extension of frontiers. Platt concludes that until the late 1860s, with the exception of government-guaranteed

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<sup>121</sup> Platt, 'op cit', p.4.

<sup>122</sup> H Feis, *Europe the World's Banker, 1870-1914*, New York, 1965, p.27.



investment in India in the form of government and railway shares, investment in practically ANY enterprise abroad was seen to be far too risky. British investors were 'preoccupied with home and suspicious of abroad' until that period, while the British government often gave dire warnings against investing overseas.<sup>123</sup> During 1868-71 this situation began to change as an exceptionally low bank rate (2%) gave rise to 'a dead weight of capital' at home,<sup>124</sup> and with this, 'an almost unappeasable appetite for foreign stocks and securities'.<sup>125</sup> The same time period also saw the beginning of the development of transcontinental railways in the USA, Canada (through the new constitution of 1867), and the additional building of rail lines in British India. As a result, it was investment in British government guaranteed railway stock throughout the empire, together with rail debentures in thriving economies (USA), or where British involvement in wider enterprises promised a good return (South America), that proved to be the draw for this 'investment hungry' British public.<sup>126</sup> British capital markets were not always as plentiful or and the British investing public as hungry as they had been in 1869-71, but this period of international railroad investment, along with the continuing development of the World's railways, ushered in a new era where British money financed and built railways across so many borders.

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<sup>123</sup> Platt, 'op cit', p8.

<sup>124</sup> *The Economist*, 29<sup>th</sup> July, 1871, p.908.

<sup>125</sup> 'English capital and foreign securities', *The Banker's Magazine*, 1869, 626.

<sup>126</sup> *The Investors' Guardian*, 1869, 167 footnote and *The Investors' Guardian and Almanac*, 1869, p.7 and 12.

## Appendix 1

**Table A Annual Interest paid on British Investment on Railways overseas, 1905-6**

Country/Area	Income on Investment, 1905-6 in £s
Empire	
- Dominion	
Canada	7.6m
Colony	
India	4.8m
Informal Empire	
Argentina, Brazil, Uruguay, Mexico	13.0m
Non-Empire	
USA	27.0m
Other Areas	30.3m
Total (Paish's estimate)	82.7m
Total (estimate from Commissioners of Britain's Inland Revenue)	82.56m

Source: Sir George Paish, 'Great Britain's Capital investment in other lands', *Journal of Royal Statistical Society*, LXXX, pt.111 (September, 30<sup>th</sup>, 1909), p.47