‘A Global Assessment of the Large Enterprise on the Eve of the First World War: Corporate size and performance in 1912’

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‘The drift of America’s industries towards massive multiform standardization is further associated, both as cause and as effect, with their widespread geographical distribution, and also with the special features of her great railway service.


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**Canadian Pacific Railway (1881).**

... Transcontinental line, 2903 mls., extends from Montreal to Vancouver, B.C., with extensions throughout Canada and by controlled lines, U.S.A. Total mileage in operation 11,792; large amt. single track. Co. owns all rolling stock and telegraph lines; trans-oceanic steamships on both Atlantic and Pacific (for which substantial subsidy recd. for carriage of mails); abt. 60 steamers on Pacific coast to Alaska, and on lakes and rivers; hotels at important points from Quebec to Vancouver; coal mines at Bankhead, Hosmer and Lethbridge, from which income $300,000 ’12-13. Under concessions from Austrian Govmt., steamship line estbd. Trieste-Canada. Co.’s observation cars placed on Austrian and Swiss state rlys. by agreement with respective Govts.

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<thead>
<tr>
<th></th>
<th>Gross rev</th>
<th>Wkg. Expenses</th>
<th>Net income</th>
<th>Com. Div</th>
<th>Surplus</th>
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<tr>
<td>1907-08</td>
<td>71,384,174</td>
<td>49,591,808</td>
<td>15,676,922</td>
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<td>5,579,715</td>
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<tr>
<td>1912-13</td>
<td>139,395,700</td>
<td>93,149,826</td>
<td>36,625,185</td>
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<td>18,310,257</td>
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‘Every economic historian should, however, have acquired what might be called the statistical sense, the habit of asking in relation to any institution, policy, group or movement the questions: how large? how long? how often? how representative?’

Acknowledgements:

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At the beginning of the twentieth century the nature and performance of the large enterprise was a highly controversial issue that raised two major issues and went right to the heart of contemporary debates about political economy. Both originated in Adam Smith’s *Wealth of Nations* and had been deeply rooted in the consciousness of economists for over a century. The first contention concerned the relative merits of ownership of productive enterprises by the individual and by the state; where economists, almost invariably, and one could argue by definition, claimed the efficiency case for private enterprise, while the opposite was propounded with increasing frequency by advocates of economic policies that were, in inspiration, either nationalist or socialist. The second contention, that recognised two types of privately owned enterprise, debated the relative merits of the owner-manager and the professional manager employed to act on behalf of shareholders who were the collective owners of a company. Both debates raise questions of relative efficiency and both were of real significance for contemporaries. The growth of enterprises, both in terms of the magnitude of business undertaken and the array of activities provided, prompted reflections on the relative merits of different forms of ownership and the consequences that ensued. Although economists clung tenaciously to Adam Smith’s belief that the owner would be the most efficient user of resources, there was an acceptance that, a very few exceptions apart, where a rare and highly talented personality dominated, the largest enterprises had grown to a size beyond the effective oversight of a single individual. Furthermore, as Marshall emphasised, the financial resources required for enterprises of such magnitude tended to preclude ownership by an individual, or by a small group of partners, so that shared ownership, in any case often a sensible response to the entailed risks of the business and family inheritance, was almost unavoidable. However, economists of the day also recognised another development which defined the environment in which all enterprises operated, regardless of size or nature of ownership, and this was the emergence of an economy which encompassed the world; now, one hundred years later, this is termed a global economy.

The significant economic development of the second half of the nineteenth century had seen the consolidation of an international economy bound together by telegraph line, railway track and oceanic sea lane. Relative to the later twentieth century, the economic environment that provided this growth was initially populated by firms that were typically small and overseen by governments with limited opportunities to intervene to produce goods and services in state-owned enterprises. The significant exceptions to private ownership, postal services and national railway systems, were closely identified with the development of national communications systems whose advocates identified national economic growth as an objective of state policy. However, in the decades after 1870 the simultaneous development of the large privately owned firm and the large state owned corporation had made the large enterprise a vital element and significant component of the first global economy by 1912.

While contemporaries discussed the nature of the natural monopolies and debated the policy response that best responded to the challenge of market failure, the ideology which justified state ownership of infrastructure was nationalist, rather than

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socialist, in nature. An early example was the decision by the government of the recently created country to develop of the Belgian railway system as an integrated, national, state-owned enterprise in 1834.\(^2\) Ambitions for the infant realm were important in the determination of this policy, but the perceived threat to its economic independence, posed by acquisition of shares by foreigners, mainly British, of Belgian railway companies also prompted calls for the nationalisation of the Belgian railway system. As numerous later cases demonstrate, similar stories can be told about the significant role of railway policy as elements of national economic growth strategies; examples of this are Prussia, Russia, Italy, Japan, Canada, and Australia. In Britain, the home and heartland of laissez-free ideology, the end of our period is marked by not only a vital debate that produced a major shift in railway policy but also by the symptomatic, and in the context of this survey, highly symbolic, nationalization of the National Telephone Company that became effective at the beginning of 1912.

The debate concerning the relative efficiency of alternative forms of economic ownership was not the only reassessment of economic theory that took place during this period. Contemporaneously, there was also growing recognition that a global economy, or Weltwirtschaft, was now a reality; in 1911 an epistemological manifestation of this realization was founding of the eponymous Institut für Weltwirtschaft (Wiles, p.2). And yet, this survey suggests, economic and business historians have had but little to say about the nature of an economic environment that combined the activities of the private enterprise and the state enterprise on a global scale. It also proposes that this historiographic occurrence is no chance event; there are obvious and accountable reasons which explain why the state enterprise and the service sector enterprise, and the pregnant potential and capabilities which their combined happening provided disappear from the literature.

Every generation finds its own history. However, as the construction of a historical account is selective, often conditioned, to greater or lesser extent, by the concerns and prejudices of each successive generation, the process of recovery is selective and much of human experience remains hidden. Historical literature is, inevitably, partial, conditional and circumscribed. However, sometimes those limiting characteristics are deeply embedded, etched and enforced by the priorities of the cohort of scholars and so reflect the nature of the times in which they research and write. The unfolding and altering story that reflects mankind’s revisited past is an inevitable and universal phenomenon. However, even given the incomplete historical record bequeathed to later generations, the past does not have to remain unearthed; reinterpretation of our past can occur, even in the face of strong orthodoxies which determine the conventional wisdom. The history of the assessment of business performance is an interesting case which reveals a great deal about this tendency. Indeed, the story which tells of the development of the ‘Large Enterprise’ in the period before the First World War is an excellent example, interesting for both its causes and its consequences. This topic is one which figures prominently in the literature of economic and business history.

Furthermore, as I hope to reveal, the views of contemporaries, including economic and business historians active at the time, are extraordinarily revealing; and

our neglect of their knowledge is our loss. Here it is suggested that although the views held before the First World War, and immediately after, have to a large extent been lost from view these are worth re-examination. One consequence of this neglect is that the story of the emergence of the large enterprise which dominates the literature is unnecessarily partial, conditional and circumscribed. By contrast, the alternative assessment provided here is a ‘global’ interpretation: global not only because it encompasses the international economy in its entirety but also because it considers explicitly all enterprises, regardless of location, nature of economic activity, or ownership. Furthermore, this global perspective is informed largely by contemporary sources and the views of contemporaries.

An appreciation of each of these rather basic points is essential because the evaluation of the emergence and performance of ‘Big Business’ presented here differs somewhat from the standard appraisal that has dominated the economic and business history literature for the last half century. By contrast to the conventional approach, the assessment of the large enterprise provides a global assessment of early twentieth century, and it does so by at least three fundamental counts: first, it is inclusive of all enterprises, regardless of nationality, to encompass every large company, measured by the two major conventional indices of business size, which operated in the world in 1912; second, it encompasses firms engaged in every sort of economic activity, rather than being restricted to those which active in the industrial sector, to include producers of both goods and services; and, third, it embraces all large enterprises regardless of ownership, so that it includes state enterprises as well as private firms. Specifically, on each count, this perspective is the antithesis of mainstream US business history that privileges the American industrial capitalist enterprise.

This is also, emphatically, a quantitative study: the determinant of inclusion for each enterprise listed in this global assessment is its size. However, it should be noted that in this context scale is also an indicator of performance: although some organisations, notably state-owned Post Offices, tobacco monopolies and the Prussian mines had origins dating back more than two centuries, almost all the large enterprises of 1912 had grown from small enterprises within the lifespan of a long-lived contemporary. Although additional measures of enterprise operation are considered here, including profitability and productivity, the normal practice of business historians is adopted in that size and longevity provide the major indicators of enterprise performance. However, and in contrast to the conventional literature which privileges total assets (or liabilities), the indicators of size preferred here are market capitalization and labour employed. For 1912, the World’s 100 largest enterprises by market valuation of equity and by labour employed appear, respectively, in Table 1 and Table 4; the sources and methods employed to construct these datasets are indicated in the accompanying Appendix.

Business historians have tended to use assets as the favoured indicator of company size. However, although these data can be extracted relatively easily from

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3 The research project associated with this report also considered co-operative enterprises but, by the measures adopted here, even the largest, England’s Co-operative Wholesale Society, falls outside the ranks of the world’s largest one hundred enterprises. Another small group of enormous enterprises active in 1912, the six ‘Billionaire Insurance Companies’, one British, five American, that operated largely as mutual corporations, also fall through the Eratosthenesian-like sieve adopted here to capture large enterprises by market capitalization and labour employed.
contemporary sources, they often flawed provides an inadequate indicator for comparative purposes. Asset listing are relatively problematic and this is especially true when they are used for comparative exercises which are international in scope.4

By contrast, although business historians have, for the most part, shunned market valuation,5 this alternative indicator has always been firmly rooted in the practices of business management and market valuation has been an accepted method of appraising a company since the dawn of capitalism. In fact, one of the themes of this chapter is that in 1912 contemporaries would often have used market valuation as an indicator of company size and performance in preference to assets, the alternative metric which usually informs business history.

In providing a global, fully comprehensive, perspective this analysis is at variance with the standard textbook story of this period which stresses, inter alia: the predominance of the manufacturing firm; the dominant contribution of private corporations; and, in particular, the unique primacy of the large American industrial corporation,6. In short, and in the terminology of the economist, the generally accepted ‘stylised fact’ is that the archetypal early twentieth century large company was a privately owned American industrial corporation.7 This contribution indicates the origins and limitations of this judgement.

4 Although there are a number of reasons which indicate the unsuitable nature of asset comparisons, including the nature of alternative systems of depreciation accounting and differences of national accounting practice and idiosyncratic procedures, the major problem here is the contemporary American practice of swamping capital issues with watered stock, equity which was worth but a fraction of its nominal value. Although comparisons within the European world, one which includes the empires of the European nations and South America, may have some useful purposes, the inclusion of American companies would, to a large extent, render the exercise worthless. As they can reflect the more outrageous behaviour of stock holders, market valuations are also not beyond reproach; however, their responsiveness to the perceptions of thousands of investors and their reflection of recent history render share prices the most useful indictor of capital, most of the time.

5 One revealing recent case, which better reflects recent practice among its business historians, and also the nature of corporate finance in their country in last half century since 1918, than that which existed in the Kaiserreich before the First World War, saw the editors of a German business history journal censure from an article a reference where the case was made for ‘market capitalization’ as a pre-eminent indicator of business size and performance.

6 The historiography which narrates and analyses the development of the large American industrial corporation is dominated by the pioneering contribution of Alfred Chandler, Jr (1962: MIT Press: Cambridge, Mass.) Strategy and Structure: Chapters in the History of the American Industrial Enterprise and Alfred Chandler (1977: Harvard University Press: Cambridge, Mass.) The Visible Hand: The Managerial Revolution in American Business. In his (1990: Harvard University Press: Cambridge, Mass.) Scale and Scope: The Dynamics of Industrial Capitalism the story is developed of how this American innovation came to be diffused among manufacturing companies in Germany and then in Britain. The British experience, which is seen to follow and reflect the American experience, is recounted in Leslie Hannah (1983: Methuen: London) The Rise of the Corporate Economy. As we will see, Hannah has more recently qualified his account to indicate the simultaneous emergence of the large industrial corporation in Britain and Germany before 1914. Maurice W. Kirby (1994) ‘The Corporate Economy in Britain: Its Rise and Achievements since 1900’ in Maurice W. Kirby and Mary B. Rose (1994: Routledge: London) Enterprise in Modern Britain: From the Eighteenth to the Twentieth Century, pp. 141-143 provides a restatement of the traditional ‘Chandlerian’ story.

In the context of the United States, itself, the emergence and prevalence of this view is perhaps unsurprising for historically distinct and inter-related reasons; one is a result of its economic history, the other of its academic history. Recently, the modern American economy has been so large relative to its peers and its superior economic performance and productivity lead have been so stark that it has been all too easy to project back present institutional arrangements as long run causal factors which, in reality, provide little in the way of historical explanation of performance at the beginning of the twentieth century and thereby to assume a continuity which is spurious. In its most extreme version, such a short-sighted view would not only privilege unduly the American experience but it would also understate the significance of the United States’ integration into the world economy; a development of great consequence both for the United States and for the rest of the world. Furthermore, as the state has been a relatively small economic institution in the United States, the role of government does not have the visibility evident for other economies and its more general significance can be underappreciated. The ideologically determined distrust of the state that has permeated American society from its birth provides the intellectual justification for this view and has ensured that the outcome, a circumscribed and constrained state, corresponds to the associated rhetoric.

The institutional impact of the university, broadly defined, provides the second factor: the relative size of the higher education community in the United States, though it may also increase the potential for introspection which may not be so easily contemplated elsewhere, offers enhanced opportunities for development and expansion which have fostered academic specialization and, diffused across departments of history, economic and business studies, one example is business history. In these circumstances, it is unsurprising that the business history of America has played such an important role in the development of business history as a discipline. However, it should be noted that a research project designed to indicate the history of the large manufacturing business enterprise in the USA is designed to identify the developmental contours of large corporations within that republic and that the emergence of large enterprises elsewhere is incidental and may remain unobserved. In other words, the narrative of the emergence of American Big

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9 When Louis Galambos writes, ‘For most of its early history, business history evolved as an isolated American subdiscipline, separated by a wide gulf from the strong intellectual currents reshaping the larger discipline of history in the United States’, he indicates not only its isolation as sub-disciplinary within the American academy but also, and perhaps inadvertently, the probability that, in its isolated state, American business has been the primary subject of business history as researched and taught in the USA. Louis Galambos, ‘Identity and the Boundaries of Business History: an Essay on Consensus and Creativity’. In Business History around the World, edited by Franco Amatori and Geoffrey Jones (eds.), (2003: Cambridge University Press, Cambridge), p.11.

Business is only a fraction, albeit a large fraction, of a comprehensive account of the emergence of Big Business before 1914: the story of the ‘Large American Industrial Corporation’ is just that. Therefore, a caveat is both necessary and important here: it is not disputed here that large enterprises emerged in the United States between 1890 and 1914; rather, it is recorded that the large enterprise is an international phenomena and that it materialized around the world as a result of the first wave of globalization which preceded the First World War.\footnote{In other words, to state that at the end of the nineteenth century the large enterprise materialized globally is neither to deny its appearance in the United States nor to asset that its manifestation, as evidenced by its presence, incidence and the location of its substantive activity, was homogeneous. These points are demonstrated below.}

However, the perspective provided here has little claim to novelty as it coincides largely with those generally held by businessmen during the two decades before 1914 and academic assessments published immediately after the First World War by economic historians whose careers had come to maturity during this period. In discussing business performance a necessarily brief review of the contemporary commercial literature demonstrates the nature of the commercial intelligence published in the financial press: see the accompanying Appendix that demonstrates the scale, scope, and quality of information available to the public.

This commercial literature also informed the opinions of economic historians which was later to appear subsequently in their professional publications.\footnote{J.H. Clapham (1938: Cambridge University Press: Cambridge) \textit{An Economic History of Modern Britain: Machines and National Rivalries (1887-1914) with an Epilogue (1914-1929)}, p.vi.} J.H. Clapham, in his seminal assessment of economic development of western European economy, published shortly after the end of the First World War, identified two salient features of the international economy that had emerged during the half century before 1914. Both the global nature of the international economy and the momentous role of the corporation were identified when he wrote of the ‘latest company age, which was in every sense international’ that had ‘completed that economic interlocking of the nations’ commenced in the mid nineteenth century.\footnote{J.H. Clapham (1921: Cambridge University Press, Cambridge), \textit{The Economic Development of Germany and France 1815-1914}, p.398.}

Clapham was not alone in describing what most would now regard as globalization. Lilian Knowles, one of his contemporaries, explained how technological progress in the late nineteenth century had the result that ‘Distance was abolished by the railway and the steamship and geographical barriers were circumvented’ by technological progress’ such that the ‘whole world became one area for economic purposes after 1870’. As a consequence, she added, ‘economic motives

Whitten (2006: Praeger: Ithaca, New York) \textit{The Birth of Big Business in the United States: Commercial, Extractive, and Industrial Enterprise}. Porter’s text, the third edition of a text originally entitled \textit{The Rise of Big Business 1860-1910}, has consistently eschewed reference to the international character of this phenomena. Not only is this restrictive approach true also of the latter text, but one should note additionally the clear ambiguity of the Whittens’ title; this can be read to stress ‘The ‘\textit{American} Birth of Big Business’ rather than, as would more accurately reflect its contents, ‘The Birth of \textit{American} Big Business’. This ambiguity was not so conspicuous in its predecessor: D.O. Whitten (1983: Connecticut) \textit{The Emergence of Giant Enterprises, 1860-1914: American Commercial Enterprise and Extractive Industries}. Interestingly, albeit incidentally, the Whittens eschew Porter (1973, 1992, and 2006), and \textit{vice versa}. More significantly, neither text provides a quantitative assessment of either the absolute size or the relative magnitude of the United States’ largest businesses.

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dominated the political situation from that time onwards.’ This unification of markets was made possible by the integration of systems of transport and communication as railways, steamships, telegraphs and, at the end of the period, telephone systems bound communities and nations together. Although having little to say about the role of the large enterprise in this process, Knowles also highlighted the role of the state. She wrote that ‘One of the most striking events of the period beginning with the last twenty-five years of the nineteenth century is the growing influence of the State in the economic sphere. It is noticeable in almost every phase of economic life: in agriculture, in industry, in transport, in commerce, and in social welfare.’

Although business historians have written a great deal about ‘Big Business’, it is only recently that contemporary surveys have been published which list the world’s largest enterprises enumerated by consistent, theoretically justifiable and well-defined criteria. Business historians have yet to provide equivalent comprehensive lists of the world’s largest enterprises for periods antedating these surveys produced in the 1980s. This is not to assert that business historians have not provided lists of large companies: they have. Rather it is to insist that those lists which appear in the business history literature have been partial, biased, and far from comprehensive.

Assets have provided a frequently employed index of comparative size. For many publicly quoted American companies this is problematic measure as it was far from uncommon for US companies to be floated on the stock exchange awash with watered capital. Consequently, the assets reported in the accounts of US manufacturing were frequently but a fraction of a realistic market valuation of their assets. In Europe such overvaluation was not a common practice, so that a comparison of the corporate size European and US firms which relies on reported assets is biased, systematically overstating the financial standing of American companies. Although still evident in 1912, the consequences of US stock watering were not as glaring as it had been at the fin dessiècle when, at the end of the first Great Merger Wave of the United States, the common stock of many American corporations was worth but a small fraction of par value (See Figures 1 and 2: Figure 1 plots the 100 largest American industrial companies ranked by nominal value and by market value; Figure 2 plots the 100 largest American industrial companies ranked by equity market value and indicates for each company the associated nominal value of that equity issue.)

The United States Steel Corporation, is frequently reported in the literature as being the first billion dollar corporation, but the market value of its common stock had languished during its early years far below for $30 and had risen to barely $60 in 1912. Created by the fusion of a number of companies around the core of Andrew Carnegie’s Steel Company in 1901, US Steel appears frequently in the literature to illustrate the superior size of American companies. Apart from its untypical nature, US Steel was unique and its enormously large size for a manufacturing company set it apart even in the United States.


15 In German the flotation of companies by the American practice of stock watering was illegal.
Figure 1

USA large industrial companies 1904-5

100 largest companies ranked by equity value:

Nominal Value, $m

Market Value, $m.

$ million

Rank order, 1 to 100
Figure 2
USA large industrial companies 1904-5
Ranked by market value, $m.

Nominal Value, $m.
Market Value, $m.

Rank order by market value, 1 to 100
This chapter offers an alternative approach explicitly designed, as far as has been possible, to assemble an unbiased, impartial and comprehensive survey of the world’s largest companies at a crucial point in human history. 1912 provides the focus for this study as it stands for the world before the First World War, before London’s pre-eminence was dissipated, before the dissolution of the gold standard, before the emergence of the economy of the United States as a gigantic, if not hegemonic, entity within the world economy and before the emergence of the large multidivisional industrial corporation. 16 In short, and in the vernacular of business historians, 1912 stands for both the apogee and the culmination of the pre-Sloanian world. 17

Crucial to an understanding of this world is an assessment of the size and performance of these corporate behemoths. Here there is some overlap as the growth of an enterprise to reach the gigantic proportions indicated here is in some way a measure of performance which goes far beyond mere survival or longevity. Furthermore, the limited opportunities provided by a chapter allow little scope for the development of a detailed analysis and comparative assessment of the performance of the world’s largest enterprises during the Belle Époque. However, and partially in its stead, the contemporary commercial literature is discussed to indicate the characteristics of the data available to assess the effectiveness of business performance in 1912, to demonstrate the nature of the then-current methods of business appraisal, and to reveal possibilities for future historical investigation of corporate performance.

Labour, the second of the two gauges provided here, was also an important indicator of company size familiar to contemporaries, not least because of its political importance in societies that were on the verge of becoming popular democracies which permitted universal adult suffrage, has also been relatively neglected by business historians, and this is especially so for the business history of the United States.

The major empirical novelty provided here is a listing of the world’s largest employers in circa 1912. Superficially, it may appear that the construction and discussion of such inventories offers little in the way of a theoretical contribution to economic and business history; however, I consider that much is revealed by a serious consideration of methodologies and practices adopted by practitioners. In particular,

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16 1912, which commenced with the declaration of the Republic of China, also saw: the end of the Meiji period in Japan; colonial consolidation in north Africa by Spain and France; the First Balkan War, that marked the invention of modern aerial warfare and resulted in the dismemberment of European Turkey; and, more evident now in popular memory, the loss of the RMS/SS Titanic. However, although 1912 saw a number of notable events, including a number of newsworthy labour disputes in the major industrial countries, it was not an extraordinary year. And therefore it appears as appropriately representative of the period immediately before the First World War, the bloody watershed after which things were different.

17 This label associates the origins of the multi-divisional corporate structure with the restructuring of General Motors at the end of 1920 according to the organizational structure advocated by Alfred P. Sloan; Alfred P. Sloan (1964: Doubleday: New York) *My Life with General Motors*, p. 40-57. In the Chandlerian historiography this development was preceded by the corporate integration of industrial companies that developed functional departmental structures, first, in the U.S.A. and, then, in Germany. By these managerial innovations, this literature suggests, large scale industrial corporations, and their domestic economies, were able to enjoy the economies of ‘Scale and Scope’ that did not accrue to their British counterparts until later in the twentieth century; Chandler, (1990) *Scale and Scope*. 

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the causes of the constrained approach adopted by business historians are both revealing and instructive; revealing of the professional prejudices held by practically all analysts of long run business behaviour and instructive of some of the prospects for future research in business history.

The biases arise for a number of reasons, but probably the most important is the predisposition to favour firms which were producers of goods over those which provided services. This predilection verges on the universal and has it origins in the prejudices of the father of economics, Adam Smith; and he probably inherited an even more deeply rooted theological presumption of the morality of hard work devoted to manufacture. It pervades not only the literature of economics and economic history but also that of management studies, sociology and history, broadly defined. In one of the great debates of history, the failure of the Late Victorian British economy and its entrepreneur, the emergence of an enlarged services sector has often been presented as evidence of slackening business performance and loss of entrepreneurial vigour. As modern economic development continues, however, and as services now provide the dominant share of national output in the developed economies of the world, it becomes increasingly hard to take seriously the more simplistic versions of this view.  

Similarly, there are many sources of partiality but one of the major causes has been the failure of business historians to locate pertinent and historical sources. This is not say that some historians fail to locate the relevant source materials, we are all guilty, if guilty it be, of such errors of omission. Rather it is to assert that some business historians have limited their search for information, believing that their presumptions are realistic and do not require the kind of questioning that would come from a scientific approach – a methodology that questions even the fundamental assumptions of a discipline.

But, apart from an overwhelming interest in the industrial corporation, it is the focus in the historical literature on national lists of ‘Big Business’ that has contributed to the scholarly neglect of the international aspects of the large enterprise before 1914 and, consequently, has resulted in a superfluous truncation of the lists of large enterprises which have been published. Specifically, large enterprises that were British owned, but which operated outside the United Kingdom have not received the recognition they merit. The nation-centric approach adopted by many historians goes some way to explain the popular but misleading suggestion that the British entrepreneur failed in

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the Edwardian period. Rectification of this myopic approach has another important consequence as it re-establishes the British Empire as a location of ‘Big Business’. So, yet again, this correction highlights another aspect of London’s pivotal role in the first global economy.

**The nature of the World’s largest businesses in 1912.**

(1) The World’s largest capitalist enterprises by market value (see Tables 1 to 3)

The World’s 100 largest capitalist enterprises of 1912 by equity market capitalization are ranked in Table 1.\(^\text{19}\) This indicates for each firm: the equity market capitalization; the geographical location of its head office, and the location of its major economic activity for the six enterprises where this was “overseas”;\(^\text{20}\) the major economic sector in which it was active; and, the associated Standard Industrial Classification code.\(^\text{21}\) In 1912 the aggregate equity market valuation of the World’s 100 largest capitalist enterprises was £3.7 billion ($18 billion). The sources and methods employed in the construction of this dataset appear in the accompanying Appendix, in section A.1.

The appearance of US Steel Corporation as the world’s largest capitalist enterprise is consistent with the conventional literature, though here its equity is valued at a considerable discount on its nominal value because its equity traded significantly below par. More unconventional is the appearance of the Canadian Pacific Railway Company as the world’s second largest capitalist enterprise; in third place, and probably less surprising, is the Pennsylvania Railroad Company. Railway companies dominate the upper echelons of Table 1, taking twenty four of the next thirty places. The six exceptions include two oil companies: Standard Oil of New Jersey and the Royal Dutch Shell group; one textile company: J&P Coats; two mining companies: De Beers and Anaconda; and, a manufacturer of railway sleeping cars and luxury day carriages, Pullman; however, as a leasing company of its railway carriages, Pullman was also intimately involved in the operation of the railway industry. Once recognised, the prominence of railway companies is perhaps not so striking as the magnitude of the nine British-owned railway companies that rank among the world’s thirty largest capitalist enterprises in 1912.

It appears that business historians, and particularly US business historians, have looked no further than the significantly longer mileages operated by the larger American railroad companies relative to their British counterparts in order to discount the latter as significant examples of Big Business, though the largest British railway companies operated systems with track length in excess of a thousand miles. However, whereas Britain’s large railway companies operated in densely populated

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\(^{19}\) Hereafter, references to the world’s largest enterprises refer to the 100 largest enterprises ranked by equity valuation in Table 1 or ranked by number of employees in Table 4, or both, as indicted in the text and as appropriate.

\(^{20}\) “Overseas” enterprises, the organizational corporate form that channelled a significant portion of British Foreign Direct Investment to its destination outside the British Isles is discussed below; see also footnote 23.

areas that exhibited relatively high incomes per capita, many American railroads served sparsely populated or relatively poor hinterlands. Furthermore, while the British system was relatively stable, with traffic expanding at a modest though perceptible rate, the American railroad industry was notorious for its crises and portions of it existed in a state of almost perpetual financial upheaval such that receivership, bankruptcy and collapse were far from unusual. After 1900, while railway experts might have begun to look to some north American railway companies for examples of managerial best practice, they could also identify easily examples of dramatic failure among the United States’ railway companies. As Alfred Marshall recorded immediately after the First World war, the two decades before 1914 also saw the corporate purchase of many US railroad companies, achieved by total or majority share ownership, so that many prominent railway companies were subject to external control.  

Table 2 sheds light on the global geography of Big Business in 1912. Perhaps surprisingly, America’s share of the world’s largest capitalist enterprises was almost half of the total: 48 US firms provided 50.6% of the aggregate equity valuation. However, given the literature of business history, where British capitalists are frequently upbraided for their inability to build large firms, Britain’s relative share of over a quarter of the world’s largest capitalist enterprises must verge on the astonishing: 27 companies, based exclusively in the UK, represented 28.5% of the aggregate equity value. Even more telling, given both its political reality and the strongly affirmative attitudes of its subjects, is the British Empire’s share of a third of the world’s largest companies; with Royal Dutch Shell classified as a British enterprise, the British Empire’s 32 firms indicated in Table 1 provided 36.4% of the total market capitalization of the world’s 100 largest corporations.

By contrast, the German Empire, frequently regarded by business historians as the second most significant contributor to the ranks of the world’s largest companies after the USA, provided only six of the world’s 100 largest capitalist enterprises, and these represented only a 2.9% share of the total equity value of the world’s largest 100 companies. France, often identified as the laggard in this respect, has twelve companies in Table 2, twice as many as Germany, and its 10% share of the total value of the world’s largest companies exceeded by nearly four-fold the share of its much boosted continental neighbour. Furthermore, and by a clear margin, the lowest average company equity value of the nations identified in Table 2 are those of Germany and Austria-Hungary: the largest firms of these economies may have been giants in their own domain but they were far from exceptionally large by a global standard.

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22 Alfred Marshall citing the ICC’s report of 1908 on *Intercorporate relations of railways*, indicates both the consequences of intercorporate holdings, and the difficulties of estimating railway capitalisation where this is commonplace; Alfred Marshall, *Industry and Trade: A Study of Industrial Technique and Business Organization; and of their Influences on the Conditions of Various Classes and Nations* (1919: Macmillan: London), Appendix M, ‘Notes on Railways and their Problems’, p. 844. Marshall, like other British commentators, was struck by the ease with which in America an individual, or a small group of investors, could accumulate sufficient equity to achieve control of a US railway company; in his view the size and distributed nature of equity holdings made this impossible to envisage in the United Kingdom, where the separation of ownership and control was evident by 1912.
Inspection of Table 1 and 2 reveals some of the complexities of the global economy of 1912. At least six firms were head-quartered in a metropolitan economy, usually in its capital, but engaged in the majority of their activities beyond the boundaries of that country. Contemporaries referred to these companies as “Overseas firms”, more recently Mira Wilkins has coined the term “free-standing” to typify these firms.²³ In the case of a British-owned Argentinean railway company, with its head office securely grounded in London and its tracks firmly planted on the Pampas, the contemporary term appears preferable. At that time, it was activity beyond the national boundary of the metropolitan country, rather than the geographical reality of the ocean, that was indicated by the term; New York financiers referred to equivalent US owned enterprises active in Canada or Mexico as “Overseas firms”, though no salty brine distanced them from these foreign ventures.

Furthermore, and most significantly in this context, given the world view of the British-based capitalist, and the milieu in which he operated, from an economic or political standpoint, although the journey could take longer, Buenos Aires was as accessible from London or Paris as Detroit was from New York or Wilmington; in each case, and although of relatively minor significance, a political boundary had to cross. Although this tended to be forgotten after World War II, in a world with relatively high international factor mobility, with few barriers to capital or labour movement, and low tariffs, the state boundaries within the USA could be as potent economically as international boundaries; this is evidenced both by the activity of the Interstate Commerce Commission and by the relocation by US companies of their head office to a state of the union preferred because it offered an advantageous legal environment or financial benefits to the corporation.

However, as panel (b) of Table 2 indicates, while an adjustment that allows for the location of economic activity, one that identifies the Argentine railways with that country and Rio Tinto with Spain, has a major impact on their respective standing as indicated by Table 2, it does little to diminish the United Kingdom’s prominence. Even after this more restrictive allocation, the UK remains the location of 23 of the world’s 100 largest capitalist enterprises and these companies collective share of the equity market capitalization of the world’s largest 100 capitalist enterprises constitutes a quarter of the aggregate total in 1912.²⁴ Clearly, Big Business thrived in Britain in the decade immediately before the First World War.

Furthermore, it is hard to avoid another revisionist conclusion: among the ranks of the world’s largest capitalist enterprises, multinational companies were relatively unimportant in 1912. Only J.&P. Coats, the Glasgow-based cotton thread producer, and the world’s third largest industrial enterprise, with its geographically distributed production, with factories located in Austria-Hungary, Belgium, Germany, Italy, Portugal, Spain, Switzerland, Russia, Japan, Brazil, Mexico and the USA,

²⁴ A finer adjustment would allocate workers more closely to nations but, given our current knowledge this is not a practical option; for example, while more than half the workforce of J. & P: Coats was employed outside the United Kingdom no further disaggregation to locate these employees overseas is possible.
indicated the potential of the global multinational manufacturing firm.\textsuperscript{25} Singer’s decision of its first European factory in Glasgow, the major manufacturing facility for its ubiquitous sewing machine, in close proximity to Coats’ head offices at Paisley is a fascinating example of the achievement of external economies in an industrial district, though one that fits uneasily in the Marshallian model,\textsuperscript{26} by two firms that epitomize global marketing ambitions before 1914. The strategy implemented by International Harvester closely resembled that adopted by Singer; farm equipment manufactured at its North American and European factories were sold all over the world.

Coats’ primacy in this context, and its unique status as an internationally distributed manufacturer, is only confirmed by comparison with those companies that had an overseas productive presence and appear in Table 1. Siemens, perhaps Coats’ closest contender here, concentrated its overseas production at a small number of European manufacturing plants so that its diffusion of manufacturing was continental rather than global. In 1912 Lever Brothers, manufacturer of margarine, soap and household chemicals in Britain, the Dominions, Europe, and New England (USA), was engaged in a search for African plantations but its overseas expansion lay largely in the future. United Fruit, the major representative of the agricultural sector in Table 1, while active in a number of countries, cultivated tropical produce for sale to markets in temperate Europe and the USA. Processing and distributive networks which covered North America and Western Europe were also assembled by the large US meat-packing firms;\textsuperscript{27} Swift, the sole representative of this class in Table 1,\textsuperscript{28} also acquired meat processing factories in Argentina and commenced production in Australia in 1912.\textsuperscript{29}

These ventures abroad were exceptional for large US manufacturing companies that generally found burgeoning domestic markets sufficiently lucrative to restrain an active pursuit of multinational manufacturing expansion before World War I. Mining companies owned by subjects of the British monarch, including South Africa’s De Beers and Rand Mines, also tended to constrain their productive activities to the geological deposits which determined their activities rather than adventure abroad. Similarly, as Rio Tinto’s extractive activities were confined to Spain and only accompanied by relatively limited processing capacity in South Wales, its hardly classed as a multinational producer though its marketing activities made marketing strategy global. More adventurous, in the decade before 1914, were the American mining enterprises and petroleum producing and refining companies which, like their

\begin{itemize}
\item \textsuperscript{26} Alfred Marshall (1890) \textit{Principles}, p.332.
\item \textsuperscript{28} As explained in the Appendix, the equity market capitalization estimated for Armour was insufficient to justify its inclusion in Table 1.
\item \textsuperscript{29} H.L.Wilkinson (Critchley Parker, Melbourne, 1914) \textit{The Trust Movement in Australia}.
\end{itemize}
British and Anglo-Dutch counterparts, were actively searching abroad for resources to exploit.

Table 3 indicates not only the wide range of economic activities undertaken by the world’s largest capitalist enterprises but also the predominance of those firms that operated in the services sectors. In particular, firms whose major activity was the provision of transport and communications services comprise 47 of the world’s 100 largest companies and constitute 61.8% of the collective equity value. Among the other services sector activities, Finance is the most prominent; banking provides 13 of the world’s largest capitalist enterprises and 7.3% of the aggregate equity of 1912. The prominence of the three largest British commercial banks, Lloyds Bank, London City & Midland Bank, and the London County & Westminster Bank, and their four French equivalents, Crédit Lyonnais, Crédit Foncier de France, Comptoir National d'Escompte, and the Banque de Paris et des Pays-Bas, suggests that the more recent historiography has over-emphasised the relative standing and significance of large German banks. The Deutsche Bank, Disconto-Gesellschaft and Dresdner Bank are ranked in the lower half of this distribution and have estimated equity market values not dissimilar to their British and French counterparts.

Here, the inclusion of three central banks, the Bank of England, the Banque de France and the Banco de España, is unconventional, but each was owned by its shareholders and each was operated to produce a profit. Furthermore, a more general phenomenon, the significance financial ‘Big Business’ is indicated by the equity valuation of the Austria-Hungary Bank, Credit Foncier Egyptien which, although ranked just outside the world’s 100 largest capitalist enterprises, each with equity market valuations of circa £12.3 million, were also amongst the large enterprises in their domestic economies. Had the Reichsbank been placed on the market, its issued capital and banking results would have placed it in a very similar position. Larger than these, the Bank of Japan, with an equity valuation of £12.8 million,\(^{30}\) was by far the largest capitalist enterprise in Japanese economy. The bank upon which it had been modelled, the Banque Nationale de Belgique, and the two largest capitalist enterprises in Italy, the Banca Commerciale Italiana and the Banco di Roma, each with an equity valuation of about £8 million, insufficient to figure in Table 1, were nevertheless prominent as the largest enterprises in their own economies and confirm, from a global perspective, the importance of financial sector large enterprises in 1912. Given the importance, indeed the economic centrality, of each of these financial institutions within their respective domestic economies, and the significance of the Bank of England for the world economy, it is a strangely selective survey of the world’s largest capitalist enterprises that disregards these institutions.

The USA was different and without a central bank in 1912. The following year, however, the long standing political and economic debate concerning the relative benefits and costs of a central bank came to a head and the Federal Reserve Act was passed, establishing from 1914 a state-sponsored central bank for the USA that had unique federated structure of twelve district banks supervised by a Board of Governors located in Washington. American banks, small by British, French, or even German standards, constrained to an individual state, and largely prohibited from developing branch structures, are absent from Table 1.

\(^{30}\) Professor Kazuo Tatewaki kindly provided this equity valuation of the Bank of Japan in 1912.
Nevertheless, large enterprises in the services sectors were not unknown in the USA as it was the location of the world’s largest distributive capitalist enterprises, Woolworth and Sears, Roebuck. By 1906 Sears, Roebuck owned, wholly or in part, 16 manufacturing plants that indicated the possibilities of backward integration and, although not strictly a multinational, the extension of Woolworth’s American chain to Britain portended things to come in the retailing sector.\(^{31}\) These two companies heralded the potential for corporate development that was to be achieved in the late twentieth century by distributive firms in general and, specifically, by Walmart, Tesco, and Carrefour.

The Canadian Pacific Railway Company, the world’s second largest capitalist enterprise whose activities are described briefly at the head of this chapter, indicates unmistakably both the integration of economic activities within an enterprise and the interrelationship between its size and the range of economic activity undertaken by. Like many of the world’s largest railway companies, the CPR owned hotels, ferries, ocean-going steamers, docks, maintenance workshops and land and, although not unique in this respect, it even mined its own coal. With its transoceanic shipping lines, on both the Atlantic and Pacific Oceans, its Alpine railway sleeper service in Europe, and its ownership of the Minneapolis, St. Paul and Sault St. Marie railway south of the US border, the CPR is one of the foremost examples of a pre-First World War integrated multinational enterprise, albeit one whose primary activities were the provision of transport services.

The range of economic activities undertaken by large firms in 1912 is also demonstrated by some British railway companies which, unlike their US counterparts, were noted manufacturers of locomotives, rolling stock and equipment\(^{32}\) and employed sufficient industrial labour to be listed among Britain’s largest employers of manufacturing workers of 1907.\(^{33}\) In addition to these ‘productive’ workers, the staff who worked the line and their respective managers, the major British railway companies also employed large numbers of ancillary staff who provided supplementary transport services, including ferries, trucks and buses, and worked in snack bars, restaurants and hotels.

The prominence of the French railway companies in Table 4 also merits some comment as business historians tend to slight them as virtual appendages of the French state and recipients of income guaranteed by the government.\(^{34}\) This verdict as to their commercial viability may be tenable for most of the nineteenth century, but by 1912 it is of questionable validity. In the 1880s only one of the six large railway companies, the Nord, managed without recourse to the state’s guarantee. However, at the turn of the century circumstances changed as four of the other railway companies established their financial viability: the Paris -Lyons-Marseilles company needed no

\(^{31}\) Chandler (1977) *The Visible Hand*, pp. 231, 234
assistance after 1895, the Orleans was self-supporting from 1898, the Eastern from 1903 and the Southern from 1904. The weakest railway company, the Western, which had drawn consistently upon the state guarantee, was nationalized in 1909 by an act of rationalization that combined it with the adjacent existing state railway and brought that system into Paris.\textsuperscript{35} Otherwise, in 1912 the large privately-owned French railway companies which appear in Table 1 operated in a commercial environment; to adapt an analogy drawn from the Big Top, rather than being suspended from above by a secure line of government finance, the railway companies performed their commercial acrobatics above a financial safety net.

This example is not the only one where the recent historical literature does not necessarily reflect the views held by contemporary commentators. In the hands of the Interstate Commerce Commission, armed with authority to fix rates after 1906 by the Hepburn Act, and, its local manifestation, the Intrastate Commissions (Marshall, 1919, p.446), the early twentieth century railway system of the USA was regarded by some British experts as more regulated than the British.\textsuperscript{36} In part, this opinion may have reflected insider knowledge as to the extent that the railway companies were pressurized into awarding significant, and strictly illegal, rebates to important customers or alliances of major clients. In 1912, however, there was some expectation in Britain that the recent review of railway legislation might alter this balance \textit{vis-a-vis} the US, one objective of this reform was the introduction of policies designed to generate further benefits to accrue from the continuing and extended application of scientific management.\textsuperscript{37}

Detailed analysis provided by the commercial press, government reports and trade publications gave the public a detailed clear picture of the financial performance and the transport services provided by all railway enterprises, be they privately owned or state owned, and be they domestic, overseas, or foreign. The railway companies provided copious financial data and detailed physical indicators of their traffic which enabled the performance of companies in this most closely observed industry to be assessed regularly, thoroughly and systematically. A railway manager was constantly aware of the public gaze and not infrequently responsive to the suggestions made by opinionated commentators, which included investors in the private railway companies, eager to make known their knowledge of current developments anywhere in the world.

Although historical economists have reined in some to the more exaggerated claims made for the economic contribution of railway systems to national economies,\textsuperscript{38} contemporaries were often convinced of the centrality of the railways for the efficient workings of the economic system. The performance of railway companies and railway industries, assessed in absolute and relative terms, was a major

\begin{itemize}
  \item Clapham, \textit{Economic Development of Germany and France}, p.343-4.
  \item In part, this opinion may have reflected insider knowledge as to the extent that British railway companies were cajoled into awarding significant, if not illegal, rebates to important customers or alliances of their major clients.
  \item Statist, 8 March 1913, pp.462-3.
\end{itemize}
feature of political discourse in the years immediately before the First World War, this was especially so in 1912 which saw a number of well-publicised labour disputes. It is remarkable that privately owned railway companies across the globe, including those in Canada, France, the UK, and the USA, hitherto provided so little information about the labour they employed. Furthermore, in any assessment of their business performance, although constantly and profoundly concerned about capital productivity, the railway companies appear relatively unconcerned about labour productivity. This is a little paradoxical because although the railway industry was relatively capital-intensive, and railway companies appear prominently among the world’s largest capitalist enterprises ranked in Table 1, the world’s major railway companies were also employers of large numbers of workers.

(2) The World’s largest businesses by labour employed. (see Tables 4 to 6).

The World’s 100 largest labour-employing enterprises of 1912 are ranked in Table 4. This indicates for each firm its labour force, the geographical location of its major economic activities, with an indication of its head office location where this was elsewhere, its form of ownership, the major economic sector in which it was active, and, the associated Standard Industrial Classification code. In all, the 100 largest labour employing enterprises had an aggregate workforce of 7,354,540 employees.

The sources and methods employed in the construction of this dataset appear in the accompanying Appendix A.2. Table 5, the geography of the world’s 100 largest employers, and Table 6, their major economic activities, are derived from Table 4; these correspond to their respectively equivalents for the world’s 100 largest capitalist enterprises that appear in Tables 2 and 3. There is also significant overlap here, 42 the world’s largest capitalist enterprises also appear in Table 4’s ranking of the world’s 100 largest employers of economically active labour; these include: one tropical foodstuffs producer (United Fruit), one enterprise whose revenue came predominantly from coal sales (Gelsenkirchner), ten manufacturing enterprises, and thirty railway companies. If the state-owned enterprises are removed from this comparison, then the overlap is 42 firms out of the 60 privately owned corporations that appear in Table 1 Interestingly Mines de Lens and Mines de Bruay, the two French colliery companies that achieved the substantial profits required to sustain high equity market valuations (and appear in Table 1), did so without employing a labour force sufficient to appear among the ranks of the world’s 100 largest employers. Emile Zola’s Germinal (1885) appears in a new light, given the implied rate of exploitation that might be inferred from these statistics.

Ownership is a significant variable and enterprises are classified by a simple binary divide enterprises as either state-owned or privately-owned, the latter being

39 Different usages of English, and especially the term ‘public company’ can pose a terminological difficulty here; in table 4 the privately owned, shared, publicly quoted company is classified as a corporation to distinguish it from the state-owned enterprise.
40 See footnote 20 above.
42 I am grateful to Les Hannah for several critical points; this paragraph, particularly, has benefited from these.
those which belong to the public as shareholders. As a group, the 37 state-owned enterprises collectively employed 4 million workers, or 54.5% of the 7.3 million employees enumerated here. The 63 privately owned enterprises, by contrast, employed 3.35 million workers, or 45.5% of the grand total. On average, therefore, among the world’s 100 largest employers, the state-owned enterprise employed a workforce twice the size of the privately-owned firm; respectively, these types of enterprises employed 108,369 and 53,098 workers.

Interestingly, the two German companies classified here as family owned, Krupp and Siemens, collectively employed 2.1% of the total workforce enumerated here; although prominent specimens, rather than appearing as representative of Kaiserreich capitalism, on many counts these two enterprises are atypical. In 1912, these two exceptions apart, the employers with the largest number of workers on the pay roll were either shareholder-owned companies or the state.

Table 5 sheds some light on the geography of the world’s largest employers of 1912; the location of the labour employed provides the primary determinant of geographical place. In all but six cases the major location of economic activity corresponds with the domicile of the enterprise’s head office; the exceptions were the five privately-owned Indian railway companies and the Central Argentine Railway; the head offices of each of these companies was situated in the City of London.

The global picture presented by Table 5 indicates a much broader geographical dispersion of the world’s largest employers than that indicated by the world’s largest capitalist enterprises provided by Table 2. China, Belgium, and Mexico all appear as countries that were the domicile of at least one of the world’s 100 largest employers but are absent from the equivalent list of the world’s largest capitalist enterprises; Japan, the location of five large employing enterprises, and Italy, the home of two, also appear in Table 5 but not in Table 2. By contrast, Spain has one domiciled capitalist company listed in Table 2 but, lacking a sufficiently large labour-employing enterprise, is absent from Table 5. This is also the case for the Netherlands, although the Royal Dutch company had a sufficiently large equity capitalization to qualify on its own account in Table 1; even the largest employer in the Netherlands and its Empire, the national railway company, does not qualify for inclusion in Table 4. Extending this comparison of Tables 2 and 5, Russia is the major entrant to the ranks of the world largest enterprises as it provided 7 of the world’s 100 largest labour employing enterprises. Austria-Hungary is also more prominent in Table 5 than in Table 2.

Extending this comparison of Table 2 and Table 5, it is the share of the United States that shrinks drastically. Collectively, 27 USA firms employed 1.8 million workers, or 24.1% of the aggregate employment of the world’s 100 largest labour employing enterprises; this represents but a quarter of the aggregate employment of the world’s 100 largest employers, and significantly less than the half indicated by the USA’s share of aggregate equity market capitalization (see Table 2).

By contrast, the share of the British Empire is not so reduced; its twenty six enterprises employed 1.6 million workers, or 21.6% of the aggregate workforce of the world’s 100 largest employers. A significant element here is provided by the Indian railway companies which, despite each having a relatively small equity valuation,
were employers of large numbers of workers. Although Indian railway companies made use of technology which was essentially the same as that used by railway companies in Britain, they responded to relative factor prices and made greater use of cheap labour. However, taken on its own, with 13 domestic enterprises and 791,588 indigenous employees, the United Kingdom was the third largest location for large labour-employing enterprises, surpassed in number by Germany’s 17 enterprises that employed 1,427,656, or 19.4% of the aggregate workforce of the world’s largest labour employing enterprises. However, the discrepancy between the two economies is much diminished by a comparison which attributes to the United Kingdom the additional 590,938 workers employed overseas by companies that had head offices in London.

Table 6, which indicates the major economic activity of the world’s 100 largest enterprises by labour employed, reveals the predominance of services sector activities; although this distribution is also a feature of Table 3, it is much more stark in Table 6 where 70 of the world’s 100 largest employers are classified as services providing enterprises. These enterprises employed 80% of the aggregate workforce identified in Table 4. Even a casual examination of these data suggests that many of the characteristics of the large enterprise before the First World War have been ignored or neglected by the more recent literature; in this context, it is difficult to justify the primacy of the large privately owned manufacturing enterprise, the more obvious progeny of the ‘Industrial Revolution’. The large enterprise of 1912 encompassed a much greater range of economic activities, was more complex and was more diffused than this is suggested by this generalization.

The primary sector is represented by five companies: United Fruit, a cultivator of tropical produce; and by four German coal mining companies, one state-owned and three owned by shareholders. However, a degree of latitude is required here, as with the operation of most taxonomies, because this probably minimises the primary sector’s share of large employing enterprises. The strict application of a rule that classified a large enterprise by the activity undertaken of a majority of its workforce might see some of the integrated coal, iron and steel producers identified in Table 4 reclassified as extractive companies given the large number of miners they employed. A similar reservation might also apply to the state-owned Russian enterprises, the GAU and the Department of Mines, here classified as engineering enterprises as they operated production systems, albeit relatively inefficiently, that integrated processes from the extraction of raw materials to the fabrication of armaments. By contrast, and ranked as the world’s 101st largest employer, and just outside the ranks provided in Table 4, the Reichsmarine, which employed nearly twenty seven thousand civilian workers in the Imperial German Dockyards, concentrated on naval construction and maintenance, sourcing its material requirements from the private sector. However, the largest state-owned enterprise devoted to military production was the British Royal Dockyards that employed fifty thousand dockyard workers at its strategic naval bases at Gibraltar, Malta, Singapore and Halifax and at its several dockyards in home waters. The Royal Navy, itself one the world’s large employers though, as a military organisation, one beyond the scope of this survey of

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economically active institutions, depended upon the labour services of this enterprise which employed the world’s 44th largest workforce to exercise its global influence.

The military-industrial complex, that was to be so influential later in the twentieth century, is also evident in Tables 1 and 4, though, significantly, before the First World War, no US armaments firms appear among the world’s largest enterprises; rather it is Germany’s Krupp, Britain’s Armstrong, Whitworth and France’s Schneider, all synonymous with the armaments industry and weapons trade, that signify the militaristic character of the world’s great empires of 1912. That the stimulus of the state in the engineering sector extended beyond the arms industry is revealed by the close relationship Siemens enjoyed with the nationalized providers of telecommunications not only in Germany, its home economy, but also in Austria-Hungary, Russia, and Italy. Interestingly, as they were both perhaps less dependent on state-derived business, its two major rivals and collaborators in the world market for electrical goods, General Electric and AEG, each employed a workforce of not greatly dissimilar size but have equity valuations much larger than Siemens’ £13.3 million.44

In the USA, following the Sherman Antitrust Act of 1890, the state also played a different, though still conspicuous, role by pursuing anti-trust actions. In 1911, on the eve of its disintegration into eleven separate companies, Standard Oil’s labour force would have been sufficiently large for it to appear among the world’s 100 largest employers; although employers of insufficient labour to be enumerated in Table 4, three of the newly independent oil corporations created by its dismemberment appear in Table 1. American Tobacco appears in both Table 1 and Table 4 though, following similar action by the Supreme Court, this was a much reduced rump of the company that bore the same name. Imperial Tobacco and British-American Tobacco, the latter a internationally orientated collaborative venture of American and Imperial specifically designed to sell in markets foreign to the USA and UK companies, employed too few workers to qualify for inclusion in Table 4, though both have equity valuations that rank them respectively at 60th and 34th respectively in the world’s 100 largest capitalist enterprises (Table 1).

However, even in the tobacco manufacturing industry, the state could adopt an interventionist stance.45 The Austrian and Japanese state-owned tobacco processing factories are not only ranked among the world’s largest employers of labour in Table 4, but within their domestic economies these enterprises were the largest employers of labour in the manufacturing sector. In the Austrian case, furthermore, the economic performance of this nationalized industry cannot be assumed to have been inferior as recent research has indicated that this state-owned, monopoly-producer of manufactured tobacco was not demonstrably inefficient relative to its privately owned American counterpart.46

The relative effectiveness state-owned enterprises is even more contentious in the services sectors. Given the central importance of the communications systems of

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44 The estimated equity market valuation of Siemens is from Hannah, ‘Marshall’s Trees”, p. 281; see Appendix for details.
the world’s largest countries in the late nineteenth and early twentieth century is acknowledged, it is not surprisingly that the postal services and railway enterprises of these political units were so prominent. Alongside the railways, often literally, operated the enterprises that provided communication services, postal, telegraphic and telephonic, and it is these organizations perhaps that best represent the binding effects of integrated information flows in the global economy. For nationalized communication services, this international effect could only be achieved by the co-ordination of activities organized by enterprises largely organized within national boundaries and their co-operation was formalized in the Universal Postal Union. Nevertheless, the political boundaries of sovereign states ensured that the geographical distribution of large employers provided in Table 5 differed from that indicated in Table 2 for capitalist enterprises: obviously, relative national income, population size, income per capita and nationally specific political factors obviously played separate and significant roles in determining this pattern.

However, the manifestations of this varied in distinct ways. At the polar extremes, the American aversion to state intervention can be contrasted with the determination of the Russian state to act strategically to sponsor economic development, or even achieve an effective military presence, in Siberia. However, the latter also differed from the policy of the Prussian state which used the income it received from the operation of the railways to finance the budget;\(^47\) more specifically, these revenues gave the government latitude to by-pass the Reichstag and evade parliamentary scrutiny of its military spending.\(^48\) Significant policy differences were to be found within the British Empire where the mix between the private and state sectors in each of the Dominions was achieved as a result of local political dialogue. South Africa’s national state policy differed from the politically divided inheritance of the recently formed Australian Commonwealth where the railways were owned and operated by each state. Australian businessmen were often vocal in their criticisms of the transport services provided by these states-owned railways and compared their own situation with what they regarded as the benefits their counterparts obtained from the privately owned system in Canada. However, and what they tended not to emphasise, the state in Canada played a major role in the construction and operation of railways in the East and paid huge subsidies to the Canadian Pacific Railway in the West.

Even where privately owned railway companies operated, different systems were in place. In India a partnership operated whereby the operation of the railways was left in the hands of private companies but state purchased the track and guaranteed capitalists a minimal return on their capital. The Russian privately-owned railway companies that appear in Table 4 had also been awarded financial guarantees by the Russian state, but in France the large privately owned railways, as narrated above, achieved financial performances in this period that rendered state guarantees superfluous. Sometimes the role of the state was significant but not as obvious. In the United States the western expansion of the railway companies had been encouraged and financed after the Civil War by land grants made by the federal authorities that, although largely exercised by the 1890s, remained current until the Transportation Act


\(^{48}\) Clapham, Economic Development, pp.346-349)
of 1940. A more striking intervention by the US government, though one which was largely complete by 1912, was the construction of the Panama Canal, indisputably one of the greatest of all civil engineering accomplishments and a project that had seen nearly 40,000 on the payroll in 1910.  

When it opened in September 1913, few doubted that the Panama Canal, like its predecessor, the Suez Canal, would increase the efficiency of international shipping. Together the two waterways provided a communication route that circumnavigated the globe and was emblematic of the global economy. In their construction and operation, the possibilities, and the shortcomings, offered by both the state enterprise and the private enterprise were confirmed; furthermore, the financial structure of the Manchester Ship Canal Company, another navigational cut that catered for oceanic shipping, entailed local government participation in a capitalist enterprise that demonstrated the potential of just one hybrid organizational form. The large manufacturing business enterprise was not typical of either the large capitalist enterprise or the giant enterprise that employed regularly a large number on its payroll. The large enterprises that populated the first global economy produced the widest range of goods and services and were organized in an array of organizational forms. And it was the successful economic activities of both the private large enterprise and the large state enterprise across the broadest spectrum of economic activities had contributed to the growth and consolidation of the first global economy.

Conclusion

The large enterprise was a significant aspect of the first global economy that emerged before 1914. However, as this survey demonstrates, the size and performance of the large enterprise in the first global economy was very different from its description in the recent historical literature that has focussed on the large capitalist industrial enterprise.

However, as the contemporary sources unambiguously reveal, a source-orientated investigation of the size and performance of the large enterprises demonstrates that the population of large enterprises requires a broad perspective that acknowledges enterprises that produced services as well as goods and, in addition to capitalist enterprises owned by shareholders, it should also recognise state-owned enterprises. This more complex picture also begs recognition of the multifaceted relationship between the privately owned firm and the state owned enterprise that existed before the First World War.

50 Like the Suez Canal, the Panama Canal proved a severe test of French organizational capacities. Unlike the Suez Canal, however, control was relinquished long before completion and Ferdinand de Lesseps’ personal failure corresponded with a major loss of French prestige in the New World.
51 The Kiel Canal, that provided a direct route between the North Sea and the Baltic, was another navigation cut financed by the state; although its strategic importance for the German High Sea Fleet was obvious, the substantial maritime benefits it provided were a stimulus to trade and commerce.
Furthermore, although different from the textbook story currently provided, it is also evident from contemporary sources that this was the reality perceived by commentators of the period. The ‘world view’ held by informed contemporaries on the eve of the Great War was very different from that which many late twentieth century commentators, and especially business historians, have accepted. The evidence presented here supports strongly the following reappraisals: first, that the capitalist of Edwardian era was better informed than more recently historians have sometimes suggested; second, that often the ‘world view’ current in this epoch was truly a ‘global view’, and very different from the more narrowly nationalistic and bounded outlook which historians have tended to adopt to produce national studies; third, that although informed contemporaries of this period were well-aware of the existence of a global economy, now it is not uncommon for economists to insist on a very recent emergence of this phenomenon, despite evidence from the early twentieth century of more extensive factor mobility, especially freer movement of labour, and to thereby fail to recognise the implications of the previous manifestation of globalization when they offer an interpretation of more recent developments in the international economy; fourth, that at the beginning of the twentieth century, in the more developed economies where stock exchanges were established and a commercial press active, the institutions of capitalism were more alike than different, such that common characteristics outweighed those disparate attributes, this despite the popularity of recent views which have emphasised the importance of national models, or ‘varieties’, of capitalist development; fifth, that the large enterprise was a near-universal feature of the world economy on the eve of the first world war, albeit that, many of the largest of these were state-owned enterprises, rather than privately-owned enterprises; sixth, that although the multinational enterprise was evident in the global economy of 1912, productive economic activity in more than a handful of countries was not a common practice for the majority of the world’s largest enterprises; and finally, seventh, that the role of the state, which includes but transcends the organization of the state-owned enterprise, was a significant element which contributed in a multitude of ways to the development of the first global economy and its component parts.

52 This view suggests that, for example, the French and German ‘varieties of capitalism’ have been as much, if not more, the results of exogenous disturbances, two World Wars and an intervening Great Depression, rather than the outcome of long run historical paths. If there is any truth in this verdict, then these post-1945 institutional arrangements were the product of contingent developments and the economic convergence which has occurred more recently was set back by the outbreak of the Great War and then delayed a century.
Appendix

Sources and Methods employed: the World’s Largest Enterprises of 1912.

The global assessment of the World’s largest enterprises of 1912 provided here is informed by two different indicators of enterprise size: first, in Table 1, the market value of equity held by shareholders who owned the firm; and, second, in Table 4, the number of workers employed by the enterprise. Both gauges represent conventional measures of enterprise size. However, these datasets are not without their complexities and it is necessary to define the guiding principles which informed their construction.

The construction of these datasets, as with all similar ventures, requires the consistent application of a set of arbitrary rules, especially if they are to generate confidence in subsequent comparative investigation. Generally, the rules adopted here, and explained below, not only follow the standard conventions employed in 1912, as embodied in company accounts and reported by the contemporary commercial press, but also those accepted by accountants and by financial journalists, who construct the counterparts of these documents, at the beginning of the twenty first century. An unambiguous statement of the sources consulted is always a necessary obligation for a historian but here it is essential: the source-oriented nature of this research project demonstrates not only the wealth of historical source material available to the business historian but also the conspicuous and considerable commercial intelligence at the disposal of contemporaries in 1912.

The two indicators presented here capture different types of enterprise. Essentially these are privately owned companies and state enterprises. Of the privately owned companies, only those that had stock market-listed equity are included in Table 1. A listing of privately owned capital excludes those enterprise which are solely state-owned. However, enterprises in which the state holds a significant equity stake are not excluded: here the Suez Canal Company, the largest share holder of which was the British government, is the most notable example. By contrast, a listing of large enterprises by labour employed does encompass the large state-owned enterprise. As the two types of economic organization were essential to the development of the world economy and to the process of globalization before the First World War, it is essential that both are considered here. In short, the listings of large enterprises by capitalization and by labour employed allow a global perspective on globalization.

Appendix A1.

Methods and Sources to identify the World’s Largest Capitalist Enterprises of 1912, listed by estimates of equity market capitalization, £ms.

The world’s largest capitalist enterprises of 1912 are listed in rank order by market capitalization in Table 1; the information required for each company was its nominal equity issue and the associated market price of that equity. As far as was possible, the preferred source for capital structure and nominal capitalization was the company’s
Annual Report for the financial year that ended after 31 December 1912. The Annual Reports of all stock exchange listed British and many foreign companies were consulted at the Guildhall Library, which serves as the archive of the London Stock Exchange as well as the local library for City of London.

A substantial majority of the enterprises listed in Table 1, including many foreign as well as all British companies, submitted their annual accounts, along with statements declared at the general meetings of their shareholders, to the Secretary of the Issue Department of the London Stock Exchange. The submission of an Annual Report was obligatory for all companies quoted on the London Stock Exchange but quoted companies were not the only ones which posted their returns to this official. Many unlisted companies met this stipulation for listing because either they were quoted on the unofficial market in London, or because they were anticipating an application for an official listing on the LSE at some future date, or because they had the intention of soon making their existing unofficial status an official listing.

Annual company reports also informed the other major contemporary sources consulted; these included the Stock Exchange Official Intelligence, the Investor’s Monthly Manual,53 Moody’s Analyses of Investments,54 the USA’s Moody Manual and the Manual of Statistics, Germany’s Handbuch der deutschen Aktiengesellschaften and Saling’s Börsen-Jahrbuch, the Russian Fonda Borosa, France’s l’Annuaire Desfossés and l’Annuaire des valeurs boursières admises à la cote officielle de Paris and, for the Netherlands, S.F. Van Oss’ Effecten boek.

Equity prices were gleaned from these annual publications and contemporary financial journals; these included: the Economist and the Statist (London), L’Économiste Français and L’Économiste Européen (Paris), El Economista (Madrid) and the Commercial and Financial Chronicle (New York). The Stock Exchanges Ten-Year Record of Prices and Dividends is another extremely useful source that provides both the capital structures and market prices of equity and debt of companies quoted on any British stock exchange, including London.

In Table 1 the market value of these companies is expressed in Pounds, Sterling. This requires but little justification. In 1912 the British Pound was the world’s currency. Sterling was the monetary unit which informed contemporary international assessments of comparative business status and performance. Furthermore, many of the World’s largest companies, be they domiciled in America, Germany or France, published annual accounts to reveal their financial results in both their domestic currency and in Sterling. It would, therefore, be anachronistic not to report the market capitalization of each of the World’s 100 largest Capitalist Enterprises in Sterling.

A quick approximation of these estimates expressed in US dollars can be obtained by assuming, as did contemporaries, an exchange rate of five dollars to the pound. In fact, the exchange rates used here are those determined by the gold

53 The Investor’s Monthly Manual has been scanned, indexed and rendered searchable over the internet by staff associated with the London Stock Exchange Project at Yale University; see, http://icf.som.yale.edu/imn/index.shtml.

54 Moody’s Analyses of Investment: Steam Railroads and Moody’s Analyses of Investments: Public Utilities and Industrials.
standard; in the American case, this was $4.866 to the pound. This *modus operandi* certainly contributed to simplicity but, in reality, it was dictated by an examination of international money prices on all the world’s major bourses: for the currencies considered here, on average and over the year as a whole, in 1912 there were no significant deviations from par values.

Equity is defined here by English law and practice as shareholders’ capital and encompasses both ordinary shares (common stock) and preferential shares (preference and preferred shares (stock)). By this classification equity is separated from debt, the alternative source of corporate funding. This practice is adopted by Leslie Hannah to identify the World’s 100 Largest Capitalist Industrial Enterprises of 1912. **55** Hannah is the only scholar, as far as I am aware, and this study apart, to have constructed a comparable global listing of enterprises for 1912, albeit that his dataset is explicitly restricted to the capitalist *industrial* enterprise. **56**

The estimates of market capitalization listed in Table 1 represent all the equity issues of each company valued at their respective average price of 1912. **57** Stock market prices were published for all these companies and comprehensive equity prices are available for all but a handful of these companies; in itself, this is a major finding, indicative of the extent and scope of the global stock market for corporate finance before the Great War.

Of the privately owned companies only those that had equity listed on a stock market-listed equity are included in Table 1. Companies without an equity listing are excluded from this survey; the major casualty of this rule is Krupp. Although Krupp appears in contemporary German stock exchange yearbooks only its debt was quoted. Its equity was closely held, predominantly by Bertha Krupp, in the hands of her husband, and so there was no market for it shares. Although Hannah’s study has a different concern, according to his estimate, using the methodology outlined below, Krupp would have had a equity market valuation of £26.72 million. When ranked by equity valuation on this basis, Krupp would appear in Table 1 as the world’s 51st largest company.

In the main, Hannah’s (1999) dataset of market capitalization of the World’s largest capitalist *industrial* enterprises stands largely confirmed. For the exercise conducted here a different approach must be adopted as the focus of concern for the first measure of company size, equity market value, is the quoted company. For a handful of industrial companies, including here Armour, Deere, Du Pont and Krupp, equity prices were not available for common stock. In these cases Hannah adopted ‘an approximation (usually based on balance-sheet assets net of quoted debt)’. **58**

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**55** Hannah, ‘Marshall’s “Trees” – The market valuations of company equity reported here is, additionally, informed by working notes, kindly supplied by Les Hannah, and by further information reported at www.

**56** Wardley (1991) uses this methodology except that the market valuations he reports for 1904/5 and 1934/5 are inclusive of both equity and debt.

**57** Hannah’s (1999) estimates of the equity market capitalization provide an important comparator for this study as over a third of the world’s 100 largest capitalist enterprises listed here also appear in his list of the world’s 100 largest capitalist industrial enterprises.

**58** Hannah (1999).
Unfortunately, as this procedure does nothing to redress the consequences of capital watering exhibited by the accounts of many US companies, it can result in significant overestimates of a plausible market capitalization. An alternative method, adopted by Wardley (1991), which is consistent with a market-based exercise, replaces missing data with an estimated equity price based on dividends paid. Given the strong association which existed between dividends and share prices, this is also a rational strategy. For the three American companies indicated above, where published prices for preferred stock were reported, but where common stock remained unlisted, this practice is followed here.  

Appendix A2.

Methods and Sources to identify by labour force employed the World’s Largest Economic Enterprises enumerated by size of labour force of 1912

The world’s largest enterprises of 1912 are listed in rank order by number of employees in Table 4. Labour employed is a much simpler gauge, both conceptually and technically, than its market capitalization equivalent. Nevertheless, a number of problematic issues are inherent in this exercise and these have been discussed extensively in the literature. The crux of the working definition adopted here is that the workforce reported for each firm here was one which contemporaries would have recognised as a reasonable representation of the labour employed on a typical day. Consequentially, this definition excludes some enterprises that might have employed a large number of casual workers in the course of a year but employed many less workers on a regular and recurrent basis; trading, warehousing and dock companies and many plantation enterprises are eliminated largely by this criterion.

59 Here there is a simple but highly effective test. The counterfactual price of absent equity stock provided by Hannah’s approximation is implicit in the approximated market valuation he provides. A realistic equity price ought to fall within a plausible range of prices given the dividend associated with that stock (or share). Inevitably, a plausible range is a subjective spectrum, but parameters can be indicated to eliminate otherwise extreme approximations, given the norms of the period. In the case of Deere & Co., for example, Hannah’s approximation necessitates a Common Stock price of 150. However, this recently reorganized company was barely breaking even, its Preference Stock was trading at 90, and dividends would not be paid on the Common Stock for some years to come. Given the average relationship between dividends and equity prices current on the exchanges 1912 for industrials and the profile of not dissimilar companies, an estimated a Common Stock price of 70 would be on the high end of a not unreasonable range of plausible prices. For Deere this is indicative of a market capitalization of £10.9 million ($53 m), rather than £14.4 ($70m.), by this estimate Deere would not make the cut for the world’s 100 largest capitalist companies. Similarly, the dividend paid on Armour’s $20 million of stock would have required significantly larger than those paid out in 1912 to justify the price of 630 implied in Hannah’s approximation. Given the 10% dividend actually paid on Armour Stock, and that the plausible range for stock prices at this rate of dividend fell between 220 and 280, Armour would also have a market capitalization somewhat below the £13.5 million ($66m.) lower bound for the 100 largest capitalist companies; rather than Hannah’s approximation of £26 million ($126m.), with Common Stock priced at a high but still credible 250, Armour’s market capitalization would have been £10.23 million ($50m.). However, application of this procedure results in an upward adjustment of Du Pont’s market capitalization from £14.2 million ($6m.) to £18.5 million ($90m.).
Three major types of historical source provide information on employment by enterprise for large majority of enterprises reported in Table 4: first, the official statistical report, second, the commercial yearbook; and, third, the company Annual Report.

With improved communications and the development of intergovernmental agencies, the provision of official statistics improved greatly with the adoption of internationally accepted standards that informed the construction and publication of quantitative information in national statistical abstracts. Statistical reports for specific industries supplemented national abstracts; those which reported on the national railway systems of the world provide the labour data of many of the railway companies, private and state, ranked in Table 4. The number of ancillary workers employed by Indian railway companies, notably those engaged in company-owned coal mines, are also enumerated by official sources and these supplementary employees are included in the workforces of India’s four largest railway companies reported in Table 4. The workforce of the Chinese state railway was estimated by its author from data also derived from an official publication, the China Yearbook. Contemporary national statistical offices reported the activities of their respective Post Offices and these data, which usually included the number of employees of the world’s postal services were collated and published by an international organisation, the Union Postale Universelle.

At the beginning of the twentieth century, it was unusual for British companies, at least those active in the economic sectors important here, to publish details of their labour force or management in a shareholders’ Annual Report. Although unreported in both conventional Stock Exchange yearbooks nor the financial press, a relatively new publication, The Red Book of Commerce, or Who’s Who in Business, published the employment data of those companies that submitted to its editor this information. This source has been augmented, with some ingenuity, by

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British business historians who have used newspapers, trade journals, company histories, and Parliamentary Papers, to construct a plausible survey of the United Kingdom’s largest employers in the decade before 1914.65

Originally, American corporate reporting practice also neglected labour but by 1912 an increasing number of large US corporations recorded employment data in the Annual Report submitted to their shareholders; in part, this reflected attempts to encourage workers to hold shares in the company for which they worked. Perhaps it also reflected growing recognition on the part of managers of US companies of the importance of labour, especially as worker retention had become a significant problem.

The notable exception was the American railway company.66 Although the Annual Report distributed by each US railway company was extraordinarily detailed, labour was conspicuous by its absence. By 1912, and fortunately for this study, the US Interstate Commerce Commission had begun to collect as a mandatory supplement to the annual accounts details of both railway employment and labour remuneration; it is this additional statement that provides the employment data for US railway companies reported in Table 4. In the United Kingdom, almost simultaneously, the Board of Trade began to require railway companies to provide, in a recurrent standardized format, a report of labour employed and wages paid; however, in a practice unlike that of the ICC, but following that already commonly adopted by national statistical bureaus elsewhere, the Board of Trade published this information in an official report.67

As far as is possible, Table 4 provides firm-specific employment data that relates to 1912. However, while the employment listed for the Russian railway enterprises was published in 1912 it reported workers engaged in 1910. On the other hand, the workforce listed for M. Schneider records that company’s employment early in 1914, 68 before the outbreak of the First World War.

A range of ancillary sources was consulted to locate employment data for the residual enterprises; for those listed in Table 4 these include: state-owned cigarette manufacturing enterprises;69 the Russian state-owned mining and armaments enterprises;70 and, the Prussian state-owned mines of the Saar region.71

66 From a British perspective, the labour details published in the National Railways of Mexico’s Annual Report made it the north American exception to the general rule of disregarded railway labour in the accounts published by US railroad companies. Statist, 4 January 1913, p.45.
67 Railway Companies (Staff and Wages), HMSO, London.

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In only four cases, to complete this database of the world’s largest enterprises by employment, was it necessary to augment these historical sources by an estimation of an enterprise’s workforce. The exceptions were two US industrial enterprises, Armour and American Tobacco, and Canada’s two largest railway companies, the Canadian Pacific and the Grand Trunk Railway. The labour employed by these companies was estimated on the basis of appropriate evidence: data reported in the company’s Annual Report; the workforce reported for a proximate year; information derived from the Census of Manufacturing;\(^{72}\) and, in the case of the Canadian railway companies, official statistical reports of the national railway industry.\(^{73}\)

Finally, there is one instructive aspect of these informative and wide-ranging historical sources: it is revealing that German sources are the most comprehensive. German official statistical yearbooks are not only extraordinarily thorough but the *Handbuch der deutschen Aktiengesellschaften* and *Salinger’s Börsen-Jahrbuch* provide in copious detail the inputs, including labour employed, and the outputs of the Kaiserreich’s larger companies. These annual publications provide extensive retrospective reviews of corporate financial performance that detail the yields and prices of both equity and debt; in an important sense, the wealth of this public information confronts the emphasis found in conventional business history that highlights the role of the major banks to assert the relative unimportance of the stock market. In themselves, these voluminous publications provide *prima facie* evidence that in Germany, as in all the world’s major economies in 1912, the nation state and the stock market mattered.

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Table 1  The World's 100 Largest Capitalist Enterprises of 1912 ranked by Equity Market Capitalization

Table 2  The Geographical Location of the World's 100 Largest Capitalist Enterprises by Equity Market Capitalization of 1912.

Table 3  The Economic Activity of World's 100 Largest Capitalist Enterprises by Equity Market Capitalization of 1912

Table 4  The World’s 100 Largest Enterprises by Labour employed in 1912.

Table 5  The Geographical Location of the World’s 100 Largest Enterprises by Employment of 1912.

Table 6  The Economic Activity of the World’s 100 Largest Enterprises by Employment of 1912.