*The London Stock Exchange and the British Securities Market, 1850-1914**

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In 1876 Ellis referred to the London Stock Exchange as "the most highly organized market in the world" and, as such, it attracted considerable interest and research.[1] Contemporaries wrote extensively about its history, structure, and development, while its merits and defects were the subject of controversy and debate, reaching the level of a Royal Commission in 1878. Since then it has continued to attract attention either directly or as an important factor in Britain's economic performance between 1870 and 1914.[2] While this work has produced much information and understanding, it has also created a certain ambiguity concerning the role and importance of the London Stock Exchange. Studies of the London Stock Exchange itself tend to give it the central role in the securities market, but that is contradicted, especially for domestic finance, by work done on the provincial stock exchanges and on the general functioning of the capital market.[3] This conflict of opinion stems largely from the nature of the studies conducted into the London Stock Exchange, for these have concentrated upon its internal history and development to the virtual exclusion of its external relationships.

The London Stock Exchange was not the sole market for securities in Britain during the nineteenth century, but no attempt has been made to assess the relationship between the various British stock exchanges in a systematic way, or to examine the particular position occupied by London.[4] Through the examination of London's involvement with the Scottish securities market, which possessed a distinct regional identity, the growing integration of the

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[1] A. Ellis, *The Rationale of Market Fluctuations* (1876), p. 25.

[2] *Royal Commission on the London Stock Exchange, Report and Minutes of Evidence* (P.P. 1878, XIX). For a bibliography of works on the stock exchange, see E. V. Morgan and W. A. Thomas, *The Stock Exchange: Its History and Functions* (1963), pp. 287-90. Of the general works the following are the most relevant: A. K. Cairncross, *Home and Foreign Investment, 1870-1913* (Cambridge, 1953); A. R. Hall, *The London Capital Market and Australia, 1870-1914* (Canberra, 1963); P. Cottrell, *Industrial Finance, 1830-1914* (1980); M. Edelstein, *Overseas Investment in the Age of High Imperialism: The United Kingdom, 1850-1914* (1982); W. P. Kennedy, 'Institutional Response to Economic Growth: Capital Markets in Britain to 1914' in L. Hannah, ed. *Management Strategy and Business Development* (1976), pp. 155-76.

[3] See Morgan and Thomas, *Stock Exchange*, chs. 6-8, for the role of the London Stock Exchange, and the following for an alternative assessment of its importance: Hall, *London Capital Market*, pp. 27, 67-8; Cairncross, *Home and Foreign*, pp. 90, 95; Cottrell, *Industrial Finance*, pp. 146-53; J. B. Jefferys, *Business Organisation in Great Britain, 1856-1911* (New York, 1977), pp. 317-8; W. A. Thomas, *The Provincial Stock Exchanges* (1973), pp. 68, 119; R. C. Michie, *Money, Mania and Markets: Investment, Company Formation and the Stock Exchange in Nineteenth-Century Scotland* (Edinburgh, 1981), pp. 253-61.

[4] See Morgan and Thomas, *Stock Exchange*, chs. 5-10.

national securities market can be traced, and the role played by the London Stock Exchange and its membership examined in detail. What emerges from this enquiry is the need to extend work on the Stock Exchange from the institutional trading floor to the offices of the members, where their connexions and business can be studied so that a fuller picture of the operation of the securities market can be obtained.

I

Until the mid-nineteenth century, the London Stock Exchange was largely occupied in providing a market for government securities, mainly those issued by the British government. There was trading in the stocks and shares issued by numerous joint-stock concerns, such as banks and insurance companies, gas and waterworks, docks, canals, and railways, and miscellaneous institutions. However, even as late as 1840, activity in these was completely dwarfed by that in the obligations of the British and foreign governments. For example, of the £1·3 billion securities known in the London market in 1840, only 11 per cent had not been issued by governments, and, of that, much consisted of such quasi-government organizations as the East India Company, the South Sea Company, and the Bank of England.[5] To an extent this domination of the London Stock Exchange by government securities reflected the concentration of their ownership in London. However, even those holders of the National Debt who resided far from London, such as the Scottish and Irish banks, channelled most of their buying and selling through members of the London Stock Exchange. This was so even where an alternative and more convenient stock exchange existed, as in the case of Dublin and the Irish banks. It was found that only London could provide a market that was both large enough and sufficiently well organized to cope quickly with substantial purchases and sales without extreme fluctuations in price.[6]

Despite the difficulties of communication in the early nineteenth century, investors outside London could keep in touch with activity on the London Stock Exchange, while London brokers had long established contacts with country clients for whom they bought and sold government stock. By granting power of attorney, country clients could give their London brokers authority to deal on their behalf, while large investors, such as banks, could appoint agents who would act for them in such matters. Problems of delay and distance could be circumvented reasonably successfully, though it involved an element of trust by non-London investors. As a result, all trading in the National

[5] C. Fenn, *A Compendium of the English and Foreign Funds* (1840); L. H. Jenks, *The Migration of British Capital to 1875* (New York, 1927), p. 14; C. Duguid, *The Story of the Stock Exchange* (1901), p. 162; Morgan and Thomas, *Stock Exchange*, p. 79.

[6] J. R. Ward, *The Finance of Canal Building in Eighteenth-Century England* (Oxford, 1974), p. 142; J. Lowe, *Present State of England in regard to Agriculture, Trade and Finance* (1823), p. 364; J. R. Killick and W. A. Thomas, 'The Provincial Stock Exchanges, 1830-1870', *Econ. Hist. Rev.* 2nd ser. XXIII (1970), pp. 102, 105; C. W. Munn, 'The Scottish Provincial Banking Companies, 1747-1864' (unpublished Ph.D. Thesis, University of Glasgow, 1976), pp. 183, 207-8, 305-7; *Bankers' Circular*, 27 Nov. 1827; Report from the Select Committee on Joint Stock Banks (P.P. 1837, XIV) Q. 4402-4 and (P.P. 1838, VII) Q. 1015.

Debt was concentrated on the London Stock Exchange despite the fact that the holders were to be found nationwide.[7]

The securities known in London did not represent all those in existence in Britain. For example, only London-based joint-stock companies had their issues traded on the London Stock Exchange, because concerns begun elsewhere did not look to that institution for a market. Fenn noted in 1837, for instance, that "the shares in the provincial gas companies are but little known in the London market", and a similar situation existed for all other forms of provincial joint-stock enterprise.[8] One statistical measure of London's involvement with provincial issues is the proportion of Scottish securities traded in the London market. In 1840 the Scottish securities in existence had a paid-up value of £18·6 million and, of these, 37 per cent were known

Table 1. *Scottish Securities in 1840 and 1883**

Category	*Paid-up Capital*		*Proportion quoted in London*	
	1840	*1883*	*1840*	*1883*
Local Government Stock†	£0·3m	£2·1m	—	—
Railways‡	£2·9m	£91·6m	30%	90%
Services§	£2·2m	£1·7m	—	19%
Financial‖	£12·9m	£23·3m	47%	19%
Ind, Com, Mining, etc.°	£0·3m	£8·2m	—	32%
Total	£18·6m	£126·9m	37%	71%

* Scottish securities were classified as the issues of local authorities or joint-stock companies domiciled in Scotland *and* known on the Scottish securities market. National concerns which operated in Scotland, and had shareholders there, were excluded.

† The great expansion of local authority borrowing did not come until the later 1880s, and much of that found a market in London.

‡ In 1840 about the only Scottish railway known in London was the Edinburgh to Glasgow line.

§ The 1883 source omitted many of the smaller utilities which proliferated, such as cemetery companies, steam laundries, market halls etc., while some gas and waterworks had been taken over by the municipal authorities.

‖ By 1883, the London Stock Exchange had ceased to quote the Scottish banks. The financial concerns it did list were the larger Scottish insurance and investment companies, such as the North British (£625,000), Northern (£300,000), Scottish American (£360,254) and Scottish Australian (£800,000).

° By 1883 the larger Scottish industrial and mining enterprises found a market on the London Stock Exchange, such as Nobel's Explosives (£360,000), Young's Paraffin (£586,625) or Tharsis Sulphur (£1,453,960).

Sources: C. Fenn, *A Compendium of the English and Foreign Funds* (1840); J. Reid, *A Manual of the Scottish Stocks and British Funds* (Edinburgh, 1841); H. C. Burdett, *Burdett's Official Intelligence* (1884); W. R. Lawson, *The Scottish Investors' Manual* (Edinburgh, 1884).

in London while 63 per cent were unknown (Table 1).[9] This percentage significantly overstates London's interest in Scottish securities, for the London Stock Exchange normally copied from the list produced by Edinburgh brokers, and knowledge therefore did not necessarily reflect participation. Gener-

[7] R. M. W. Cowan, *The Newspaper in Scotland* (Glasgow, 1946), p. 5; H. Hamilton, *An Inquiry Concerning the Rise and Progress, the Redemption and Present State and Management of the National Debt* (Edinburgh, 1818), pp. 313-4; *The Calumnious Aspersions Contained in the Report of the Sub-committee of the Stock Exchange Exposed and Refuted* (1814), p. 31; M. C. Reed, *A History of James Capel & Co.* (1975), pp. 5-6; W. Reader, *A House in the City* (1979), p. 38; E. Pinto, *Ye Outside Fools: Glimpses inside the Stock Exchange* (1877), p. 32; J. Reid, *A Manual of the Scottish Stocks and British Funds* (Edinburgh, 1841), p. 119; *Glasgow Herald*, 4 Aug. 1834.

[8] Fenn, *Compendium* (1837 edition), p. 135. Cf. Fenn, *Compendium*, 1837 and 1840 editions.

[9] Comparisons between C. Fenn, *A Compendium of the English and Foreign Funds* (1840) and J. Reid, *A Manual of the Scottish Stocks and British Funds* (Edinburgh, 1841).

ally, it was only the issues of major provincial enterprises, such as important railways, that attracted any attention on the London Stock Exchange.[10]

These non-London issues, however, were not devoid of a market, for there existed reasonably active trading in their securities in the area in which they operated, and in which the majority of their shareholders lived. There was also considerable trading between adjacent centres, especially where concerns, such as banks, insurance companies, and, later, railways, operated outside one area and attracted a wider shareholding. The inter-market activity took place at the level of direct personal contact between individual brokers in each area, with communication being maintained by regular correspondence. Such an arrangement did not imply the existence of regional, let alone national, markets, but merely a willingness by brokers to try to effect a deal elsewhere on behalf of a client, if the local market proved inadequate. If a purchase or sale could not be made the transaction became void, while it could often take a considerable time to arrange a deal in a specific security at a specific price and for a specific number of shares.[11]

The contrast between London and these provincial markets can be drawn by comparing the business of the London stockbroking firm of Marjoribanks, Capels & Co. in 1830, with that of the Edinburgh firm of John Robertson & Co. in 1833. During 1830, the London firm handled business worth *c.* £17·7 million or £1·5 million per month, of which 88 per cent was in British government stock, 7 per cent in foreign government stock (mainly of France, Denmark and the United States), 4 per cent in the stock of the East India Company, and only 4 per cent in other British and Colonial securities. Virtually no business was done in British non-government issues. By contrast, in 1833 the Edinburgh firm handled a total of £152,000 of business, or £13,000 per month, of which 76 per cent was in Scottish banks and insurance companies, 19 per cent in local gas, water and industrial undertakings, and 3 per cent in local canals and railways. The only non-local component was a few transactions in East India Company stock, amounting to 2 per cent of the total. Thus, the London broker's turnover was 38 times that of the Edinburgh broker, while the patterns of business were exact opposites, with London trading almost exclusively in government stock and Edinburgh in the issues of local joint-stock enterprise.[12] Therefore, as late as the 1830s there existed a compartmentalized securities market with activity centred on local markets, each with their own separate securities, personnel, and institutions, and only limited inter-connexions between them. Where the London Stock Exchange possessed unique advantages, such as in providing, through trading in the National Debt, the only ready market for securities in Britain, it attracted business from throughout the country. Where it possessed no particular advantages, such as in the stocks and shares of joint-stock companies, it could not monopolize dealings.

In the era of contact by correspondence, activity on distant markets could not disturb the daily routine of business on the London Stock Exchange.

[10] Michie, *Money, Mania*, p. 15; M. C. Reed, 'Railways and the Growth of the Capital Market', in M. C. Reed, ed. *Railways in the Victorian Economy* (Newton Abbot, 1969), pp. 162-3, 172-4.

[11] Cf. Watson/Robertson, correspondence 1834-7 (Glasgow University: Special Collection MS Gen. 531/13); Thomas, *Provincial Stock Exchanges*, p. 36; Michie, *Money, Mania*, pp. 39-46, 66-74; Reed, 'Railways', pp. 162-3.

[12] Reed, *James Capel & Co.* pp. 28-30; Michie, *Money, Mania*, pp. 70-3, 255.

There was no possibility of continuous interaction between markets. Even with the shortening of transport times, through the introduction of railways, letters remained the only form of communication. The arrival of these letters made a once-and-for-all impact which was dissipated in the course of the day. Only those present on the floor of the Exchange, or able to be in direct contact with them, were in a position to have a continuing influence. Conversely, the behaviour of the market during the day could have no influence outside the exchange itself or its immediate vicinity. It was only the transmission of the closing prices to other parts of the country that affected matters there, and, again, that was a once-and-for-all impact. The inter-market communication that did exist was sufficient to keep prices roughly in line, with provincial markets taking their lead from London.[13] However, until the telegraph link was established, the provincial markets traded in ignorance of events in London, and could not adjust until the receipt of the London closing prices.

In order to measure the frequency and degree of divergence from London in the pre-telegraph era, the fluctuations in the price of Caledonian Railway Stock were examined on both the London and Glasgow stock exchanges throughout 1846. These two markets were not linked by telegraph until 1847.[14] The Caledonian Railway had been formed in Glasgow in 1844 as one of two main trunk routes between Scotland and England, and its stock was held extensively in both countries. There were three issues in existence, namely the old and new stock and the stock of the extension line, and all of them were quoted and traded on both the London and Glasgow Stock Exchanges.[15] For every dealing day during 1846 the range of prices realized by each on the London and Glasgow Stock Exchanges was compared. In only 30 per cent of the cases was there a match or even an overlap. During the rest of the time there was a gap between either the lowest price realized on the London Stock Exchange and the highest on the Glasgow Stock Exchange, or the lowest in Glasgow and the highest in London. This divergence between the prices at which the stock was being traded on each exchange averaged 10·5 per cent of the security's value. In 44 per cent of the cases the London prices were higher by a margin averaging 6·9 per cent, while Glasgow prices were higher 56 per cent of the time, with a 14 per cent average margin.[16]

The conclusion that emerges is that while the prices in each market were related, there was a frequent and considerable gap between the range of prices prevailing on each exchange on the same day. It took a substantial gap, existing for some time, before any movement towards equilibrium between markets was initiated.[17] The delays in communication that existed before the introduction of the telegraph, therefore, precluded the creation of an integrated securities market. Without continuous interaction the London Stock Exchange's impact on other domestic securities markets was restricted to a set

[13] Thomas, *Provincial Stock Exchanges*, pp. 35-6, 75; *Scottish Railway Gazette*, 27 Sept. 1845; circular of Robert Allan, Nov. 1845, March 1843; *Railway Record*, 24 Oct. 1846.

[14] *Scottish Railway Gazette*, 11 Nov. 1847.

[15] J. Butt and J. T. Ward, 'The Promotion of the Caledonian Railway Company', *Transport History*, 3 (1970), pp. 255-6.

[16] The daily lists of both the London and Glasgow Stock Exchanges for 1846 and 1860 are held by the Economic History Archive of Glasgow University.

[17] *Scottish Railway Gazette*, 26 Dec. 1846.

of guidelines, in the form of closing prices, with the fluctuations in prices and interest in each market being mainly determined by local supply and demand conditions.

II

The revolution in communications that took place in the second half of the nineteenth century with the introduction of the telegraph and the telephone was to transform the securities market, and to alter fundamentally the role performed by the London Stock Exchange.[18] The first change came with the establishment of public telegraph lines linking London and the major British cities, which took place in the late 1840s, with the Scottish centres being among the last on the mainland to be connected. By virtue of these lines it became possible to communicate between geographically distant centres in minutes as opposed to hours or days. Contemporaries were immediately aware of the implications of this for the securities market but it was to take a number of years before they could make full use of the new technology.[19] Not only had a public telegraph system to be constructed, and conveniently sited telegraph offices provided, but numerous technical difficulties had to be surmounted. Variations in the weather, for example, produced so many interruptions to the service that brokers were unwilling to rely upon the telegraph for inter-market communications, and so to integrate it into their daily routine of business. Even by the early 1850s, when these difficulties were being overcome, another problem was uncovered in that the capacity on certain routes was frequently insufficient to meet demand.[20] A system of rapid, reliable, and continuous communication was what was required for inter-market contact, and until the telegraph could provide that its ability to integrate markets and encourage change was considerably circumscribed. However, even by the early 1850s, before the system was working perfectly, the telegraph was beginning to make its impact.[21]

For the rest of the century the telegraph was an integral part of stock exchange operations. Special wires were provided to connect the various stock exchanges with each other, while the telegraphic offices were set up either adjacent to or within stock exchanges in order to provide a faster and more convenient service. In London, pneumatic tubes were installed linking the floor of the exchange with the telegraph office, further reducing delays between deal and communication.[21] Probably the busiest route was that between the London and Glasgow Stock Exchanges, and here the volume of business periodically outran the capacity of the special wires to cope with it, despite the provision of extra facilities.[22] By 1905 it was estimated by the Post Office

[18] E. T. Powell, *The Mechanism of the City* (1910), pp. 63-4; Morgan and Thomas, *Stock Exchange*, p. 126.

[19] *Edinburgh Weekly Journal*, 5 Feb. 1845; cf. J. L. Kieve, *The Electric Telegraph: A Social and Economic History* (Newton Abbot, 1973), chs. 2-4.

[20] Glasgow Stock Exchange Minutes, 21 Dec. 1847, 19 May 1852.

[21] Edinburgh Stock Exchange Minutes, 6-14 Jan. 1851; Aberdeen Stock Exchange Minutes, 10 March 1854; cf. Kieve, *Electric Telegraph*, pp. 71, 82-3, 119, 237; Morgan and Thomas, *Stock Exchange*, p. 162; Thomas, *Provincial Stock Exchanges*, pp. 102-3; Agreement between the Stock Exchange and the Electric Telegraph Co., 13 March 1868.

[22] Glasgow Stock Exchange Minutes, 9 Oct 1879, 15 Oct. 1879, 5 Oct. 1880.

that the average time of transmission on this route was a mere 2½ minutes; 70 per cent of all telegrams were sent within 5 minutes of receipt, and 97 per cent under 10 minutes. Though delays could, and did, continue to take place "due either to failing wires or sudden pressure", it was normal to send a message, have the deal done, and receive confirmation well within the half-hour, and this had been the case since at least the 1870s.[23]

Generally, between 1870 and 1899 the number of special wires connecting the London Stock Exchange with regional markets rose from 11 to nearly 60, while the number of telegrams sent from the telegraph office in the Stock Exchange increased from a maximum of 2,884 per day to 28,142 per day.[24] During the second half of the nineteenth century regular communication throughout the day between London and the provincial markets became important for the London Stock Exchange, while the provincial exchanges came to depend upon this new connexion in order to function.[25]

The change that the telegraph brought to the securities market can be gauged from a comparison of London and Glasgow Stock Exchange prices for 1860, when the system of communications was well established. Two securities, common to both markets, were chosen, namely Caledonian Railway Stock and the stock of the Grand Trunk Railway of Canada. During 1860 the daily prices achieved for both on each exchange matched or overlapped 78 per cent of the time. In the 22 per cent of cases where a gap did exist, the divergence was a mere 0·7 per cent of the securities' average value, ranging between 0·3 per cent for Caledonian and 1·2 per cent for Grand Trunk. When prices were out of phase London was higher 46 per cent of the time and Glasgow 54 per cent, with London averaging 0·8 per cent higher and Glasgow 0·6 per cent higher.[26] Consequently, the frequency of matching achieved in 1860 was 2·6 times greater than that of 1846, while the degree of divergence in 1860 was only 7 per cent of that experienced in 1846. Clearly, the price ranges within which each market operated throughout the day had become closely aligned, with any divergence being minimal in comparison to that which had prevailed in the past. The London-Glasgow comparison testified to the convergence between geographically separate components of the securities market that had taken place as a result of rapid telegraphic communications, with the timing of the change being related to the arrival of the telegraph. For the first time activity on the floor of the London Stock Exchange could influence behaviour in other markets, and in turn be influenced by them when business was in progress. The possibility now existed for the formation of a single market in securities that would respond to national, rather than to local, supply and demand conditions.

The other development which contributed to the integration of the securities

[23] Glasgow Stock Exchange Minutes, 27 Dec. 1900, 15 Jan. 1901, 17 Dec. 1901, 21 Nov. 1905, 5 Dec. 1905, 20 Dec. 1905, 4 Sept. 1906, 19 Apr. 1910; London Stock Exchange: Committee of General Purposes, 21 March 1876.

[24] W. E. Hooper, ed. *The Stock Exchange in the Year 1900* (1900), p. 159; London Stock Exchange: Trustees and Managers Minutes, 9 Dec. 1870; General Purposes, 10 March 1881; Commission on London Stock Exchange Minutes, p. 30; E. Pinto, *Outside Fools*, p. 40; *Stock Exchange Investments: Their History, Practice and Results* (5th ed. 1897), p. 172.

[25] Aberdeen Stock Exchange Minutes, 22 Dec. 1897, 19 Feb. 1901; G.P.O. London to Sec., Aberdeen Stock Exchange, 21 Dec. 1897.

[26] See n. 16.

market was the creation of securities common to, and actively traded on, more than one market, and this coincided with the telegraph. During the railway mania numerous railway companies had been formed which attracted investors not only from their own locality but also from other areas, if only from the towns and cities served by the line.[27] As a consequence, the stock issued by the major railways was traded in numerous different centres, and as companies grew in size and range their securities were listed on more and more markets. By the end of December 1845, for example, the Glasgow Stock Exchange quoted 110 railway companies, of which 23, or 21 per cent, were also quoted on the London Stock Exchange. As a result of the numerous amalgamations, the Glasgow Stock Exchange quoted only 46 railway companies by the end of December 1860, but 59 per cent of these were also quoted in London.[28] The proportion of securities unique to any one market was falling at the expense of those common to more than one. A measure of the change can be seen from the securities of Scottish companies in existence in 1883. By then the paid-up value of these securities totalled £126·9 million, of which 71 per cent was also quoted on the London Stock Exchange compared with only 37 per cent in 1840, and this reflected genuine activity in London rather than copying from each other's lists. The change was caused principally by the railway sector, for Scottish concerns such as the North British and the Caledonian were heavily traded on the London Stock Exchange (Table 1). The association between stock exchanges through the quoting of common securities grew in the second half of the nineteenth century. By 1910, for example, the proportion of British railway securities quoted on only one stock exchange had become minute in comparison with those quoted on more than one. The London Stock Exchange quoted British railway securities with a paid-up value of £21·2 million that were unique to itself, but shared £1,149·8 million with Liverpool, £1,141·6 million with Glasgow, £1,105·4 million with Manchester and £1,010·6 million with Edinburgh (Table 2). Though only a portion of this would be actively traded on every exchange, it did represent securities commanding a national market. Consequently, while the telegraph provided the means by which the isolation of markets was removed, railway securities provided both an incentive to use the new form of communication and a form of currency which could be moved between centres in order to preserve equilibrium nationally. Without common securities, localized imbalances in the supply of, or demand for, stocks and shares would continue to result in dramatic price fluctuations and an inability to meet requirements. With common securities, local price changes would generate an immediate flow from, or to, that centre so that all markets would rise and fall in line. As each separate market was undermined by a simultaneous removal of the barriers of distance and unique securities, they became components of an integrated national market.

Allied to the development of the telegraph were improvements which

[27] J. R. Killick and W. A. Thomas, 'The Provincial Stock Exchanges, 1830-1870', *Econ. Hist. Rev.* 2nd ser. XXIII (1970), p. 105; E. C. Maddison, *On the Stock Exchange* (1877), p. 159; Michie, *Money, Mania*, pp. 117-8; J. P. Lee, 'The Provision of Capital for early Irish Railways, 1830-53', *Irish Historical Studies*, 16 (1968/9), p. 40; *Scottish Railway Gazette*, 28 Dec. 1850, 18 Jan. 1851; Bell, Begg & Cowan (Edinburgh Stockbrokers), Monthly Circular, April 1887, May 1891, Feb. 1895.

[28] See n. 16.

Table 2. *Association Matrix: British Railway Securities quoted on British Stock Exchanges, 1910 (£m)*

	Lon.	Abd.	Bel.	Bir.	Bra.	Bri.	Car.	Cor.	Dub.	Dun.	Edn.	Gla.	Hal.	Lds.	Liv.	Man.	New.	Shf.	Swa.
London	21·2	424·1	251·6	970·5	412·1	672·8	317·2	69·8	655·5	0·2	1010·6	1141·6	382·0	926·3	1149·8	1105·4	497·8	989·2	270·1
Aberdeen	424·1	—	136·5	409·7	382·5	339·6	204·1	—	312·1	0·5	424·3	422·8	345·4	404·8	423·9	415·5	350·1	393·0	156·9
Belfast	251·6	136·5	0·1	23·7	136·5	233·7	151·9	24·1	244·8	—	233·7	233·7	136·5	233·7	250·2	247·0	195·5	195·5	151·9
Birmingham	970·5	409·7	23·7	—	404·0	630·1	285·9	—	672·3	—	914·4	988·1	373·7	881·6	1043·0	1050·5	470·3	935·3	238·7
Bradford	412·1	382·5	136·5	404·0	—	350·6	204·1	—	294·1	—	403·8	385·3	343·9	403·8	403·8	409·4	331·5	400·1	156·9
Bristol	672·8	339·6	233·7	630·1	350·6	0·3	316·6	—	511·8	—	606·5	628·1	332·6	615·9	642·5	631·5	413·7	620·1	271·8
Cardiff	317·2	204·1	151·9	285·9	204·1	316·6	—	—	259·7	—	268·7	396·3	209·3	278·1	307·7	299·3	221·2	288·6	274·7
Cork	69·8	—	24·1	—	—	—	—	0·2	36·3	—	—	—	—	—	19·3	13·5	—	—	—
Dublin	655·5	312·1	244·8	672·3	294·1	511·8	259·7	36·3	3·0	—	665·3	688·0	257·2	634·9	702·7	699·1	406·7	678·5	212·6
Dundee	0·2	0·5	—	—	—	—	—	—	—	0·1	0·5	0·5	—	—	—	—	—	—	—
Edinburgh	1010·6	424·3	233·7	914·4	403·8	606·5	268·7	—	665·3	0·5	—	1012·0	365·9	881·4	1004·8	982·2	473·9	924·9	221·5
Glasgow	1141·6	422·8	233·7	988·1	385·3	628·1	396·3	—	688·0	0·5	1012·0	3·2	373·7	915·6	1125·6	1035·7	493·7	983·3	247·0
Halifax	382·0	345·4	136·5	373·7	343·9	332·6	209·3	—	257·2	—	365·9	373·7	—	368·6	373·7	374·5	340·7	370·0	162·1
Leeds	926·3	404·8	233·7	881·6	403·8	615·9	278·1	—	634·9	—	881·4	915·6	368·6	0·3	918·5	947·4	393·6	885·8	230·9
Liverpool	1149·8	423·9	250·2	1043·0	403·8	642·5	307·7	19·3	702·7	—	1004·8	1125·6	373·7	918·5	2·1	1103·6	494·8	984·5	260·5
Manchester	1105·4	415·5	247·0	1050·5	409·4	631·5	299·3	13·5	699·1	—	982·2	1035·7	374·5	947·4	1103·6	0·7	494·8	1034·0	252·2
Newcastle	497·8	350·1	195·5	470·3	331·5	413·7	221·2	—	406·7	—	473·9	493·7	340·7	393·6	494·8	494·8	—	497·8	168·9
Sheffield	989·2	393·0	195·5	935·3	400·1	620·1	288·6	—	678·5	—	924·9	983·3	370·0	885·8	984·5	1034·0	497·8	—	241·5
Swansea	270·1	156·9	151·9	238·7	156·9	271·8	274·7	—	212·6	—	221·5	247·0	162·1	230·9	260·5	252·2	168·9	241·5	0·1

The Table shows the railway securities (paid-up value) quoted on British stock exchanges and the degree to which they were quoted on one or more stock exchange. For example, of the British railway securities quoted on the Glasgow Stock Exchange only £3·2m worth were quoted there, while £1,012m were also quoted on the Edinburgh Stock Exchange and £1,141·6m on the London Stock Exchange. Thus, of the British railway securities quoted at Glasgow, only 0·3 per cent was unique to itself, while 99·7 per cent was found on other British stock exchanges

Source: Stock Exchange Official Intelligence (1911).

allowed those buying and selling on the floor to communicate rapidly outside, either with their offices, clients, or brokers on provincial markets. A partial solution to this problem appeared in 1867 with the invention of the ticker tape machine. This device, with its operator and a staff of reporters collecting prices, allowed a continuous record of prices to be relayed from the floor to all who subscribed to the service within minutes of a change taking place.[29]

Later, with the appearance of the telephone in the late 1870s, a direct two-way instantaneous communication could be opened up between the floor of the exchange and offices outside, and thence to anyone who possessed a telephone.[30] Through the use of the telephone, buying- and selling-prices quoted on the floor of the exchange could be matched against those obtainable elsewhere, with the result that bargains could be struck outside the exchange. An alternative market could be created through these inter-office telephone links, which was an extension of that existing on the floor of the stock exchange and interacted with it. This market was not confined to those who happened to be present on the floor at any one time, but could involve all those who were known to be interested in any particular security. As a result, a much larger market was created than the confines of the stock exchange allowed, with benefits for closer pricing, stability, and liquidity. One indication of the extensive use to which the telephone was put was that during October 1908 81,883 outward and 23,916 inward calls were made or received at the stock exchange telephones linked to brokers' offices. In approximate terms, this meant that a telephone call was made every 6 seconds and one received every 21 seconds during the working day, and this excluded all subsequent office calls.[31]

At first, the telephone provided a purely local service, linking subscribers in one town. However, by the mid-1880s it had become technically feasible to communicate over much longer distances, though Britain was slow to exploit this new possibility because of government restrictions and the Post Office's monopoly of telecommunications.[32] Nevertheless, by 1889 a programme was in hand to link the London Stock Exchange with the provincial stock exchanges by means of direct cables, thereby avoiding delays created by routing via local telephone exchanges. This system came into being during the 1890s.[33] Though numerous complaints were made about the quality of the service, it was put to immediate and extensive use. On the London Stock Exchange the congestion around the trunk line telephone was such that members had to book calls in advance, while on the Glasgow Stock Exchange the times when the telephone to London could be used were ballotted for, and each member was limited to one call every six minutes.[34]

[29] A. D. Poley and F. H. Gould, *The History, Law and Practice of the Stock Exchange* (1911), pp. 262-3.

[30] J. E. Day, *Stockbrokers' Office Organisation, Management and Accounts* (1911), p. 100.

[31] General Purposes and Trustees and Managers: Co-Joint Committee, 5 Nov. 1908, 8 June 1909.

[32] G. R. Porter and F. W. Hirst, *The Progress of the Nation* (1912), pp. 564-6; Kieve, *Electric Telegraph*, pp. 211-4; C. R. Perry, 'The British Experience, 1876-1912: The Impact of the Telephone during the Years of Delay', in I. de S. Pool, ed. *The Social Impact of the Telephone* (Cam. Mass., 1977), pp. 80-1; B. T. Robson, *Urban Growth: An Approach* (1973), pp. 166-71.

[33] Trustees and Managers, 6 March 1889, 4 April 1889, 16 May 1889, 15 Oct. 1889, 15 March 1899; Hooper, *The Stock Exchange*, p. 161.

[34] General Purposes, 15 Feb. 1904, 29 Feb. 1904, 12 Oct. 1904, 6 Oct. 1913, General Purposes: Subcommittee to confer with the Exchange Telegraph Co. 20 Dec. 1902; General Purposes and Trustees

However, though the use of the public system continued, it was increasingly by-passed as the main artery of inter-market communication by the private telephone wire, which began to appear around 1900. These wires linked the offices of London Stock Exchange members directly with the offices of provincial brokers. By keeping this line open throughout the day, and allied to each broker's direct telephonic link from his office to his own exchange, a continuous and immediate two-way contact was established between trading in London and activity elsewhere. This facility was superior to that of the public wires, which were soon relegated to handling the less important business.[35] The development and use of the telephone at local and national level finally overcame the separation of markets caused by distance.[36] There was now only one market, though it might operate in more than one location for no matter the distance involved, direct and immediate voice contact could be established between those trading in each centre, and that was all that physical proximity gave. The confines of the institution no longer determined the parameters of the market and the forces acting upon it.

III

This revolution in communications, culminating with the telephone, did more than link London with the provincial exchanges: it also altered the relationship between them, the means of doing business, and the whole operation of the market. Before the telegraph, each broker had his contacts—or correspondents—in other markets with whom he transacted business which could not be done locally. This type of relationship continued to exist, being especially useful in securities for which the market was limited, and buying and selling was a matter of negotiation.[37] However, in those securities for which an active market with constantly changing prices existed, the telegraph became the means of communication. In addition, the telegraph made shunting a possibility for the first time.[38] As the time taken to communicate between markets fell, so did the risk attached to buying or selling in one market, in the expectation of selling or buying in another, in order to close the deal and profit from the price differential. The longer a deal was open, the greater the chance that prices would change, resulting in a loss rather than a profit; consequently shunting was discouraged. With the telegraph, prices in more than one market could be monitored almost simultaneously, and when a difference occurred in the price of a security it could be bought in the lower market and sold in the higher one at the same time. By this process not only were markets kept in equilibrium, but a ready market in securities was created. The profits to be made on the fractional differentials that appeared

and Managers: Co-joint Committee, 4 May 1909; Trustees and Managers: Subcommittee on Enlargement of the House, 17 Jan. 1898, 12 Feb. 1900; Glasgow Stock Exchange: Minutes, 3 Feb. 1897, 31 Jan. 1899, 21 Feb. 1899, 26 Feb. 1901, 17 Dec. 1901, 31 May 1904, 11 Oct. 1904, 29 Nov. 1904.

[35] General Purposes, 12 Oct. 1904; Thomas, *Provincial Stock Exchanges*, pp. 104-5.

[36] J. F. Wheeler, *The Stock Exchange* (1913), p. 83; C. Duguid, *The Stock Exchange* (1913), pp. 154-5; Day, *Stockbrokers' Office*, pp. 217-8.

[37] Day, *Stockbrokers' Office*, p. 100; Michie, *Money, Mania*, pp. 191-3, 198, 202.

[38] Shunting was the name given to the arbitrage operations carried on between the London and provincial Stock Exchanges. It involved the simultaneous buying and selling, or selling and buying, of the same security on different exchanges, in order to profit from the minute and temporary differences in prices that appeared, and which reflected variations in local supply and demand conditions.

momentarily encouraged the practice to grow. As a result, shunting became a common practice in the 1850s and was widespread in the 1860s. This was despite some initial opposition from the provincial exchanges, which saw the process as diverting business either to London or to each other.[39]

On the provincial stock exchanges brokers dealt directly with each other, while in London brokers normally transacted business through a jobber, who quoted a buying and selling price for the security in question. The jobber earned his income, or obtained his "turn", from the margin between these prices. Consequently, if the provincial broker could enter into direct contact with the London jobber, he would not have to share any of the profit made on fractional differences between London and other markets with a London broker. The jobber could quote his buying and selling prices to the provincial broker over the telegraph, in the same way as he quoted them on the floor to London brokers on a person to person basis. The jobber would still receive his "turn", with the prospect of increased turnover from this new business, while the provincial broker would have direct access to London, allowing him to trade at better prices in certain securities and to receive all the profit from any differentials between markets. As early as the 1860s, London jobbers appear to have established direct links with provincial brokers. London brokers did continue to play an important role in inter-market activity, as they possessed long-established contacts and an ability to roam the market transacting a varied business, while each jobber dealt in a restricted range of stocks. Nevertheless, the consequence of the improved communications was to break down the division within the London Stock Exchange between jobbers, who acted as market intermediaries and traded on their own account, and brokers, who acted for outside clients and did not quote prices. Increasingly, jobbers formed trading contacts with provincial brokers, while London brokers, in order to compete, began to act as dealers for their provincial contacts.[40]

This change was brought to the fore by the introduction of private telephone lines linking London jobbers or brokers with provincial brokers. Each line cost in the region of £2,000 per annum to rent, and few firms were willing to expend that amount of money. However, those that did invest in the new technology possessed a much more rapid and flexible system of communication, and one which was available for their exclusive use without interruption or delays throughout the day. This led to a concentration of shunting in the hands of a few rather than its being shared generally among the membership of the London Stock Exchange. By 1904 there were 10 London Stock Exchange firms with direct lines to the provinces and these were coming to dominate all inter-market trading, apart from the difficult deals involving negotiation. As a consequence, a distinct group appeared on the London Stock Exchange which specialized in shunting securities between London and the provincial markets, almost to the exclusion of the others who had previously participated

[39] General Purposes, 13 March 1865, 21 March 1876, 8 Dec. 1891, 18 Dec. 1906, 18 Dec. 1907; Duguid, *Stock Exchange*, pp. 154-5, 158; H. Withers, *The English Banking System* (Washington, 1910), p. 118; Glasgow Stock Exchange: Minutes, 12 Feb. 1856, 25 March 1857; Michie, *Money, Mania*, p. 201.

[40] General Purposes, 16 Dec. 1903, 18 Dec. 1903; *Phillips' Investors' Manual* (1887), p. 339; Duguid, *Stock Exchange*, p. 350; Memorandum by the Chairman of the Stock Exchange for the Council of Associated Stock Exchanges (General Purposes, 24 July 1911); *R.C. on Stock Exchange* (P.P. 1878, XIX), p. 115.

in the business. Similar specialization also took place on the provincial stock exchanges.[41]

These shunters were not just passive intermediaries between markets, but active participants. Morrison, a dealer in the miscellaneous market, explained in 1906:

> It was not to be expected that his correspondents at the centre where the chief market was would supply him with frequent prices unless they had some prospect of his bringing them business and unless he had constant quotations from the provincial market he could not make prices here (in London) and the whole business would be sent there direct.[42]

Consequently, it became necessary for the London shunters, whether brokers or jobbers, to integrate their provincial contacts fully into their operations. Not only did they quote their bid and sell prices to provincial brokers, but they also offered to divide with them the "turn" they made on each purchase or sale. Thus, a provincial broker who bought or sold on behalf of a London shunter benefited from the whole profit to be made from buying in one centre and selling in another, and not just from the difference between the provincial prices and the buying *or* selling prices quoted by London dealers.

At the same time, the London shunters sought to become dealers in the securities traded in the provincial exchanges. As business on the provincial exchanges grew in the second half of the nineteenth century, the call-over system of trading twice a day proved increasingly inadequate. The Glasgow Stock Exchange, for example, abandoned the system for actively traded securities in the mining mania of the mid-1890s, banishing them to another room where there was not only no call-over but also no other procedure. Consequently, there was a growing need on the provincial exchanges for dealers who would act as the market in active securities, buying from and selling to brokers. However, no single provincial exchange had sufficient turnover to justify dealers, though together they had.[43] It was the London shunters who were in a unique position to provide this, as they possessed immediate and extensive contacts on all the provincial exchanges. Warren, a London shunter, described their activities in 1908:

> They stood in the market and telephoned to the country the close prices here (London) and their correspondent dealt on those prices: profits and losses on the bargains at each end were divided, as was the cost of the Telephone, but other expenses or bad debts were not divided.[44]

The London shunters, therefore, came to fulfil a number of important roles. First, they acted as intermediaries between the London and provincial exchanges, buying and selling indiscriminately in each, depending on price fluctuations. Secondly, they acted as intermediaries between different provincial exchanges, buying in one and selling in the other. Morrison, for example,

[41] General Purposes, 12 Feb. 1902, 4 Jan. 1904, 15 Feb. 1904, 29 Feb. 1904, 4 Dec. 1906, 12 Dec. 1906, 18 Dec. 1906, 3 Jan. 1907, 7 Feb. 1907, 27 Jan. 1908, 23 July 1908, 24 July 1911; *Financial Times*, 27 Jan. 1908; *The Times*, 17 Jan. 1908; *Investors' Review*, 15 Feb. 1908; Thomas, *Provincial Stock Exchanges*, pp. 105, 209.

[42] General Purposes, 18 Dec. 1906.

[43] Michie, *Money, Mania*, p. 205; *R.C. on Stock Exchange* (P.P. 1878, XIX), p. 9; Glasgow Stock Exchange Minutes, 5 Jan. 1847, 12 Jan. 1847.

[44] General Purposes, 27 Jan. 1908; 18 Dec. 1907.

claimed that "he was often able to make a profit between the Irish Exchanges and those of Manchester and Glasgow".[45] Lastly, behind all this was the fact that the London shunters, through their contacts, made the market in a growing range of securities. Their contacts on the provincial exchanges were kept in constant receipt of the London prices and constantly replied with the provincial prices, and were able to act as their agents, quoting buying and selling prices, accepting deals on their behalf, and transmitting these to the London dealer who would seek to close the deal elsewhere and adjust his prices accordingly. In the miscellaneous section of the London Stock Exchange, which covered some 800 commercial and industrial companies in 1908, the main trading in many of the securities was in the provincial centres, but London dealers were able to quote close prices and to maintain an active market because of their shunting operations.[46] Thus, even in the areas where the London Stock Exchange was not the natural market, such as in provincial issues, London dealers became increasingly important not only because they kept markets in line, but also because they provided the market-making service which was missing on the provincial exchanges and which was becoming a vital necessity if an active market was to be established and maintained.

This did not mean that the provincial exchanges were being eclipsed by London in the second half of the nineteenth century, as has been suggested by both Reed and Anderson. The overall volume of provincial business was growing and becoming more diversified as the nation increasingly held its wealth in the form of transferable securities. On the Aberdeen Stock Exchange, for example, turnover rose from an average of £98,644 per annum in the 1850s to £114,704 in the 1860s, £261,609 in the 1870s, and £353,702 in the 1880s, before falling back to £291,105 in the 1890s, when there was a general switch of interest from securities to property. Impressionistic evidence from other provincial exchanges also suggests a steady growth in business after the collapse of the railway mania in the mid-1840s. The London and provincial exchanges could share in a rapidly expanding volume of business and complement each other, rather than compete for what was available. Though London did develop markets in securities which had once been the exclusive field of the provincial exchanges (such as non-London joint-stock enterprise), this helped to create business both for London and the provinces. The London jobbers helped to establish a wide and active market in these securities, which generated increased dealing on the provincial exchanges and attracted the interest of investors at a national level. The provincial stock exchanges gradually lost their position of being self-contained markets in local securities, and gained a place as specialist components of a national market catering for a particular size of issue or type of enterprise. All the exchanges were being absorbed into an integrated market and given new roles to fulfil, and the shunting jobbers and brokers of London were at the very centre of this rearrangement.[47]

[45] General Purposes, 29 Jan. 1908.

[46] General Purposes, 18 Feb. 1903, 27 Jan. 1908, 2 July 1908; *R.C. on Stock Exchange* (P.P. 1878, XIX), pp. 126-30; *Economist*, 30 May 1885.

[47] General Purposes, 15 Oct 1906, 12 Nov. 1906, 28 Nov. 1906, 12 Dec. 1906, 18 Dec. 1906, 3 Feb. 1908; Thomas, *Provincial Stock Exchanges*, pp. 89, 119; Michie, *Money, Mania*, pp. 226-7 and ch. 16; Reed, 'Railways', pp. 181-2; B. L. Anderson, 'Law, Finance and Economic Growth in England: Some Long-term Influences' in B. M. Ratcliffe, ed. *Great Britain and Her World, 1750-1914* (Manchester, 1975), p. 116; Hall, *London Capital Market*, p. 40.

IV

The integration of the securities markets encouraged by these technological and organizational changes did not go unchallenged. The London Stock Exchange, in particular, contained powerful vested interests which opposed change. Unlike the other British stock exchanges, which either owned or rented the premises they occupied, the members of the London Stock Exchange did not control the building they used. This was provided by a company that derived its income from the fees paid by the members. Consequently, it was in the interest of the managers of the London Stock Exchange to make it the only market for securities, and so attract a numerous fee-paying membership. Conversely, the members derived their income from buying and selling securities, either on their own behalf or for clients, but that need not necessarily take place on the floor of the exchange. The fear of the managers was that if free access was given to the prices prevailing on the exchange throughout the day, many brokers could deal at market prices without ever becoming members. Thus the management resisted any changes that might lead to business being transacted outside the stock exchange. When a request was made to install an exchange telegraph in 1868, for example, it was turned down by the management.[48] Eventually, pressure from the membership, which desired the convenience of access to market prices while in their offices, forced the managers to give way. However, it was not until November 1872 that a ticker tape machine was allowed into the stock exchange. Even then, the service was never allowed to operate to its fullest extent. Only members of the exchange were allowed to become subscribers and the prices relayed provided no more than a guide, for the number of operators and reporters was restricted. These restrictions slowed down the collection and transmission of price changes and the frequency with which prices could be sent out.[49] Consequently, the objections of the managers prevented London prices being made continuously available on the provincial markets. This forced provincial brokers to continue to rely on their contacts with members of the London Stock Exchange for such information, with the result that there was a continuous flow of telegrams between individual members of each exchange. This flow would have been necessary anyway to transmit buying and selling orders, so the lack of a constant and accurate ticker tape service, relaying London Stock Exchange prices, had only a limited effect on inter-market relationships. It denied other exchanges complete and quick access to the London prices, by which their markets were regulated, without restricting the private communication of this information and the buying and selling operations that accompanied it.

With the appearance of the telephone in the late 1870s, the management of the stock exchange faced a new threat: those trading on the floor could now be directly connected with interested parties outside. The first application to

[48] Trustees and Managers, 14 Oct. 1891, 7 Oct. 1868.

[49] Trustees and Managers, 5 Feb. 1873; H. Davies, Sec. of Exchange Telegraph Co. to Sec., Comm. of General Purposes, 1 Oct. 1872; W. King, Managing Director, Exchange Telegraph Co. to Sec., Comm. of General Purposes, 10 April 1907; Comm. of General Purposes: Sub-Committee to confer with Exchange Telegraph Co.: Minutes, 17 Dec. 1886, 29 Nov. 1892, 30 Dec. 1908; Exchange Telegraph Co.: List of subscribers and instructions, June 1890; Memorandum on the Exchange Telegraph Co., 7 Dec. 1878; Morgan and Thomas, *Stock Exchange*, p. 163.

introduce a telephone service between the London Stock Exchange and outside subscribers was made in November 1879. It was rejected.[50] It was not until the Exchange was enlarged in 1882-3 that a telephone room was provided, and even then the facilities remained inadequate, inconvenient, and of limited use.[51] In contrast to the London Stock Exchange, the provincial stock exchanges accepted the telephone almost immediately.[52] Faced with the continued refusal to provide proper facilities for telephones, in July 1888 the members threatened to find an alternative to the facilities provided by the stock exchange unless the managers gave way.[53] The management backed down, putting only minimal obstacles in the way of further expansion; the year 1888 marked the end of any serious resistance by the management to the changes created by the communications revolution.[54]

However, the managers were not the only group opposing the new developments. While the members of the provincial stock exchanges accepted and profited from their new function, many members of the London Stock Exchange came to resent the change and sought to reverse it, especially the many brokers who had lost their provincial trade to the specialist shunting firms. A general feeling arose that buying and selling had been diverted from London to the provinces. The chairman of the London Stock Exchange summarized their case for the benefit of the provincial exchanges in August 1911:

> By direct communication with our Dealers, country brokers were enabled to deal on the London market on as good terms as a London Broker, while evading the heavy expense and responsibility of London membership . . . . Our Exchanges are, and must remain, in competition one with the other—each exchange is, for varying reasons, the principal market in certain stocks and shares . . . .[55]

This view, and the reasoning behind it, was beginning to emerge by 1903 because of the concentration of the provincial business in the hands of a few firms with private telephone wires. It led to a sustained attack on the close relationship between the London shunters and the provincial exchanges, and ignored the growing unity of the securities market which was destroying the individuality of each exchange and forcing a readjustment of organization and working practices.[56] There were those who recognized the implications of the new development and the benefits it brought both to the London Stock Exchange and the securities market in general. One such person was Braithwaite, who stated in January 1908 that "The shunter has made it possible to deal in anything in which there is a market anywhere, often at a moment's notice or within a very short space of time, which is a great advantage to all concerned".[57] The essential question was whether business was to be attracted

[50] Trustees and Managers, 5 Nov. 1879, 29 Jan. 1880.

[51] Trustees and Managers, Sub-Committee on the Englargement of the House, 16 Jan. 1882, 9 March 1883.

[52] Glasgow Stock Exchange, Minutes, 2 Nov. 1880, 28 Feb. 1882.

[53] Committee of General Purposes, Sub-Committee appointed to confer with the Exchange Telegraph Co.: Minutes, 16 April 1886, 29 Nov. 1886, 21 Feb. 1887, 19 Nov. 1887, 29 Nov. 1893.

[54] Trustees and Managers, 11 July 1888, 7 Nov. 1888, 2 Jan. 1889, 3 June 1903.

[55] General Purposes, 24 July 1911.

[56] General Purposes, 18 Feb. 1903, 23 April 1903, 21 May 1903, 29 Feb. 1904, 15 Oct. 1906, 28 Nov. 1906, 7 Feb. 1907.

[57] General Purposes, 29 Jan. 1908, cf. 18 Feb. 1903, 18 Dec. 1906, 27 Jan. 1908, 2 July 1908.

to the London Stock Exchange, because of the superior market offered by its membership through contacts on the floor and by telephone; or whether it was to be forced to come, at the expense of the national market, by denying provincial brokers direct access to London dealers. The majority of the membership chose the latter course as they had no direct stake in the former.

The line of attack used was that of dual capacity. The existing rules prevented jobbers from dealing directly with non-members, while brokers were forbidden to buy and sell on their own account. These rulings had fallen into abeyance, but if they could be revived shunting would be rendered much more difficult and costly. Access to jobbers would be denied to provincial brokers while London brokers would be prevented from making a market for their provincial contacts.[58] Eventually, after much debate and many changes of opinion, a new rule was passed for implementation on 1st February 1909. By this rule, dual capacity was forbidden with no broker being allowed to quote prices and no jobber being allowed to deal for non-members. The restoration of single capacity was the ostensible purpose of this rule, but it was designed mainly to restrict shunting between London and the provincial exchanges for dual capacity was officially recognized for the purposes of arbitrage with foreign exchanges.[59] However, by the simple device of nominally passing provincial business through co-operative brokers at minimal commission rates, this attempt to limit shunting was quickly circumvented. There were no minimum commission rates on the London Stock Exchange, and the charges made by brokers could be so low as to prevent any serious interruption to shunting. Once the ineffectiveness of the dual capacity rule was recognized, moves were made to block the loophole by implementing a minimum set of commission rates. This was finally achieved in June 1912, and did lead to a marked reduction in the level of shunting between London and the provincial stock exchanges, though it is likely that there was considerable evasion of the minimum rate rules.[60]

The problem was that those members of the London Stock Exchange who benefited directly from shunting were a small minority, especially since the introduction of private wires. Consequently, the majority of the membership could introduce changes detrimental to shunting. Provincial brokers were not members of the London Stock Exchange. Although they warned that it would reduce business and impair the efficiency of the market, their views and opinions were largely ignored, both on the issue of dual capacity and on minimum commission rates. The provincial exchanges did attempt to find an alternative to the use of London, through the circulation of lists between themselves and the formation of a central information office in London to communicate buying and selling requirements. Neither tactic met the needs of an active market and both were eventually abandoned, while the plan to set up a rival stock exchange in London, called the United Exchange, was never attempted, though twice suggested. In 1914, when the war closed all

[58] Duguid, *Stock Exchange*, p. 158; F. Cheswell, *Key to the Rules of the Stock Exchang* (1901), p. 350; W. G. Cordingley, *Guide to the Stock Exchange* (1893), p. 12.

[59] General Purposes, 23 July 1908; Thomas, *Provincial Stock Exchanges*, p. 90.

[60] General Purposes, 1 June 1909, 13 Jan. 1912, 2 Sept. 1912, 8 July 1914; Committee of General Purposes: Sub-Committee on Commissions, 1 July 1912, 4 July 1912, 30 Sept. 1912, 20 Nov. 1912, 24 Jan. 1913.

the stock exchanges, the provincial exchanges had not yet persuaded the London Stock Exchange to modify its restrictions on shunting.[61] Consequently, from 1909 onwards and particularly in the two years before World War I, the efficient operation of the national securities market was slowly circumscribed by restrictions imposed by members of the London Stock Exchange. This limited provincial brokers in their previously open, easy, and inexpensive access to the London Stock Exchange and thus restricted the role played by London dealers in creating an active nation-wide market in provincial securities. The rules and regulations imposed by the London Stock Exchange upon its membership had implications for the whole securities market because of the links formed and the roles played by London jobbers and brokers.

V

Before the imposition of these restrictions there had come into existence an integrated national securities market in Britain, which functioned efficiently at all levels. At the lowest level there existed the market for the securities of numerous small concerns, operating in such fields as industry, commerce, finance, mining, and services. This market was to be found within each provincial stock exchange or direct broker-to-broker trading in London. Though this market was neither active nor sophisticated, it did provide a means by which purchases and sales could be made without difficulty.[62] At the same time, links between members of different exchanges meant that it was easy for investors to purchase the securities of any non-local concerns which attracted them.[63]

At the next level were to be found the securities of the larger joint-stock concerns, such as railways and, later, many industrial, commercial and mining ventures. As companies grew in size, either by merger or internal expansion, their stocks and shares were to be found throughout the country rather than in one restricted locality.[64] These securities were, therefore, not to be found on any one exchange, though each had its own specialities, such as Sheffield in engineering, Glasgow in iron and coal, Cardiff in shipping, and Liverpool

[61] Glasgow Stock Exchange, 14 Jan. 1908, 21 Jan. 1908, 28 Jan. 1908, 7 July 1908, 25 Aug. 1908, 1 Sept. 1908, 8 Sept. 1908, 15 Sept. 1908, 29 Sept. 1908, 6 Oct. 1908, 13 Oct. 1908, 8 Dec. 1908, 2 March 1909, 23 March 1909, 14 April 1909, 18 May 1909, 8 June 1909, 15 June 1909, 14 Dec. 1909, 20 Jan. 1910, 15 Feb. 1910, 8 March 1910, 23 Jan. 1912, 29 May 1912, 11 June 1912, 29 Oct. 1912, 26 Nov. 1912, 3 Dec. 1912, 28 Jan. 1913, 11 March 1913, 22 April 1913, 14 May 1913, 10 June 1913, 24 June 1913, 1 July 1913, 23 Sept. 1913, 14 Oct. 1913, 18 Nov. 1913, 10 March 1914, 24 March 1914, 26 May 1914, 23 June 1914.

[62] T. Skinner, *The Stock Exchange Year-Book* (1874), p. 211; Michie, *Money, Mania*, chs. 14-7; Day, *Stockbrokers' Office*, p. 218. Small may be defined as having a capital of under £100,000; see F. Gore Brown and W. Jordan, *A Handy Book on the Formation, Management and Winding up of Joint Stock Companies* (1902), pp. 453-4.

[63] Michie, *Money, Mania*, pp. 191-2.

[64] *The Stock Exchange Gazette*, 30 March 1901, 21 Sept. 1901, 28 Dec. 1901; *Investors' Monthly Manual*, 31 Jan. 1887; Cottrell, *Industrial Finance*, p. 92; M. A. Utton, 'Some Features of the Early Merger Movements in British Manufacturing Industry', *Business History*, 14 (1972), p. 52; L. Hannah, 'Mergers in British Manufacturing Industry, 1880-1918', *Oxford Economic Papers*, 26 (1974), pp. 7-8, 14, 18; Jeffery, *Business Organisation*, p. 435; J. S. Jeans, *Railway Problems* (1887), pp. 52-3, 105; R. B. Weir, 'The Distilling Industry in Scotland in the Nineteenth and early Twentieth Centuries' (unpublished Ph.D. Thesis, University of Edinburgh, 1974), pp. 290, 320, 332-5, 568.

in insurance.[65] The location of a specialist market in any security was unimportant because, by means of shunting and the operations of London dealers, an active market was created to which all investors had equal access through their own local broker.

While the London Stock Exchange did not provide the best market for the securities of many types of joint-stock enterprise, it was still quite willing to quote these securities once they reached a size which could generate sufficient business, such as a paid-up capital value of over £100,000. This indicated a willingness to buy and sell, not necessarily in London but wherever the market lay, and the same was true for the provincial exchanges. By the end of 1900, for example, 98·5 per cent of all securities quoted on the Glasgow Stock Exchange were also to be found quoted on the London Stock Exchange. Even for a very local exchange, such as Aberdeen, the proportion was 96 per cent (see Table 3). These included many Scottish based concerns which had acquired a London quotation because of their size and extensive operations. Consequently, Edelstein's view that "the bulk of the securities listed on the provincial stock exchanges from the 1870s to World War I were never traded in London"[66] is not really true. Certainly there were numerous smaller joint-stock companies which possessed a purely local quotation (Table 2), and it is also true that the London Stock Exchange[67] was not the main market in many branches of joint-stock enterprise. Nevertheless, the members of the London Stock Exchange were instrumental in creating a wider and more active market in domestic joint-stock enterprise through the integration of their own and the provincial exchanges into a national securities market, in which they acted as the central dealers for the whole system because of the rapid and continuous communications available.

The final level of this national securities market concerned the huge consolidated issues of governments, such as the British National Debt. Though this was quoted on other domestic exchanges, the only market was to be found on the London Stock Exchange, to which all orders were directed. Such was the volume of turnover there, that no other centre in Britain could rival London's ability to buy and sell immediately any amount of government stock at close to the current price. The London Stock Exchange's success in doing this enabled it to attract all the business in government stock, which gave it the turnover that allowed it to be the unrivalled market in government stock, and so perpetuated its position. Over time the same picture was to emerge in other securities as they gravitated to the most active market, but that had not happened before World War I. There were trends in that direction in the stock of the larger English railways, but they were being replaced for shunting purposes by the securities of the larger industrial, commercial and mining companies.

As a result of the existence of securities trading at different levels, the

[65] C. McLaren, 'Prospects of Iron and Steel Investments', *Financial Review of Reviews (F.R.)*, Oct. 1906, pp. 249-53; A. R. Foster, 'Cotton Spinning Companies', *F.R.* Feb. 1907, pp. 249-51; M. M. Mason, 'Dangers of Colliery Investments', *F.R.* Nov. 1913, p. 903; G. D. Ingall and G. Withers, *The Stock Exchange* (1948), p. 117; Thomas, *Provincial Stock Exchanges*, pp. 68, 119.

[66] Edelstein, *Overseas Investment*, p. 57.

[67] Hall, *London Capital Market*, p. 26; Anderson, 'Law, Finance', p. 116; Cairncross, *Home and Foreign*, pp. 95-6; Jefferys, *Business Organization*, pp. 370-1.

Table 3. *London Stock Exchange, 31 Dec. 1900*

Category	*Paid-up capital of quoted securities* £	*Per cent quoted in* *London alone*	*London & Glasgow*	*Per cent quoted in* *London alone*	*London & Aberdeen*
Government	3,741m	74·2	25·8	100·0	—
British	912m	18·6	81·4	100·0	—
Foreign	2,829m	92·2	7·8	100·0	—
Railways	3,012m	33·2	66·8	87·6	12·4
British	1,256m	22·0	78·0	62·1	27·9
Foreign	1,756m	41·2	58·8	98·7	1·3
Services	186m	79·0	21·0	100·0	—
Financial	228m	76·8	23·2	97·0	3·0
Ind, Com & Min.	443m	79·7	20·3	99·9	0·1
Total	7,610m	58·5	41·5	95·0	5·0

Glasgow Stock Exchange, 31 Dec. 1900

Category	*Paid-up capital of quoted securities* £	*Per cent quoted in* *Glasgow alone*	*Glasgow & London*	*Per cent quoted in* *Glasgow alone*	*Glasgow & Aberdeen*
Government	966m	0·1	99·9	100·0	—
British	743m	0·1	99·9	100·0	—
Foreign	223m	—	100·0	100·0	—
Railways	2,016m	0·1	99·9	81·5	18·5
British	983m	0·3	99·7	64·0	36·0
Foreign	1,033m	—	—	98·0	2·0
Services	44m	11·4	88·6	99·7	0·3
Financial	68m	22·1	77·9	79·8	20·2
Ind, Com & Min.	113m	20·4	79·6	99·4	0·6
Total	3,207m	1·5	98·5	87·9	12·1

Aberdeen Stock Exchange, 31 Dec. 1900

Category	*Paid-up capital of quoted securities* £	*Per cent quoted in* *Aberdeen alone*	*Aberdeen & London*	*Per cent quoted in* *Aberdeen alone*	*Aberdeen & Glasgow*
Government	—	—	—	—	—
British	—	—	—	—	—
Foreign	—	—	—	—	—
Railways	373m	—	100·0	—	100·0
British	351m	—	100·0	—	100·0
Foreign	22m	—	100·0	—	100·0
Services	0·2m	100·0	—	24·0	76·0
Financial	18·1m	62·0	38·0	24·0	76·0
Ind, Com & Min.	3·3m	86·0	14·0	81·0	19·0
Total	394·6m	4·0	96·0	2·0	98·0

Sources: London Stock Exchange Official List, 31 Dec. 1900; Glasgow Stock Exchange Official List, 31 Dec. 1900; Aberdeen Stock Exchange Official List, 31 Dec. 1900; Stock Exchange Official Intelligence (1901).

unification between exchanges provided by shunting, and the market-making activity of London dealers, an efficient securities market had been provided for the whole of Britain by the early twentieth century. Companies could find

according to their growth and appeal. In addition, the range of securities for which a ready market existed had been greatly widened by the development of this national market. Even by the late 1850s only the National Debt could be bought and sold without difficulty and delay, and the improvement by the 1870s had been slight. However, by the early twentieth century there were some 200 active issues which it was easy to buy and sell at close to market prices, and these included the securities of major railways as well as of a number of large industrial and commercial concerns.[68]

It was this market which was undermined by the action taken by members of the London Stock Exchange in banning dual capacity in 1909 and implementing minimum commission rates in 1912. These measures meant that the domestic market for securities was beginning to operate less efficiently, because the unrestricted communication between London dealers and provincial brokers had been replaced by one which had to go through London brokers and bear commission charges. Provincial brokers, therefore, not only found it more expensive to use the London market, but the provincial exchanges as a whole were discouraged from using the services provided by London dealers which had become such a vital part of their operation. The eventual result for the market was spelled out quite clearly by a number of dealers, including Morrison, in a circular published in January 1908:

> The pre-eminence of London as the money centre of the world and the greatest exchange mart lies in the freedom from restriction in dealing, and any attempt to impose unnecessary restrictions on a commercial community in the conduct of its transactions must lead sooner or later to the loss of business. The present methods of carrying on business in the House have grown up with the expansion of business, and the increased facilities for its transaction throughout the country and the world. Business must inevitably gravitate towards the centre where it can be despatched with the greatest cheapness and facility, and the new Rule will interfere with both.[69]

However, that had hardly come to pass by World War I, though the omens were clear.

Thus, it becomes evident that the London Stock Exchange, when the actions of the membership are examined, did come to play a central role in the British securities market. This was not only at the level of the issues of governments or vast corporations but also throughout the range of securities available. Though located in London offices, a number of London Stock Exchange brokers and jobbers maintained constant and immediate communication with contacts on other exchanges, and acted in concert with them to ensure the existence of a continuous market in a growing volume and variety of stocks and shares. By the early twentieth century the securities market had become complex and sophisticated, offering an opening at the most appropriate place and level to all transferable securities, and providing a facility by which these securities could become known to the entire investing public when their size and nature warranted it. Securities were not an homogeneous good, and the organization of the market in which they were dealt recognized this fact.

[68] Commission on the London Stock Exchange, Minutes, p. 30; Gresham Omnium, *A Handy Guide to Safe Investments* (1858), p. 95; Investors' Guardian, *Guide to Investments* (1873), p. 7; General Securities Corporation, *The Investors' Handy Book of Active Stocks and Shares* (1912), pp. ix-xi.

[69] H. Morrison & Co. et al. Circular, 20 Jan. 1908.

However, in the few years before World War I the functioning of this market was being circumscribed because the majority of members of the London Stock Exchange had lost the direct benefits they obtained from external contacts, and had failed to perceive the indirect benefits brought by an open market. As a result, institutional barriers were imposed which sought to reverse the trends produced by improved communications, beginning with the telegraph in the mid-1840s. Outside interests were powerless to halt such actions because they were non-members.

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