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The London Stock Exchange, 1869-1929: new statistics for old?

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The London Stock Exchange 1869-1929: New Bloody Statistics for Old?

Journal:	<i>The Economic History Review</i>
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Keywords:	London Stock Exchange, aggregations, data
Abstract:	Newly-assembled datasets on the size and composition of the London Stock Exchange - or the broader UK securities market - present results at odds with conventional wisdom. A forensic examination of one study of corporate equities in the Investor's Monthly Manual between 1869 and 1929 reveals idiosyncratic mistakes, but also generic biases which limit the usefulness of this source.

Richard Grossman's "Bloody Foreigners!" study of the London Stock Exchange (LSE) covers thousands of domestic and overseas companies on what was the world's largest stock exchange at the pinnacle of its influence. It is one of a number of studies exploiting the *Investors' Monthly Manual (IMM)* online database, available thanks to the commendably open policies of Yale's International Center for Finance.¹ The current vogue is to describe such data as "hand-collected," invoking images of the master craftsman: the potential for improved understanding of historical financial markets excites funding bodies and financial economists alike. Yet - as Grossman laments (p. 473) - the reality can be outsourced data entry lacking documented transparency. For some purposes, the historian's "hand" might try alternatives: Grossman's own aggregations are seriously at odds with dusty published volumes that he neglects.

He concludes a paragraph on "equity listed on the London market" thus: "Paid-up capital hovered around £3 billion from 1869 until the beginning of the First World War, when it dropped by about a third, before recovering to its prewar level by the beginning of 1929" (pp.474-5). Yet LSE listed paid-up capital² was not a well-kept secret awaiting modern research, but was counted annually by its Share and Loan Department, which (since it supervised listing) was in a position to know.³ Its statistics separated fixed interest capital from equity only for railways (which for many decades accounted for most listed capital globally), but - even though they included the non-equity securities of all companies plus dollar equities (which Grossman excluded) - Figure 1 shows that the

¹ <http://som.yale.edu/imm-issues>. The Yale data begin in 1869, but 1864-68 *IMMs* exist in libraries.

² All figures in this paragraph and Figure 1 are at par values or what the *SEOI* described as "present amount" in "nominal" terms.

³ "Official listing" obliged LSE jobbers (market-maker specialists) to quote bid and offer prices, though only a minority of listed securities had multiple daily trades with negligible bid/offer spreads and many traded infrequently. Listing did *not* mean that the relevant securities were *mainly* traded in London: with no government-enforced trading privileges, some LSE-listed securities had larger markets in the provinces, "over the counter" and/or overseas. Nor did it define British-owned securities: with the gold standard minimising exchange risks and extensive cross-listing, investors did not use only their domestic exchanges. British and overseas government securities (dominating LSE-listed par values until the 1880s and from World War One) are throughout excluded: following Grossman, this discussion is confined to corporates.

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3 LSE's own nineteenth-century totals mainly lie *below* the figures he reports for non-dollar equities.⁴
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5 His earliest figures are unbelievable (a part cannot be three times the whole) and the credibility gap
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7 persists around 1900, on the secure assumption that the value of the LSE's non-equity securities and
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9 dollar equities that he omits was comfortably above zero.⁵ His one-third fall in listed par values in
10
11 the First World War is also undetectable in LSE statistics.⁶ Only his last clause - on equities
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13 "recovering" to around £3 billion at par by 1929 - is consistent with the LSE statistics, reporting a
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15 level for all corporate securities well over twice that from 1920 onwards.⁷
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Figure 1 about here

The contrast in Figure 1 - between consistently rising LSE official list par values until 1914, followed by plateaus and brief growth spurts, and the near six-decade-long £3 billion plateau, with occasional large deviations, in Grossman's subset of non-dollar equities over the same period - is stark.⁸ Contemporary stock market statisticians used par values to measure the quantity of securities undistorted by short-term market price fluctuations and confidently reported that they showed massive, steady growth.⁹ Financial historians might also be surprised at Grossman's untroubled observation that his equity market capitalisation as early as 1869 (only fourteen years after the introduction of general limited liability and before most overseas investment) was more than four times UK GNP - a level of financial development well above today's high norm - and finding that this key indicator declined over the following decades (p. 475). The more conventional view is that

⁴ Grossman notes (p. 473, n.11) that, in his earlier *IMM* analysis ("New Indices"), he misclassified many equities, but now uses Yale's classification (frankly admitting its coding rules are unrecorded). His logic for excluding dollar equities (they mainly traded outside the UK, p. 477, n.25) applies with greater force to some he includes, notably French railways (whose state-guaranteed "equities," moreover, behaved like bonds).

⁵ *SEOI* 1901.

⁶ *SEOI* 1914-1920. Listed values rose modestly at par, except for a slight fall in 1918.

⁷ His ca£2.5b would account for barely a third of the 1920 total of £7.7b, leaving all dollar corporates plus non-dollar corporate fixed interest securities to account for more than two-thirds.

⁸ Increased leverage cannot generate this large difference between the growth of equities and all corporate securities. Essex-Crosby ("Joint Stock," pp. 220-23) shows equities at par falling from 70% of the capital of British-registered quoted companies in 1884 to 53% in 1934, but this effect would largely disappear if corrected for the UK statutory and chartered companies that Essex-Crosby omits (or for differentially increased market prices). Although there was higher bond leverage in overseas than domestic securities at issue prices, the 1865-1914 trend was only mildly upward (Stone, *Global*, pp. 396-403).

⁹ Neymarck, "Statistique." Long-run growth at market prices was usually even greater (*Bankers' Magazine* index, *passim*).

London-led global financial development between the 1860s and a peak around World War One continuously expanded domestic and overseas securities, and that the (global) onset of the “Great Reversal” in the securities/GDP ratio was sometime after 1919, not a half century or more earlier.¹⁰

All major alternative UK statistical series - including the capital in registered joint stock companies and railways,¹¹ the LSE official list,¹² domestic-registered companies on the LSE junior market and official list combined,¹³ new corporate issues on London (overseas¹⁴ and domestic¹⁵), **periodic national balance sheets**,¹⁶ corporate tax data,¹⁷ **counts from other newspapers**,¹⁸ and fuller counts of the *IMM* data¹⁹ - support something nearer the conventional wisdom than Grossman. They also suggest a more even and gradually changing balance between home and overseas investments, with the overseas share peaking later than Grossman’s.

So what is going on? One clue is that he includes provincial exchanges (p. 472, n.8), though he references work on their small size, presumably to justify as excusable shorthand his repeated description of the *IMM* sample as “traded” or “listed” on the LSE.²⁰ Provincial listings cannot remotely account for discrepancies of the observed magnitude,²¹ but this clarifies that listing in the

¹⁰ Rajan and Zingales, “Great Reversals,” Michie, *London*; Moore, “World;” Le Bris and Hautcoeur, “Challenge,” Annaert et al, “Are.”

¹¹ UK *Statistical Abstract*, passim.

¹² *SEOI*, passim.

¹³ Essex-Crosby, “Joint Stock,” pp 220-3

¹⁴ Stone, *Global Export*.

¹⁵ Hobson, *Export*, pp. 214-5, 219.

¹⁶ Goldsmith, *Comparative*, p. 233. Some Goldsmith balance sheets include unquoted companies, making them questionable securities market indicators, but his UK estimates are primarily LSE securities.

¹⁷ Worswick and Tipping, *Profits*.

¹⁸ Moore, “World.”

¹⁹ Campbell et al, “Rise.”

²⁰ The mis-description of *IMM* as “a record of the London Exchange” also headlines the Yale website.

Grossman uses the terms “listed” and “traded” interchangeably, but the latter can be interpreted as including, in addition to the official list, the LSE junior market (including “special settlement” securities and from 1915 the “supplementary list”), where many (mainly smaller) provincial and other securities traded.

²¹ The UK securities market was integrated and competitive: LSE brokers dealt in provincial securities and vice-versa. In 1914 one (rare) estimate for the thousand securities listed on the largest provincial exchange (Manchester) showed par values more than one quarter of the LSE’s (Powell, *Evolution*, pp. 538, 540), but many were also LSE-listed, so these cannot be interpreted as net additions to the national market. Other estimates are incomplete. Campbell et al (“Rise”) show a decline from 13% to only 4% of market valuation for UK corporate securities “chiefly traded” (a term not precisely defined) *only* on provincial exchanges between 1870 and 1929. Unfortunately this partly reflects the *IMM*’s increasing truncation of provincial securities: their 286 provincial-only corporate securities constituting the 4% of 1929 include only a small portion of the

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3 *IMM* and listing by the LSE were quite different processes and that has other, more important,
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5 ramifications. Comparisons of individual companies on the LSE (published annually in the *SEOI*) with
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7 the *IMM* companies in the Yale database reveal massively differentiated listing policies over time.²²
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10 When inaugurating its *IMM* supplement in 1864, the *Economist's* editor, Walter
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12 Bagehot, aimed to cover all traded securities, doubling the securities already covered in the weekly
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14 journal. UK stock markets, though beyond infancy, were still adolescent - tradable securities
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16 numbered under 2,000 - so *IMM* staff were able to cover many listed on the UK's (then significant)
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18 regional exchanges (including dozens of provincial banks later absorbed by London-headquartered
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20 amalgamations) and around 700 corporate securities then on the LSE official list. Formal exchanges
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22 had competitive advantages (in concentrating trading, providing liquidity, transparent pricing and
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24 some regulation), but outside markets blunted exchanges' ability to exploit their consequent market
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26 power. Unusually, the LSE (with its larger number of brokers than New York, Paris and Berlin
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28 combined) directly ran a parallel junior market in shares, featuring them (alongside those officially-
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30 listed) in the *SEOI*, which bankers used to assess what to accept as collateral or deal in for their retail
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32 customers. The *SEOI* (and, initially, the *IMM*) thus included many traded by "special settlement" -
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34 involving less stringent vetting than official listing²³ - and/or listed on the many provincial exchanges
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36 or otherwise "possessing for various reasons some interest for investors."²⁴ Some stock exchanges
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38 then resembled modern venture capital markets as much as modern regulated exchanges: start-ups
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43 thousands still listed only in the provinces (*SEOI* 1939, preface). Essex-Crosby ("Joint stock") offers fuller and
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45 more consistent provincial coverage for 1884, 1894, 1914 and 1935, but is confined to British-registered
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47 companies and aggregates provincially-listed with London-listed and informally-traded securities. Together
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49 such sources are compatible with the view that all readily tradable corporate securities (including all
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51 provincial-only listings and the LSE junior market) would struggle to increase LSE official list totals by much
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53 more than half in the 1880s (note 30, below) or in 1939 would increase it by under one-fifth for the LSE
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55 supplementary list (Michie, *London*, p. 276) and (on the assumption that provincial and supplementary list
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57 securities were about the same average size) by about another fifth for provincial-only lists (*SEOI* 1939,
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59 preface).

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²² "The origin, progress and ending of every security that has ever appeared in its pages" (*SEOI* 1883, p. viii) can
be traced in its annual supplementary index; *IMM* de-listings can be tracked in the Yale database.

²³ Official listing typically involved inspecting 40 documents, special settlement only 12, though the LSE denied
acting as a "moral agency" (*SEOI* 1898, p. 2); compare Burhop et al, "Regulating;" O'Sullivan, "Yankee Doodle;"
Foreman-Peck and Hannah, "UK corporate law."

²⁴ *SEOI* 1898, p. 1. The junior market was consistently omitted from LSE statistics (as in Figure 1) until 1937,
when supplementary list values were first separately reported.

were acceptable, indeed extensively promoted by brokers. Moreover the *SEOI* and *IMM* included off-exchange securities, *inter alia* those informally traded by local auctioneers, by the issuing firms at their own offices, or in Oldham pubs;²⁵ LSE brokers also transacted in such securities for clients. By the interwar years, many more companies were listed: there were over 4,000 company securities on the LSE official list, a similar number (of generally smaller companies) on the “supplementary list” formalised in 1915, and thousands more listed only in the provinces and/or traded informally: larger numbers than on other markets at the time or today.²⁶ The monthly *IMM* increased its page count but, unable to go much further while losing sales to rivals, it abandoned its early objective of including all tradable securities.²⁷ Already by the 1880s it lagged the annual *SEOI*, which had many more pages and more comprehensive coverage, while the *IMM* increasingly focused on official list securities, limiting junior market coverage.²⁸ There was some convergence: *IMM* and official list values were, for several years before World War One, roughly equal,²⁹ but changing editorial selection means the *IMM* cannot generally be equated with the LSE. In its early years, it measured something approaching the whole national market, covering about one-half more by value than all

²⁵ Modern financial economists might under-rate the convenience (and liquidity) of Oldham pubs. In the 1870s it was estimated that one quarter of Oldham’s population were shareholders and the local press reported prices daily, though local brokers did not establish an exchange until 1928. Early *IMMs* solicited information on such securities, even if not formally listed anywhere (e.g. *IMM*, 31 December 1870, p. 353).

²⁶ The NYSE was less hospitable to smaller issues and in 1939 listed only 2,630 securities (including government bonds). In 1939 there were respectively 4,425 and 4,479 corporate securities on the LSE official and supplementary lists and many thousands more (some also tradable on the LSE) with provincial listings or informal trading: the 1939 *SEOI* preface reported that it included 21,000 securities issued by 2,000 government entities and 9,400 companies (though some were not readily tradable). The increase mainly pre-dated 1900: *SEOI* prefaces reported including 3,000 “undertakings” in 1882 and 9,000 by 1898. Between 1898 and 1939 there were many liquidations, mergers and de-listings of railways and banks, offset by expanded listings of industrials, oils and utilities.

²⁷ The first issue had 16 pages and the last 90 (on a comparable tabular basis). Originally a money-spinner (most *Economist* readers initially subscribed), by 1913 the *IMM* had already lost two-thirds of its investor-readers to rival publications and brokers’ lists distributed gratis, while institutional investors were in the 1920s served by Extel’s comprehensive, up-dateable, information card technology. Discontinued in 1930, *IMM* had long been loss-making (Edwards, *Pursuit*, pp. 432-3, 611).

²⁸ In 1883 (*SEOI* 1884, p. cxxiv) only 1,303 of around 6,000 corporate securities featured were officially-listed. The *IMM* placed an asterisk against securities in which there were only limited dealings and they declined over time. Other sources exist for some sectors (e.g. *Australasian Joint-stock Companies Year Book*, *Banking Almanac*, *Railway Year Book*, *Financier’s Rubber Share Handbook*, *Skinner’s Mining Manual* and *Garcke’s Manual of Electrical Undertakings*) but much contemporary price information has been lost. In 1900 the *Investor’s Review* accessed security price information on 436 breweries (Hannah, “Pioneering,” p. 674), of which only 27% were in the *IMM* and 79% in the *SEOI* (author’s calculation).

²⁹ Some provincial and informally-traded securities remained in *IMM*, but were offset by several hundred (mainly smaller) omitted official list securities (Hannah, “Rethinking,” pp. 25-8)

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3 the LSE official list's corporate securities.³⁰ By 1929, the situation had reversed: the official list alone
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5 was about half as high again as the value of *IMM* corporate securities.³¹ In numbers terms the shift
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7 was even starker: in 1869 most *IMM* securities were not in the LSE official list; by 1929 most LSE
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9 securities were not in the *IMM*.

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12 Plainly this disqualifies Grossman's source as an indicator of changing market size - whether
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14 of the LSE or the whole national market - and may partly explain his oddly low market growth rates.
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16 But does *IMM* editorial policy make it a more appropriate source for some purposes? As today,
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18 quoted company sizes were highly skewed: several hundred companies accounted for most of the
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20 official list's value and almost all these companies were in the *IMM*.³² It might be argued that *IMM*
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22 securities are more interesting than the LSE's full list, if selection eliminated only the smaller, least
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24 liquid securities, while including those (wherever traded) of interest to investor-readers. That
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26 rationale is plausible, but what cannot be argued is that such a policy was consistently applied over
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28 time or that the results are free of selection bias. Its editorial selectivity ranged from (apparently
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30 random) decisions to drop securities one year, sometimes reintroducing them the next,³³ (which
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32 may explain some implausibly large year-on-year changes), to consistent trends over time that could
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34 systematically bias results. For example, if there was small firm outperformance,³⁴ the *IMM* -
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44 ³⁰ Campbell et al ("Rise") show the market capitalisation of all corporate securities in *IMM* in 1880/1 around
45 £2.6b, compared with £1.85b in the official list (adjusting the £1.7b at par in the official list to market by the
46 end-1880 *Bankers' Magazine* market/par index covering nearly half of those par values).

47 ³¹ Campbell et al ("Rise") report that December market values of all *IMM* corporate securities peaked at £8.3b
48 in 1928 and by 1929 were £7.8b. The par values in the official list in December 1929 were probably around
49 £8.0b (Figure 1, with £0.57b - the mean of 1920 and 1933 - added, as in Campbell et al, for local government
50 and public board securities). The *BM* index shows prices were then 34% above par, but 40% is probably nearer
51 the mark, allowing for the *BM*'s growing over-representation of depreciated railway securities (for the relevant
52 sectors in 1939 the *BM* index was about par when the LSE's own market valuation was 13% above par).

53 ³² Almost all 337 large, British-owned companies had at least one security in the *IMM* and amounted to 40% of
54 the official list company par values in that year; most of the 73 largest overseas companies also had at least
55 one security listed on London (Foreman-Peck and Hannah, "Extreme Divorce," notes 14, 48).

56 ³³ He explains his massive collapse at market in 1895 by temporarily missing quotations for giant French
57 railways (p. 475, n. 23).

58 ³⁴ For modern discussion, see Dimson and Marsh "Murphy's Law" and for earlier indications Grossman p. 507
59 and Campbell et al, "Rise," p. 17. Once recognised, the bias can be corrected by *ex ante* sample selection.
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3 increasingly selective of £1m+ firms as merger waves multiplied their number tenfold³⁵ - would
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5 exaggerate the decline in rates of return over time.
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8 Grossman's problems do not stop there: the aggregate discrepancies are sufficient to imply
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10 arithmetical errors, not just misleading descriptions or selection biases. Campbell et al have valued
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12 *IMM* securities at market, using the same Yale database, for the same period.³⁶ Like his figures at
13
14 par, Grossman's at market prices fail to show the strong upward trend of other sources. Again it is
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16 logically impossible for Grossman's non-dollar equity-only market values to be above Campbell et
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18 al's for all corporate securities, yet for decades they are higher. Again it is his early years' values that
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20 are implausibly high. The good news is that Grossman's disaggregated rates of return and capital
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22 gains in his later sections and appendices - the main focus of his article - are more plausibly
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24 rationalised by the author than the figures questioned here, though it is not obvious how aggregates
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26 can be so egregiously wrong, while sectoral and geographical calculations - of which they are (in
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28 principle) the sum - remain accurate. Thus, pending clarification from the author, other results
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30 should also possibly be treated with caution.
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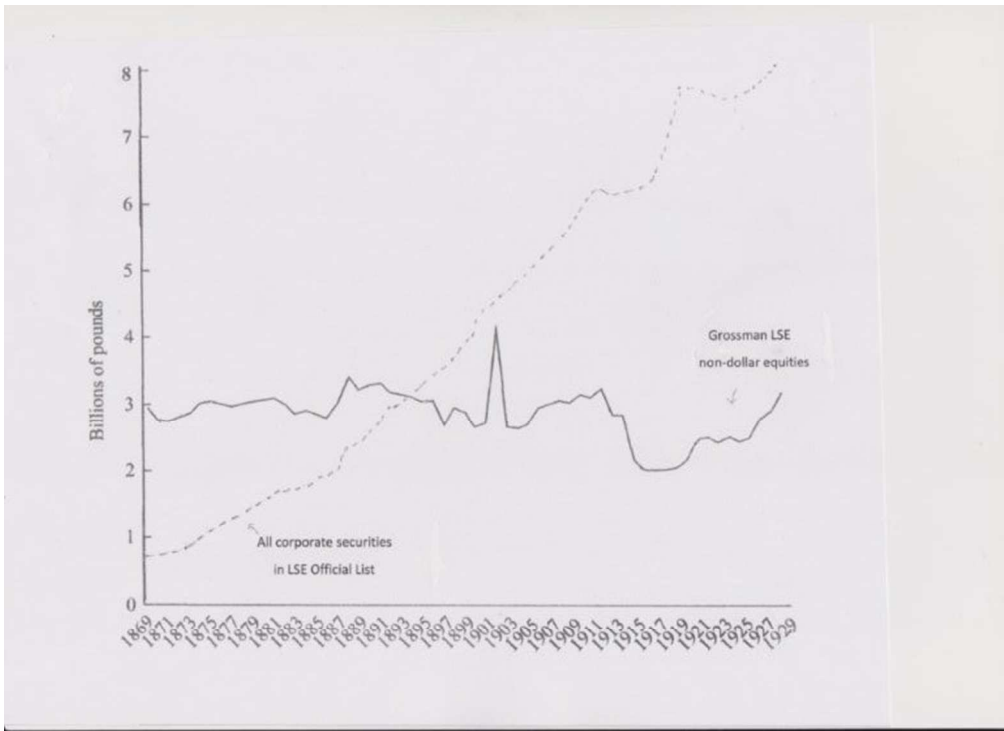
34 For any permutation of Grossman's descriptions (LSE or *IMM*, market or par), his early
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36 aggregations are way too high: they are irreconcilable with LSE official statistics, *IMM* valuations, and
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38 conventional evidence that the securities/GNP ratio rose until 1913. A more general lesson is that
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40 those who assess the changing size - or composition - of UK securities markets solely on the basis of
41
42 the *IMM* do so at their peril.³⁷
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50 ³⁵ The number of British-registered companies (a definition excluding *statutory* or *chartered* companies
51 including UK railways) with more than £1m capital (shares and bonds at par) rose from 88 in 1884, to 188 in
52 1894, 469 in 1914 and in excess of 686 (probably around 940, correcting for omissions) by 1935 (Essex-Crosby,
53 "Joint-stock," pp. 228-31).

54 ³⁶ "Rise."

55 ³⁷ Because of truncation, other *IMM*-based studies (Coyle and Turner, "Law;" Campbell et al "Rise") omit the
56 great majority - by number though probably not value - of, respectively, corporate bonds and provincial
57 securities. Their conclusions are not necessarily wrong, but require qualification on account of omitted
58 observations, certainly increasing proportionately over time and probably with differing characteristics.
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View Only

Figure 1. Corporate Securities: Grossman vs the LSE, 1869-1929.

Grossman's precise figures are not yet known (it is hoped the editors or Grossman will provide them). Hence, this graph cannot yet be precisely drawn but an indication is shown in an accompanying file, based on a modified xerox of Grossman's original graph, with a hand-drawn line for the related LSE data superimposed. The essential difference is that the LSE data include preference shares, debentures and dollar-denominated equities, while Grossman includes only non-dollar equities (as defined by Yale, and presumably mainly ordinary and deferred shares).

Sources:

Grossman's data: graph from *Economic History Review* 2015, p. 475.

LSE: The LSE Share and Loan Department (later LSE Records Department) published Mihill Slaughter's *Railway Intelligence* (20 editions, 1849-79), then annually *Burdett's Official Intelligence* (1882-1898), later the *Stock Exchange Official Intelligence* (1899-1933), merging it from 1934 with Skinner's *Stock Exchange Year Book* (founded 1875) as the *Stock Exchange Official Year Book*. All the LSE's volumes are in this article abbreviated as *SEOI*, which in its 1884 edition published official list valuations at decade intervals back to 1853. Data (for the previous year) were also published annually from 1882 to 1921 and from 1952 (the latter including backdated information to 1949). In the unexplained publication hiatus, the annual statistics were circulated internally (e.g LSE Subcommittee on the Records Department, minutes for May 1938, p. 58, MS 14611, LSE Archives, Guildhall Library, London). Some official valuations (at par until 1937 and thereafter at both market and par) were retrospectively published (partially and incompletely) in LSE, *Interest and Dividends upon Securities quoted on the Stock Exchange* (various issues from 1955); LSE, *Fact Book* (various issues from 1972); Michie, *London*, pp. 88, 175, 276, 320, 360; Morgan and Thomas, *Stock Exchange*, pp. 280-1; and Sheppard, *Growth*, p. 188. The data points for 1869-1872 and 1874-80 are interpolated from reported 1863, 1873 and 1881 data, assuming them to vary with the extant capital in UK railways and registered joint-stock companies. This is no longer appropriate in 1921-9 (because of railway mergers and the increase of private companies), so interpolation between published 1920 and 1933 observations is guided by indications in the LSE General Purposes Committee minutes (LSE Archives) and prefaces to the *SEOI*.

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