

Structural instability in the Scottish building industry 1820-80

by Richard Rodger

Concerned with the overall performance of British industry after 1870 in the face of foreign competition, historians in the 1950s and 1960s were content to consider the building industry as part of the broader functioning of a maturing capitalist economy¹. Excellent statistical underpinning for this approach was provided in the various series for capital formation of which the construction industry was the most significant single element². Building was considered part of a plot by London financiers, whereby the volume of funds available within the United Kingdom depended on an international monetary system, which by the nature of its workings and the implicit rules of the gold standard game, determined the relative attractiveness of internal and international investment. Unquestionably the broad dynamics of this system existed. Britain was the centre of the financial world and the City of London's intuitive grasp of differential yields led to an unprecedented expansion in the field of international investment in the half century before the Great War. The dominance of the bowler-hatted brigade over black-coated provincial manufacturing and building interests was the more convincing for the apparent ability of the City and its increasingly close New York connections to influence the levels of construction in Sweden and Germany. Construction in Malmö, Mainz, Manchester and Manhattan were systematically linked by the determination of the supply of investment funds within each domestic economy³.

That ripples, indeed panics, in this financial system seemed to go unnoticed amongst the building fraternity went unremarked. Local financial circumstances were more relevant than the money maelstroms in London. Local rather than international factors were uppermost when in 1878 the failure of the

City of Glasgow Bank brought bankruptcy to two thirds of Glaswegian builders, and the international financial panic of 1889-90 associated with the Baring crisis went virtually unnoticed by builders⁴. Furthermore, regional exports of capital appear to have had more to do with the dearth of local opportunities than with the irresistible appeal of foreign securities, as for example in the case of Dundee. In consequence studies of the building industry turned to internal rather than international explanations⁵. Building registers were extensively quarried as a source material and demonstrated such local variations that the ogre of a capitalist plot was sidelined, at least at international level⁶. Research emphases veered towards the internal structure of the city⁷, yet little of this investigated the corollary of the aversion to international determinism – namely, if local factors were uppermost, the size and structure of building firms locally might provide a clue to the pattern and pace of development in the built form. Moreover, where this issue was afforded any consideration it almost invariably referred to the late-Victorian period and accordingly skirted the issue of how far the composition of firms in the building industry influenced the very early stages of urbanisation⁸.

This provides the context for the present study of the Scottish construction industry. While the years around 1850 are most closely scrutinised, extensive reference to the neglected period 1820-80 is made. Attention is first directed towards the predominance of the small firm as the basic unit of production in the several sub-divisions of the building industry. It is argued that exaggerated instability was a distinctive feature of the Scottish Victorian building industry and that, in combination with various institutional, financial and legal factors, this instability owed

much to the prevalence of small scale building firms.

The industry in 1851

In Scotland, industrialisation and urbanisation exhibited a lag of approximately a generation compared to the English experience⁹, and in 1850, if not in the first flush of these modernising experiences, Scotland was illustrative of the early mechanics of urban expansion. In 1851 a census survey of building employers in the nine principal Scottish burghs – Glasgow, Edinburgh, Dundee, Aberdeen, Paisley, Greenock, Leith, Perth and Inverness – enquired as to the number of 'hands in their employ' and is particularly informative as to the composition and size of building firms in the principal Scottish urban centres¹⁰. The survey allows both a retrospective and prospective view of the building industry as one element in the determination and character of Scottish urban development.

Table 1 provides a summary of this survey. It shows the overwhelming preponderance of small firms in the building industry; of 945 building employers, 43.1 per cent employed fewer than five workers and 69.6 per cent employed fewer than ten. Amongst the two most numerous branches of building employers, namely carpenters and joiners (303 firms) and painting, plumbing and glazing (242 firms), the small scale nature of the enterprise was even more striking: more than half the firms (53.5 per cent in woodworking and 52.7 per cent in the painting, plumbing, glazing grouping) employed fewer than five workers. Furthermore, in both branches of the industry there was almost an equal proportion of firms (13 per cent) with one, two, three or four workers and, by a curious coincidence, in both groupings 78.3 per cent of employers hired fewer than ten workers. Roofing firms were actually the smallest amongst the building specialisms; the mean number of employees was 6.8, though of the small number of firms which claimed specialist status in bricklaying, two-thirds employed fewer than five workers. Even amongst timber merchants the small

scale of operations was striking and suggests that the labour intensity of wood processing was as yet unaffected by steam machinery since a majority of entrepreneurs took on between five and nine workers and almost two-thirds hired fewer than ten workers. Only two exceptions to this picture of an emphatically small scale of urban building firms existed; amongst masons and those styling themselves as builders. Some 44.7 per cent of masons' firms and 70.7 per cent of builders' engaged ten or more workers. The mean number of employees amongst these firms, respectively 20.0 and 37.4, by definition reflected this distribution of firm size, which was respectively twice and almost four times larger than in the other sub-divisions of the building industry.

A further summary of the distribution of building firms according to the number of employees they engaged is provided in Fig. 1. These cumulative frequencies enable comparisons between the different subdivisions of the industry to be made simply by reading along and down the axes. Basically the further the curve is to the right the larger the distribution of firms in that area of building activity. Hence mason and building employers with a higher mean number of employees have a more pronounced NE-SW position throughout the various gradations of firms; slating employers, by contrast, most closely approximated the N-S line, reflecting their greater reliance on small firms. In addition, by reading vertically, it is possible to discover that 6.5 per cent of builders, 30.3 per cent of masons, 42.9 per cent of woodworking trades, 34.9 per cent of all building trades and so on, employed three or fewer men. Alternatively, reading horizontally, 90 per cent of woodworking, plumbing, painting and glazing employers had a workforce of no more than 9.4 workers, whereas amongst masons and builders 90 per cent of firms engaged at least 46 and 78 workers respectively. The size and composition of building firms in the construction industry can therefore be compared at any level of operations.

There are two sound reasons, however, to

lower though still dramatic data of Table 1 have been adopted as the least favourable to the argument.

Nonetheless in this mid-century picture of small building ventures attention must be paid to the disproportionate contribution of large firms as sources of employment for building labour. The bracketed figures in Table 1 display the significance of employers according to the size of their workforce. Thus 1.3 per cent of building firms engaged 15.7 per cent of the total workforce; and almost a quarter of the building labour was engaged in firms of 50-99 workers though these firms formed only 4.2 per cent of the number active in the construction industry. Although 43.1 per cent of all building firms were small concerns hiring between one and four workers, they accounted for no more than 7.8 per cent of the workforce; together with the employers of five to nine workers (in all representing 69.6 per cent of all firms in the industry) these small firms employed only 21.3 per cent of building workers. This aggregate picture was sustained amongst the individual elements of the building industry, though it was most pronounced amongst builders, bricklayers and timber merchants. But even amongst painting and plumbing firms 2.9 per cent of the businesses employed a quarter of the workforce; 13.2 per cent of masonry firms accounted for half the employment in that branch of the industry. Expressed another way, 78.3 per cent of firms in woodworking and painting, and plumbing and glazing, took on respectively only 35.6 per cent and 33.6 per cent of the workers in those areas. While there were some very large building employers, only in three of the eight subdivisions of the industry were there employers of 100 or more men; indeed there were only twelve building employers all told with that size of workforce. Even these Scottish 'master builders' were of more modest proportions than their English equivalents for none of them employed more than 250 men.

Regional comparisons

To a degree the size and distribution of building firms only confirms the generalised

believe that even this distribution of the size of firms in Scottish burghs understates the importance of the small firm. Firstly, no 'self-employed' designation exists, and secondly, the schedule only applied to householders¹¹. Given the working capital required to operate firms of, say, fifty or more employees it would not seem unreasonable to expect entrepreneurs on this scale, and in the building industry, to own their place of residence; certainly *a priori* it seems more likely than amongst the smaller operators. So the census schedules would not have reached some of the more modest building firms. More significant though was the absence on the schedule of the category 'self-employed'. Clearly in the building industry many such enterprises existed; master craftsmen who traded as independent firms, and entrepreneurs, as Cooney has identified¹², who themselves directly engaged no workers but subcontracted. There was a 15.9 per cent non-response to the census questions regarding the number of employees – well below the national average in other industries – and it is possible to adopt the procedure of a comparable English survey that all non-respondents were self-employed¹³. With less to hide and, by virtue of their scale, a greater visibility, the larger builders, arguably, replied more completely to the census questions than their smaller colleagues. Assuming that employers who did not complete the questions were either self-employed or small firms, the percentage of firms in each subdivision of the building industry employing fewer than five workers was as follows – bricklayer 69.3 per cent; carpenter, joiner, 61.0 per cent; painter, plumber, glazier 59.9 per cent; mason 49.5 per cent; slater 49.3 per cent; timber merchant 46.1 per cent; plasterer 44.7 per cent; builder 20.3 per cent. Thus just over half (52.2 per cent) of the Scottish building firms in the principal urban areas employed fewer than five workers. Although there is circumstantial evidence to adopt the convention that builders who did not reply to the census questions were the smallest firms, this has not been followed for the purposes of the succeeding analysis; the

Table 1. The building industry in the principal Scottish burghs 1851: firm size and employment structure

Occupation	Total number of employers and employees	No. of employees in firm						Mean firm Size by number of employees
		1-4	5-9	10-19	20-49	50-99	100+	
Builder	Employers 123 (Employees) (4597)	10.6 (0.5)	18.7 (3.5)	18.7 (7.3)	29.3 (24.0)	14.6 (28.8)	8.1 (35.9)	8.1 (37.4)
Carpenter, Joiner	Employers 303 (Employees) (2446)	53.5 (15.5)	24.8 (20.1)	13.2 (23.7)	7.6 (28.4)	0.7 (5.1)	0.3 (7.2)	0.3 (8.1)
Painter, Plumber, Glazier	Employers 242 (Employees) (2125)	52.7 (24.6)	25.6 (19.0)	14.5 (23.9)	4.5 (18.4)	2.9 (24.1)	—	— (8.8)
Mason	Employers 76 (Employees) (1521)	34.2 (4.5)	21.1 (7.4)	19.7 (14.3)	10.5 (16.2)	13.2 (49.3)	1.3 (8.2)	1.3 (20.0)
Slater	Employers 66 (Employees) (446)	40.9 (14.4)	43.9 (39.5)	10.6 (22.9)	4.5 (23.3)	—	—	— (6.8)
Bricklayer	Employers 24 (Employees) (206)	66.8 (19.4)	16.7 (14.1)	8.3 (14.1)	4.2 (21.8)	4.2 (30.6)	—	— (8.6)
Plasterer	Employers 77 (Employees) (696)	39.0 (10.6)	28.6 (21.7)	23.4 (37.5)	7.8 (21.1)	1.3 (9.1)	—	— (9.0)
Timber Merchant	Employer 34 (Employees) (359)	17.5 (3.9)	55.9 (40.4)	20.6 (28.4)	2.9 (9.7)	2.9 (17.5)	—	— (10.6)
All building trades	Employers 945 (Employees) (12396)	43.1 (7.8)	26.5 (13.5)	15.6 (17.5)	9.4 (22.3)	4.2 (23.4)	1.3 (15.7)	1.3 (13.1)

Figures in brackets refer to employees; unbracketed figures refer to employers.

Source: *Census of Scotland, 1851*, (P.P. 1852-53 LXXXVIII (2)), p. 1022

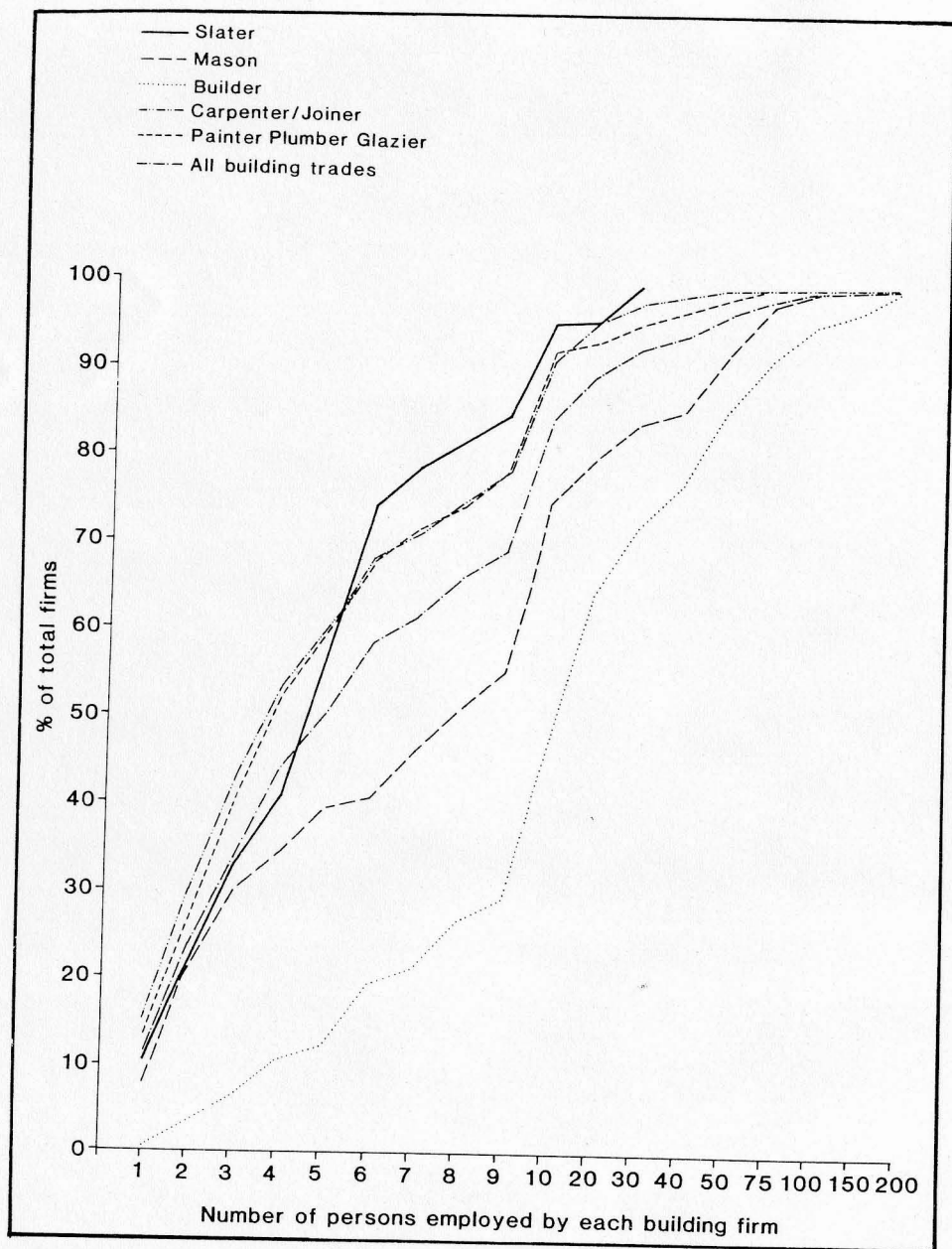


Figure 1. The size of firms in the Scottish building trades, 1851: cumulative frequencies

statements of Powell, Gaudie or Burnett, and the more particular research of Dyos on Camberwell and of Aspinall on Sheffield¹⁴. Yet the Scottish evidence gives a more revealing picture of the building industry for four reasons. This is, firstly, because nine principal burghs are covered, rather than a single case as in earlier studies. Consequently there is less criticism on the basis of the single special case. Secondly, the Scottish data permits a sharper focus on the relative size of firms in the principal subdivisions of the industry. Amongst this large sample of building employers it is illuminating to observe an almost identical average size of firm in wood-working, plastering, bricklaying, and painting, glazing, and plumbing. That the most frequent occurrence of slating firms was in the five to nine employee range, as it was with timber merchants, and that builders most commonly employed 20 to 49 workers, refines the analysis. Does the consensus among many branches of building employers suggest an optimal firm size, and were there, therefore, logistical, union and other diseconomies beyond this particular scale of operations? More specifically, why were slating firms smallest, or firms of masons twice the size of timber merchants? And how did the structure of building industry firms differ from those of other industrial sectors? A more thorough understanding of the size of constituent elements amongst building trades employers is necessary and future research might fruitfully be pursued in this direction.

Thirdly, and perhaps most important of all, this picture of the structure of the Scottish building industry reveals the degree of market control available to suppliers, and contributes to an understanding of the instability of Scottish building output. More specifically, while this mid-century picture may partially explain the unprecedented boom and slump in the 1870s, it also offers an end of period statement of the pattern of building production in the initial phase of urbanisation. There are convincing reasons for thinking that the structure of the building industry in the 1820s and 1830s was not much different from that of the late 1840s. Longer

run studies of the Victorian building industry conclude that only from approximately 1880 was there a perceptible shift in the average size of building firm¹⁵. Certainly before 1850 the absence of internal water and sanitary facilities in the majority of Scottish tenements meant that they were simple boxes within a rectangular shell. Even access to flats was normally by means of an external staircase, further diminishing the need for constructional skills¹⁶. Though the Dean of Guild Court offered some overseeing to building licences this was a feudal agency in retreat between 1820 and 1860, the basis of its authority rendered anachronistic by a burgeoning Victorian view of 'civitas' both in anticipation and as a result of municipal reform in 1834¹⁷. The needs of Victorian industry as the basis of a laissez-faire ideology allowed unrivalled and unrestricted access to the Scottish building industry before 1860.

Fourthly, the Scottish construction industry was far more dependent on the smaller builder than any other part of Britain¹⁸. In Fig. 2 the distribution of Scottish building firms lies to the left of all other regions even though the English regions included county areas, hardly the hotbed of heavy concentrations of substantial building concerns. By combining urban and rural areas the census office produced a significant downward shift to the size of the average English building firm. Even so, in the Scottish burghs 50 per cent of building firms employed five or fewer workers; in the north and west midland counties, Yorkshire and the eastern counties, only 40 per cent of firms were conducted at this scale of operations, and in the south east and north western regional groupings, some 28 per cent and 20 per cent respectively of building firms were engaged at this level. These English percentages would be reduced were the county areas omitted to render English urban areas comparable to the data on Scottish building firms, a consideration relevant at all points in Fig. 2. Thus only London is strictly comparable with the Scottish firm size data. Not surprisingly, perhaps, the average number of employees per London firm is significantly larger throughout.

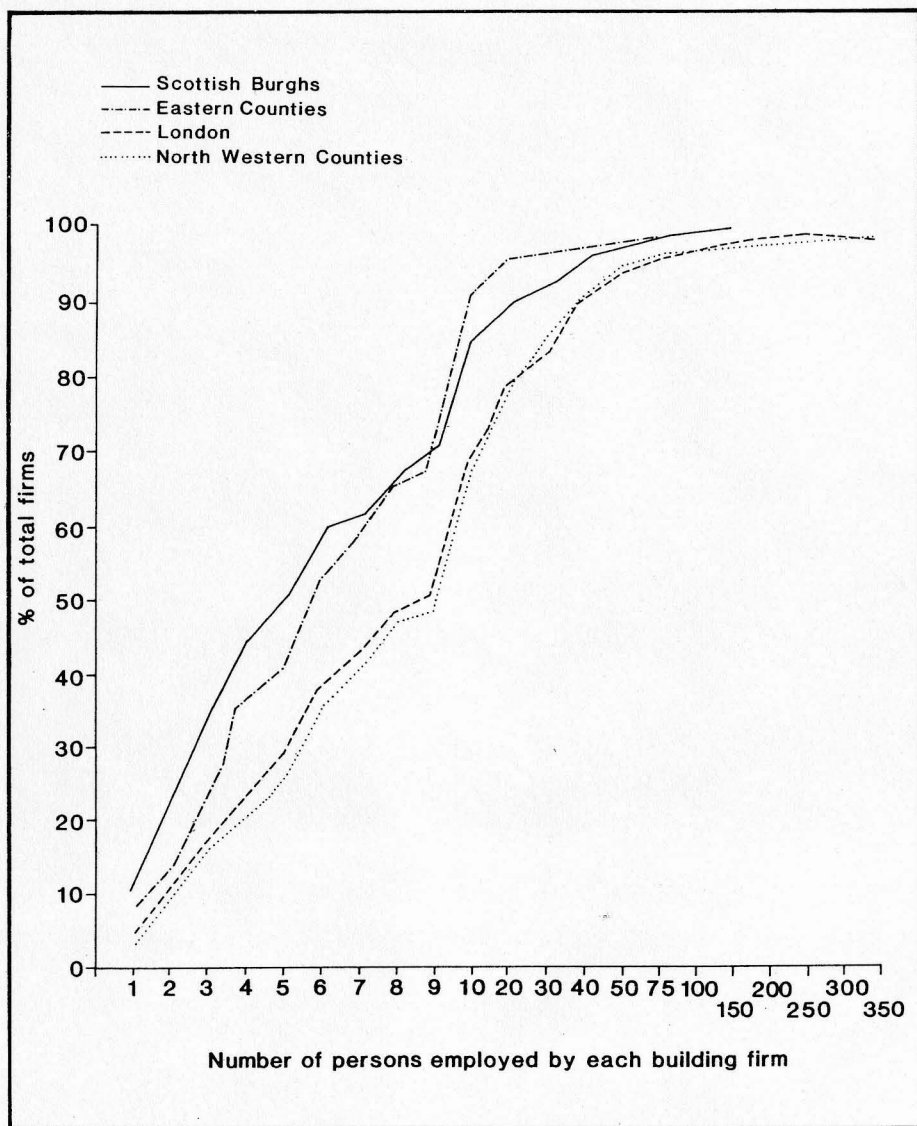


Figure 2. Regional variations in size of building firms, 1851

However, any suggestion that the London building industry was atypically large must be tempered by comparison with the distribution of provincial building firms. For example, comparison with the north west group which, it should be stressed, included small scale builders in rural Cheshire and Lancashire, showed a slightly smaller level of enterprises in the construction industry of the capital. Not only were there some very sizeable undertakings with more than 300 employees in the building industry of the north west, even in the more modest reaches of the industry the London building firms were actually smaller than in the north-west. In London 24 per cent of firms engaged four or fewer workers, for example, compared to 20 per cent in the north west. Adjustment of other county groupings, were it possible, would increase the urban component to a level not incomparable to that of the Lancashire and London building industries, all of which demonstrated a stronger dependence on larger firms than the Scottish burghs.

This survey of Scottish builders in the principal urban centres in 1851, with its excellent response rate, is particularly informative as to the structure of firms in the industry in the decades of most rapid urbanisation, namely before 1850. In addition, it offers a structural explanation of what Cairncross called the 'extraordinary violence of the fluctuations in the Glasgow building trade'¹⁹ (notably between 1862 and 1879), provides adequate data for an urban scale of analysis rather than an artificial amalgam of rural and urban as in the English surveys, and contributes to an explanation of the construction of tenements north of the border and to the acknowledged extreme deficiencies of Scottish housing standards during the nineteenth century. Not unimportant also is the light the survey sheds on the workplace experiences of employees, and in particular on employer-employee relations according to firm size and number of employees²⁰.

Structural instability

In an industry so heavily dependent on labour inputs the number of employees engaged by

a firm was some indication of its volume of output. It was the disruptive effect of small firms which proved so destabilising to all building interests, large and small. Seventy per cent of Scottish urban builders accounted for just over 20 per cent of the workforce, and by inference, of production. This was no insignificant component. It has disproportionate effects on the remainder of the industry. To intensify matters, investment in Scottish constructional work was divided in approximately the following manner: housebuilding 46 per cent; industrial and commercial 25 per cent; public and institutional 15 per cent; and alterations and additions, jobbing building, 13 per cent²¹. As public, and to a lesser extent industrial, building entailed substantial levels of working capital and labour organisation, not to mention formalised tendering procedures and professional draughtmanship, most small scale building firms were excluded from these arenas. To a considerable degree larger firms drawn into public and industrial building did bring a measure of stability to the construction industry but conversely this left housebuilding more firmly in the hands of small-scale employers who were highly susceptible to the vagaries of the market. Moreover, the bias towards small-scale builders was instrumental in drawing large building firms into the web of instability²². Inexact market adjustments by smaller firms provided a legacy of unsaleable, empty houses, prejudicial to the interests of all housebuilders. To insulate against the often prolonged lean years of over-supply all firms, irrespective of size, were inclined to participate in the heady speculative ventures during the cyclical upswing, thereby intensifying the difficulties of adjustment to the inevitable recession.

A pronounced reliance on small-scale firms in the mid-Victorian Scottish building industry was detrimental to the stability of the entire industry. Even in the later period of 1873-1914, 49.7% of approved housebuilding was in the hands of firms intent on putting up one or two houses only per year²³. These small firms experienced difficulties in

discovering and then responding to the main trends in the industry. Committed to one or two building projects commenced some months or even a year beforehand, their limited exposure to current developments and inability to cross-check changes in the level of demand and household formation or, even at a very basic accounting level, to identify the exact profit margins of current work meant that small builders were often out of step with underlying market trends. On occasions they had no alternative. The maturity of credit advances necessitated the completion of buildings so that a sale, at almost any price, could be effected and the credit advance repaid or part of it refinanced. Larger scale builders with several projects underway could change emphasis, take advantage of short run movements in materials or labour availability and more accurately recognise shifting currents in the construction industry. Most conspicuous then amongst small scale operators, an imperfect comprehension of market conditions coupled with belated and accentuated reactions to it destabilised the industry for other builders. This reliance on small firms produced instability, bankruptcy and consequently further punctured business confidence. Accordingly, a calm business climate was seriously impaired, and the Scottish building industry endured wild oscillations in output. This small scale structure of production and its adverse effects on a sufficient supply of working-class dwellings was noted by the *Scotsman* in 1858, although it doubted whether larger building firms would rectify the position²⁴. From euphoria to utter dejection Scottish building fluctuations far exceeded those in English boroughs: nowhere was this more pronounced than in the upsurge of building confidence in the west of Scotland in 1871-75, the dramatic reaction to the peaks of 1876-77 and the collapse of credit in 1878 (when two-thirds of Glaswegian builders went to the wall, with smaller firms suffering most acutely)²⁵.

The peculiarities of land tenure and the structural weakness of demand for housing were powerful pressures causing building in-

stability in Scottish burghs before 1850, as indeed they were thereafter, but the structure of the building industry with its heavier reliance on small scale producers compounded these difficulties. Three institutional factors intensified the instability inherent in the disaggregated structure of Scottish building firms.

The first of these was the process of 'stage-by-stage finance' for builders. This was very generally employed in mid-Victorian Scotland. Building societies, investment sources including solicitors and other financial intermediaries 'began to advance money as soon as the first joists were on, and continued to advance in proportion as the building proceeded'²⁶, explained one builder recalling the practices of the 1860s, themselves a continuation of his father's financial methods of the 1810s. The effect was to encourage builders with minimal capital to embark upon ventures beyond their financial resources. As a contemporary remarked, 'I have known a man starting a building which would cost him £5,000 and all he had in the world was £70 and yet he managed to build and finish it'²⁷. As an afterthought, and obviously intended to describe the outcome of this typical procedure, namely excessive building levels, the witness commented that though he finished the structure 'because of the advances from the building societies', the builder 'failed, of course, at the end'²⁸. Union officials observed the same undercapitalisation of builders in the 1860s and 1870s; as one remarked, 'they have not as much money as I have at the present time – and I have about 5s in my pocket at present'²⁹. The result was, as labour representatives noted, that while they might enter into wages agreements with employers many firms were driven out of existence before an agreement expired because of the tenuous level of funding at such a small scale of operations³⁰.

The second institutional contribution to Scottish building instability arose from the possibilities of the Scottish tenure system, feuing, as a source of finance. Reasserted as a result of the Act of Union in 1707, the sale of the right to exact a feu-duty (ie, the right

to an annual levy on land) was a common method of raising working capital in the building industry. Compounded at 25 or even 30 years purchase of its annual value, or as a bond secured on this annual income source, a plot of land represented a source of potential funds which could be converted into cash to finance builders' daily operations³¹. Moreover, builders could and did create a second tier of land burdens, ground annuals, and these too were mortgaged to provide a further source of working capital³². Only in a very limited way were ground rents or chief rents in certain parts of England available for this purpose³³. In a confident, expansionary mood the markets for these feu duties and ground annuals were important sources of funds for the small builder, fuelling the building fervour. In contraction, small builders in particular discovered that a principal source of funds for their activities was extinguished. Few investors would part with money on the promise of annual sums levied on building plots which either might remain undeveloped or might be taken by a builder not unlikely to figure in bankruptcy proceedings. Scottish building finance was itself liable to exaggerated crises of confidence with predictable effects on the heavily represented small builders.

A third problem surrounded the refinancing of credit at maturity. Builders throughout Britain were of course confronted with similar difficulties in recession. Pressurising friends and contacts within the building industry, and depending on trade credit were acknowledged and widespread tactics of building finance³⁴. But for the Scottish industry with its unparalleled emphasis on the small firm, refinancing bonds on heritable property required exceptionally skilful handling at maturity dates. These bonds, usually for one to five years in the first instance though with annual maturities if they had already been renegotiated, put considerable strain on the builder's credit rating. Not surprisingly the longer established and larger-scale firms, with a developed network of contacts both within the industry and amongst solicitors and trust funds, were better plac-

ed to handle the pressures caused by the need to refinance. For many small scale builders the crisis spelled impending ruin. Bankruptcy dented confidence, and further delays were introduced before funds were again forthcoming³⁵.

Response and reform

Normally, back-to-back housing in Leeds is regarded as the worst example of mid-century English housing³⁶. However, the condition of Glasgow in the 1850s, largely resulting from an absence of controls on builders according to an Architectural Association report of 1852, produced references to housing standards in Leeds in revered terms³⁷. The opportunities for uncontrolled planning and defective construction appear to have been most fully developed in the burghs of the west of Scotland, and in this regard the unusual frequency of small building firms was no mere coincidence³⁸. The size and nature of mid-Victorian Scottish building firms was, by way of seriously defective standards of accommodation, indirectly responsible for encouraging the passage of both the Burgh Police (Scotland) Act 1862 with its wide ranging sanitary powers, and the series of local improvement acts passed by Glasgow, Edinburgh, Leith, Greenock, Paisley and elsewhere between 1866 and 1877³⁹.

The interaction of institutional and structural factors in the Scottish building industry produced an instability unrivalled elsewhere in Britain. Of the building fluctuations before 1914, the boom and slump of the 1870s was more pronounced in the Scottish burghs than in any other region – South Wales, the Manchester area, the North East, or London⁴⁰. The Scottish civic awakening of the 1860s, as evidenced by measures for public and environmental health, slum clearance and building control, could not reverse neglect in the formative years of urban expansion, nor counteract the structural weaknesses and instability of the building industry⁴¹. Unbridled by the extended demise of the medieval planning agency, the Dean of Guild Courts, in the period 1820 to 1870, the small-scale building

fraternity and the methods by which they obtained financial backing combined to produce considerable proportions of high-rise tenement accommodation at the very basic end of the housing market. To a degree this reflected weak purchasing power amongst urban Scots, was also a response to peculiar tenure patterns and possibly reinforced preferences for a high-rise dwelling style⁴².

Though Scots were to figure prominently in foreign investment after 1870 and were not immune to the broad national financial trends⁴³, local capital sources were more important before 1870 as the Register of Sasines entries, which recorded the location of bondholders and mortgagees, shows⁴⁴. The highly local nature of Scottish capital markets was noted by Thomas, and Bailey too has emphasised the unique role and importance of the Scottish solicitor in the disposition of property investment⁴⁵. The size and annual variation of Scottish overseas capital outflows before 1870 were such that it is unlikely that they had much bearing on the available building finance, except perhaps for the grander building projects. Small scale builders had no access to formal capital markets⁴⁶. The need to finance informally was thus vital, and was largely independent of the finer London judgements on marginal discrepancies in yields. This symbiosis worked well in the expansionary stages of the building cycle; it proved calamitous in the recession. The interaction of local finance and firm size, therefore, contributed to exaggerated market responses and instability⁴⁷.

It is precisely because of this extreme instability that the building industry, almost involuntarily, established a greater degree of industrial order after 1880. Building society advances were subject to stricter control and the stage-by-stage advances terminated; renewed demands for national rather than local building byelaws were eventually approved in 1892, thereby requiring minimum standards of amenity provision often beyond the technical and financial means of the smaller firm; and, by no means least, the curtailment of small-scale operators' activities for a decade after 1878 (due both to the im-

pact of numerous bankruptcies on builders' confidence and the reduction in opportunities consequent on saturation of the housing market) limited the sphere of operations for small building firms⁴⁸. When the pendulum eventually swung back to expansion these influences combined to induce many who formerly would have launched out on their own account to remain subcontractors, content in the knowledge that to build tenements under the revised conditions required an assured source of credit beyond their command. For investors, investment trusts offered a wider array of outlets for Scottish capital after 1870 and government securities also proved more attractive than property investment after 1900. As a consequence the instability among Scottish builders in the 1890s and early 1900s was more muted than it had been before 1880. These local reforms and institutional practices were direct responses to the instability before 1880 and explain more convincingly than international financial trends the experience of Scottish building firms both before and after that date.

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44. S.R.O., Register of Sasines (various counties of Scotland).
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46. T. Binnie, *op.cit.*, pp. 73-6, records the heavy reliance of his father in 1818-19 and early 1820s on friends such as David Logan, Robert Thom and James Young, a point reiterated by W. Fraser, 'Fluctuations', pp. 21-40, and by witnesses to most enquiries and commissions on Scottish Victorian housebuilding.
47. Fraser, 'Fluctuations'.
48. Glasgow Municipal Commission, *Evidence*, Binnie, Q.6631. Demands for relaxation of building codes followed the passage of strengthened byelaws in the 1890s. See Glasgow Municipal Commission, *Evidence*, Fyfe, Q.834; Nisbet, QQ. 1302-1436; Menzies, Q.3091; McDonald, QQ.3666, 3792; Bannatyne, Q.6204; Eadie, Q.7362.

He that runs against time: life expectancy of building firms in nineteenth century Bristol

by C.G. Powell

'He that runs against Time has an antagonist not subject to casualties.' The implications of Dr. Johnson's aphorism were seldom more clear than in the Victorian building industry. Builders' vulnerability to failure was notorious¹ and indeed remains so. Despite this there seems to be no firmly based view on the life expectancy of typical firms, beyond a vague agreement that it was likely to be short. The following study attempts to examine life spans of building firms in a large city between 1825 and 1901. The opportunity is taken also to examine briefly some related aspects of ownership and type of firm. The study is of a whole population of firms, and is thus in contrast to an approach often taken — viz. case studies of individual firms, which are often selected in the light of their commercial success. The aim is to seek a broad view of the industry as a cohesive whole rather than a narrower view of discrete or fragmented parts. It is hoped that the broad view will give due weight to the nature and experience of typical firms, which are easily rendered invisible by the brilliance of exceptional ones.

Sample of firms

The study is of the building industry of Bristol, a major provincial centre which grew almost fourfold between 1821 (when the population was 85,000) and 1901 (when it was 329,000). Some other major centres grew more rapidly than this, among them Birmingham, Manchester, Liverpool and Sheffield. The generally moderate economic and demographic growth of Bristol may be assumed to have been associated with equally moderate rates of building activity. Nevertheless as the population increase implies, the total volume of nineteenth century building

in the city was substantial.

A sample of Bristol building firms extant at any time during the period covered by the study was derived from commercial directories². These sources possess some shortcomings among which were possible unreliability, especially in earlier editions, and lack of indication of sizes of firms³. Any inaccuracies may be assumed to affect most the smallest and shortest-lived firms, especially in the early part of the period. Larger firms seem less likely to have been overlooked or inaccurately recorded in the directories. It follows that any bias from this cause which the sample may contain would tend to understate the numbers of small firms and possibly exaggerate the shortness of life of some others. The study was concerned with three categories of building trade listed in the directories. These were carpenters, builders and contractors. Carpenters were included in the study because the term appears often to have been used synonymously with that of builders. Categories underwent detail changes from time to time so that 'carpenters' became variously 'carpenters and joiners, see also builders etc.' and 'carpenters and undertakers'. Similarly 'builders' became 'builders, see also carpenters', and 'builders and contractors'. The separate category of 'contractors', significantly, did not appear until the 1870s, but 'builders' and 'carpenters' (and their variants) appeared consistently throughout the period. An unknown proportion of firms in the sample were active also in fields outside building, for example as undertakers, although their number and volume of work was probably insignificant (those undertakers listed separately from carpenters in the directories were, of course, excluded from