Modes of exploitation and safety in the British construction industry

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Abstract

This paper examines recent proclamations relating to the supposedly low level of industrial 'accidents' in Britain over the post-1945 period. In particular it uses statistical analysis of the relationship between industrial injuries, intensification of work, and political turning-points associated with differing modes of capitalist regulation. The paper offers empirical analysis of fatal injuries in the British construction industry over a time-series of fifty years. The analysis aims to extend safety research through an examination of a series of different variables over a longer duration, and by drawing on the work of Kuczynski - a radical statistician - on several national labour movements (1939-1942-46). The paper attempts to contribute to a radical political economy approach to industrial injuries and their relation to the differing forms of exploitation employed at particular historical points (1) (2).

The official line of the health and safety inspectorate

In an official Press Release on the publication of the Health and Safety Commission and Executive (HSC/E) Annual Report for the year 1994/95, Frank Davies, Chairman of the HSC, stated that: 'A mark of the success of Britain's health and safety regime over the last twenty years is the striking reduction in the number of fatal accidents. I am very pleased to be able to report that fatal injuries are still around last year's historic low' (HSC/E, Press Release, 11.21.95). In the same Press Release, Davies continued that the rate of fatal injuries per worker had been maintained at the low level of 1993/94, that a 'downward trend' was in evidence and that in order to secure further improvement the Inspectorate would promote a programme of action based on the concept that 'Good Health is Good Business'. It is indeed the impression that this is the case if we look only at the number of fatalities in the construction industry. Figure 1 shows the pattern of fatalities in the construction industry over the half-century under review. Figure 1 appears to show a secular decline in construction industry fatalities dating from around 1965 to 'an historic low' in 1994. However, it is the argument of this paper that this trend is an illusory one, more apparent than real, for it does not take into consideration variations in the level of employment, hours worked and the intensity of work. More recently, an increase in the number of deaths at work was described as 'a rather tragic blip' by Jenny Bacon, Director General of the HSE. Miss Bacon then went on to comment on the rise in annual fatalities in construction from 82 to an estimated 98 as a 'discouraging result, especially as we increased the number of our inspectors for the construction industry and put in a great deal of work on introducing new Regulations. We will be looking at what action to take locally but the industry itself has to act' (HSC/E Press Release, 11.28.07.97). This paper argues that 'good business' and 'safety' are fundamentally contradictory and that, as long as the priorities of industry remain directed towards profit rather than workers' safety, the self-regulation of safety by industry will continue to produce unacceptable levels of industrial harm.

Figure 1. Fatal injuries in construction, 1946-96.

Towards a political economy of safety

In the work of authors such as Tombs and Nichols we can trace the development of a more coherent political economy approach to the understanding of industrial safety. This is particularly so in the two authors' more recent work (Nichols and Kahveci, 1995; Nichols, 1997; Tombs, 1995; 1996; Smith and Tombs, 1995). However, a political economy approach to industrial safety needs to be made clearer. The first thorough political economy of industrial injuries was developed in Kuczynski's (1942-46) voluminous international study of labour conditions. The contention of the current paper is that much is to be learned from Kuczynski's work by those seeking to understand, sociologically, the course of development of industrial safety. The most important aspect of Kuczynski's work is that it demonstrates the gains to be made for a social-scientific understanding of industrial injuries through adopting a methodology grounded in Marxist political economy. Kuczynski's work studies the development of industrial injuries through their interrelation with labour conditions in general. For Kuczynski, to properly assess the development of injuries at work we need to take into account the factors that lead to major turning-points and shifts in the relative condition of labour (Kuczynski, 1946: 31-9). This must include not only those factors that improve the position of labour but also those which tend to cause deterioration. Hence, for Kuczynski, the requirement is 'to strike a balance...between increasing real wages and shortened working hours on the one hand and increased intensity of work on the other, between increased security through a system of social legislation and greater insecurity through increased and more widespread unemployment, between better safety legislation and the installation of accident preventing devices on the one hand, and greater speed-up and greater fatigue tending to increase the rate of accidents on the other' (Kuczynski, 1946: 32). Central to Kuczynski's conceptualisation is the understanding that industrial capitalism passes through distinct periods, with each of these...
periods passing through particular phases which are, in turn, characterised by a particular technological base of production and a specific method of exploitation for the creation of surplus value. Hence, on Kuczynski's account, the development of industrial capitalism is amenable to certain periodizations. Early industrial capitalism was characterised by lengthening of the working-day, the employment of more workers, extensive exploitation and increasing extraction of absolute surplus value. Later, industrial capitalism altered the means of extracting surplus value by shifting to a more refined specific method of exploitation and the creation of relative surplus value through intensification of the labour process. The two methods of exploitation, extraction of absolute or relative surplus value, are combined under twentieth century monopoly capitalism (Kuczynski, 1946, 104). For Kuczynski, political economic analysis of injuries must account of changes in the methods of exploitation and is, thus, misleading unless it takes into account the length of the working day and some measure of the intensity of labour as well as employment: 'it is perhaps most useful to study the incidence of accidents in connection with production, productivity and intensity of work for they are closely related' (Kuczynski, 1945: 92). According to Kuczynski, an injury rate per worker per hour of work must be computed, 'not only per employed worker but also per hour worked, that is, per hour of exposure to industrial accidents' (Kuczynski, 1946: 113, emphasis added). The nub of Kuczynski's political economy methodology is that an understanding of industrial injuries must be premised upon statistical analysis of the relative condition of labour at a given time: not only hours worked and employment but also the technical basis of production; the material and political balance of class forces; the legislative context; the creation of absolute or relative surplus value; the intensity of labour; and the movement of the economic cycle. In short, a full political economy of industrial injuries can only be achieved by reference to the specific method of exploitation employed at a particular historical conjuncture and configuration of class forces (Kuczynski, 1946).

Employment of labour in the construction industry had been increasing in the 1930s. This trend was briefly checked in the war years 1940-4. Nevertheless, by 1945 this upward trend was resumed and the construction workforce entered a period of expansion which was to last until 1966 (see Figure 2). After 1966 the construction labour force fell away until 1971, whereupon it entered a phase of stability over the remainder of the 1970s. By contrast, the 1980s saw, at least initially, a dramatic decrease in the numbers employed in the industry, followed by a brief period of increase from 1987-90, after which the downward trend continued. The post-war period saw total employment in construction rise to a peak of 1,645,000 in 1966 (the highest this century) and fall to a trough of 843,000 in 1993 (a low level not seen since the early war years). For the employment share of construction in the total British labour force this amounts to a decline from 7.1 to 3.9 per cent.

Figure 2. Employment in construction, 1946-96.

To properly examine the development of fatal injuries in the construction industry, or in any industry for that matter, it is necessary to compute a rate which is not merely per worker or per hour but the fatality rate per worker per hour - the exposure rate. Hours worked during the period under consideration show a rising trend from 1946 to a 1965 peak of 49.9 hours per average working week. This rising trend levels off at a lower level from 1966-70 before curving upwards from 1970-3. After that average hours worked per week in construction show a downward tendency to 1977, falling to 45.9 hours in 1976. In the following decade hours rose slowly every year, with the exception of 1983, from 1978 to 1988, before rising much more sharply in 1988-91. Finally, average weekly hours worked in construction declined in 1992-3. Figure 3 gives the best possible statistical representation of the development of 'safety' in construction over the post-war period. As can be seen from Figure 3, the exposure rate for construction presents quite a different picture to that of fatal injuries alone. In particular, the tendency to increase when we move into the 1980s is all the more obvious for the exposure rate. Moreover, the exposure data series shows that there is no secular decline in the fatality rate for the construction industry in the post-war period. However, the point of statistics is, as Kuczynski states, to see what lies behind them.

Figure 3. Fatal exposure rate in construction, 1946-96.

In explaining the development of the series we may distinguish four key phases. The specific method of exploitation in the first two of these post-war phases centres on the lengthening of the working day and on the employment of more and more variable capital. The extraction of surplus value in the first two phases is, thus, concerned with extensive exploitation of labour and the creation of absolute surplus value. In the second two phases the specific method of exploitation changes. Both of these later phases are characterised by declining employment and an attempt by capital in the construction industry to increase the labour-effort within the working day; the intensification of labour. If the specific method of exploitation is the same in any two periods then variance in the performance of the exposure rate must be explained by reference to other variables. This paper concentrates attention on the influence of the countervailing power of labour in the constellation of class forces on the performance of the exposure rate.

A radical explanation of the development of 'safety' in construction, 1945-96

To explain the development of 'safety' in the construction industry over the period, we attempted to obtain some measure of the specific method of exploitation by constructing a series which draws on the Marxist category of surplus value (see Technical Appendix). Data for this series were drawn from the reported profits of construction companies and the total wage bill for employees. The series has its limitations. Firstly, it must be remembered that there exist considerable opportunities for under-reporting profits. Secondly, no adequate data on profits in the industry are available on a continuous basis before 1948. Our category is not precisely surplus value in the Marxist
1946-57: Building workers and 'the bonus'

Phase one concerns the years until 1957, as shown in Figure 4. This phase is associated with an increase in the relative strength of labour in the construction industry, as indicated by rising building trade union density. This was a period of intense post-war reconstruction. Construction became a priority industry as a result of the housing programme instituted by the then Labour Government. Around 249,000 houses were built per annum in this period. Demand for labour was strong in the immediate post-war period and, therefore, building trade unions were in a relatively strong bargaining position vis-a-vis working terms and conditions. Trade union density in construction stood at 40-45 per cent during this period. Strike action rose gradually from a low point of 24,000 days lost in 1946 to 233,000 in 1954, before falling away in 1955-7. Unemployment in construction did not rise above three per cent in any year except 1953 (3.2%). It was, however, in this period that 'the time honoured tradition of working strictly for an hourly rate' began to break down (Wood, 1979: 59). In July 1947 the Ministry of Labour produced a pay and incentive scheme, the 1947 settlement. The 1947 settlement introduced a scheme of 20 per cent incentive payment on top of an increased basic rate. This had an impact on sites and workshops of all sizes from 1948 onwards. Large contractors and woodworking factories were able to carry out the work-measurement required by Payment by Results (PBR); 'bonus clerks' were appointed and change in work custom and practice followed. However, smaller firms in the industry were not geared up to deal with the vagaries of measurement on construction sites and contended themselves with offering 'spot payments' over nationally agreed rates, in order to compete for labour. The result of the initial introduction of PBR was, therefore, uneven and variable and by 1953 it was estimated by the Ministry of Labour that only 19 per cent of building workers operated under proper PBR systems.

Figure 4. Fatal exposure rate and wage-profit rate, 1948-57.

The labour shortage which obtained in the immediate post-war period was not conducive to the introduction of PBR and 'the main principles behind the 1947 settlement relating wages to output were to a large degree ignored' (Wood, 1979: 66). In short, the countervailing influence exerted by the class power of labour in construction during the initial post-war period was effective in resisting the drive towards increased intensity of exploitation sought by capital under the 1947 settlement. The wage-profit ratio, if anything, declined over this first phase, as did the fatal exposure rate. The 1947 settlement did, however, become an integral part of the Working Rules Agreement and ushered in the very different 'piecework' method of working which, as Wood notes, 'was to have much wider ramifications' (Wood, 1979: 67).

1958-69: The 'Lump' and the crisis of building trade unionism

The second post-war phase 1958-69 represents a reversal of the previous period. The class power of labour in construction was considerably weakened. Unemployment rose to over seven per cent in 1968 and was never below three per cent during these years. Self-employment and Labour Only Sub-contracting (LOSC), known as the 'Lump', increased substantially. The building boom of the 1960s, with over 340,000 houses being built annually, saw piecework and LOSC burgeon (see Figure 7). Furthermore, the Lump was encouraged in several ways in the 1960s. Monetary incentives for Lump labourers and tax-avoidance incentives for employers combined with the limited training provision fostered by the CITB and expansion of GTCs so that, between 1965-70, LOSC rose from 160-200,000 to approximately 400,000. Lump labourers negotiate their terms and conditions directly with main contractors or sub-contractors and, hence, are removed from the orbit of trade union organisation. As Austrin puts it, the Lump was traditionally the employers' method of breaking trade union control of the labour process' (Austrin, 1980, 307). Consequently, the rise of the Lump in the 1960s was accompanied by a weakening of labour both in terms of declining trade union membership (density had fallen to around 30 per cent by 1968) and a resurgence of craft-based sectionalism in construction. Days lost in strike action continued on a low plane in the late 1950s to 1960 but this was followed by three years of high militancy - 285,000 and 356,000 days being lost in 1961 and 1963 - and from 1964 onwards a rising trend in strikes, with 278,000 days lost in 1969. This is indicative of the fact that, while site stewards attempted to combat the growth in LOSC through closed shop agreements on certain well-organised sites, the National Federation of Building Trade Operatives (NFBTO) proved to be especially weak in confronting this problem both structurally and politically. The development of LOSC was widely viewed as a specific threat to safety on site. Although the picture is far from simple, the deleterious effects of growth in the Lump were, as shown in Figure 5, a continuous intensification of labour (indicated by the wage-profit ratio) and a high, although fluctuating, fatal injury rate.

Figure 5. Fatal exposure rate and wage-profit rate, 1958-69.

1970-8: The resurgence of labour
Phase three spans the years 1970 to 1978 and is characterised by a declining fatal injury exposure rate which reaches one of its lowest points ever in 1978 (see Figure 6). The decline in the fatal exposure rate can be linked to a resurgence in the power of labour. Although unemployment hardly ever dipped below seven per cent (mostly between 10-16 per cent), trade union density rose to almost 37 per cent by 1979. This resurgence of labour was consequent upon the site-based trade union activity prevalent in the industry during the lead up to the formation of the Union of Construction and Allied Trades and Technicians (UCATT) in 1971, and subsequently the new-found strength of organisation found in construction after the successful prosecution of the 1972 building strike (which resulted in the loss of 4.188 million days). The formation of UCATT in 1971 established industrial unionism in construction, union membership was maintained through site-based rank-and-file activism and trade union organisation was placed on an effective basis for the first time. One critical development for safety in the industry during this phase was UCATT’s insistence on ‘decasualization’ as part and parcel of the struggle for improvements in building workers’ conditions under the Building Workers’ Charter (BWC) (Arnison, 1974: 15-20). The regulation of LOSC, while effectively given legal legitimacy, was tightened up under trade union pressure in the Finance Acts of 1971 and 1975 and self-employment, as a measure of the Lump, declined until 1977 (see Figure 7) despite an annual average of 321,000 houses being built. The militancy of building labour increased over the course of the 1970s, as is evidenced by the fact that strike activity tended to rise (570,000 days lost in 1976; 834,000 in 1979). Furthermore, as a result of UCATT pressure the percentage of construction workers covered by PBR fell from 69.5 to 54.9 between 1974 and 1978. At the same time the new union increased sufficiently in strength (from 262,610 in 1971 to 334,099 by December 1978) to press for a reduction in the standard working week from 40 to 35 hours and to achieve the incorporation of a ‘Death in Service Scheme’ into the WRA. The consequence of this increase in the power of labour was to check the drive towards intensification of labour and the extraction of relative surplus value which had started afresh in the 1960s, so that, as Figure 6 shows, the wage-profit ratio tended to decline and with it the fatal injury exposure rate.

Figure 6. Fatal exposure rate and wage-profit rate, 1970-78

Figure 7. Self-employment in construction, 1961-95.

### 1979-93: Intensification of labour and the retrenchment of safety

The fourth phase covers the rising trend in the fatal accident exposure rate in construction from 1979 to 1989 and into the 1990s. This trend develops in two waves, from 1979-83 and from 1984-89 (see Figure 8). In this period the position of labour in construction is, again, relatively weakened by the economic and legislative consequences of state action. Successive Conservative administrations, from 1979 onward, had adverse consequences for workers in the construction industry due, in particular, to the changes in the social regulation of local government tendering and building contracting (in conjunction with the raft of anti-trade union legislation). Only 205,000 houses were built annually in this period. Nevertheless, the exposure rate shows a marked tendency to rise until 1990.

Figure 8. Fatal exposure rate and wage-profit rate, 1979-96.

Overall the years 1979-96 saw an intensification of labour in the construction industry. This is particularly so after 1981 when the intensification of labour increased sharply to a new and higher level. As a response to what has been appositely called the ‘permanent crisis of labour’ in the construction industry, labour cost savings were pursued by contractors through the utilisation of labour only subcontractors. That this is the case can be illustrated by reference to Figures 9 and 10.

Figure 9. Wage-profit rate and profit rate in construction, 1951-96.

Figure 10. Investment as proportion of profits, 1948-96.

Figure 9 shows that while the wage-profit ratio leaps to a new and higher level after 1981, the rate of profit does not follow the same course - it does rise but the rate of increase is much slower than that of the wage-profit ratio. What is more, as this rise in the wage-profit ratio occurs in the context of a low rate of capital accumulation out of profits (declining investment both in general and for plant and machinery) as shown in Figure 10, it is reasonable to conclude that the increase is largely a result of increased labour effort. This is all the more clear when we consider the share of the value of output going to wage labour as is shown in Figure 11.
It is clear from Figure 11 that the share of output going to labour has generally declined over the entire period under consideration. However, each particular phase of the post-war period has its characteristics: an increase in the first phase; relative stability early in the second followed by a sharp decline after the mid-1960s; a brief period of increase in the 1970s; followed by a downward trend after 1981. Hence, throughout the 1980s and 1990s the number of workers employed declined, average weekly hours worked increased, the labour share declined, and the wage-profit rate rose dramatically. In terms of the specific method of exploitation, the 1980s and 1990s are characterised by the change from the combination of extensive and intensive exploitation where absolute and relative surplus value are extracted to a political economic context where the intensive method of surplus value extraction predominates. Considerable 'recessionary restructuring' took place in this phase (Novek, 1992). The number of small, generally sub-contracting, firms in the industry rose from 80.7 per cent in 1980 to 93.5 per cent of the total number of firms by 1991. The same sector also saw the percentage share in work-done rise from 18 to 27.5 and in employment from 20.6 to 43 between 1980 and 1994. The industrial crisis years 1981-3 saw unemployment in the industry reach 30 per cent and generally remain between 11 and 18 per cent since. Over the period self-employment in construction grew from 366,000 in 1980 to 722,000 in 1989, falling away during the crisis 1989-92, and standing at 571,000 in 1993. The consequences of such 'recessionary restructuring' for trade union activity are well known. Managerial control of a manual labour-process was tightened and building work considerably speeded up without an increase in productive workers which, in turn, had a direct effect on industrial injury rates (4). By 1989 trade union density had fallen to around 30 per cent, while strike activity fell massively from 281,000 days in 1980 to only 1,000 days in 1993. Moreover, labour turnover and company insolvencies increased, thus removing the beneficial safety effects of stability and security of employment. Building workers have seen the security and conditions of their employment undermined during the 1980s and 1990s. The re-organisation of production has served to intensify the labour process through the mechanism of self-employed subcontracting, which places labour productivity at the centre of the labour-process. This affects self-employed workers in particular but has clear knock-on effects for all workers, with all the concomitant hazards. Hence the fatal exposure rate follows the wage-profit ratio in the period 1979-96 (see Figure 8). The correlation between these two variables is again more remarkable when we consider the pattern of development of the wage-profit ratio and the major injury exposure rate for the period 1981-96 (see Figure 12) (5).

Figure 12. Major injury exposure rate and wage-profit rate, 1981-96.

In summary, our findings for the 1979-96 period show that a political economic context in which building workers' ability to resist attempts at increasing the rate of exploitation has been considerably weakened will tend to produce an injury exposure rate which closely follows the development of the Marxist category of surplus value (the wage-profit ratio) (6).

Conclusions

In this paper we have examined the development of a time-series for the fatal and major injury exposure rates in the British construction industry over the post-war period. While it is difficult to draw firm conclusions from the data examined - the wage-profit series, for example, may represent a number of trends such as the tendency for self-employment to increase - however, the underlying dynamics of injury causation in construction are relatively clear. Injuries are determined to a large extent by the specific form that labour exploitation takes at particular points. The key findings of the analysis are: Firstly, that the official claims of an 'historic low' in fatal 'accidents' at work serve to mystify the reality of hazards at work. The 'historic low' point, according to our analysis, was in 1978. This finding is in agreement with Nichols argument that: 'Other things being equal, there is good reason to believe that workers will be safer where unions make for greater control over job performance and conditions of work and where workers' representatives (including safety committees) are responsive to their needs' (Nichols, 1997: 205). Secondly, that the hazardous nature of an industry, or industry in general, cannot be limited to the consideration of simple numbers of fatalities but must be linked to the overall condition of labour - the changing number of those employed, hours worked, the intensity of surplus value extraction and share of output going to labour. Thirdly, that it is not so much 'a mark of success of Britain's health and safety regime' that 'accidents' reach a low point in the construction industry but rather of the relative strength of labour and capital at particular historical points. In periods when labour is relatively strong the accident rate tends to decrease while periods of increasing hegemony of capital tend to produce increasing rates of injury. Finally, that demystifying the statistics of industrial harm allows for the proposal of an alternative radical agenda for improvement in the condition of labour. A radical approach to the statistical representation of industrial harm can unravel the way in which power acts on the 'safety performance' of industry and industries, highlighting the necessary conditions for the reduction of industrial harm - the transformation of risk. This project ultimately entails the re-ordering of the priorities of society from the primacy of profit to the primacy of people. Thus, radical statisticians have a role to play in demystifying 'safety' in support of 'counter hegemonic' organisations such as trade unions, the Hazards movement and the Construction Safety
Figure 13. Ratio of unproductive to productive labour, 1974-88.

Development of the ratio of unproductive to productive labour is of importance here concerning the re-composition of labour over time as these are the types of injuries which are most affected by the 'differential propensity to take time off' (Nichols, 1997: 85). An example of the problem of differential propensities and under-reporting in the construction industry can be illustrated by reference to the average number of injuries reported over the period 1986-95 - directly employed workers reported 29 'major' injuries per fatality and 134 'over three day' injuries, whereas, self-employed workers report 30 'major' injuries per fatality but only 54 'over three day' injuries. According to Kuczynski: 'The best statistics are those pertaining to fatal accidents, for these can be suppressed much less easily than non-fatal accidents which in some cases may be thought worthwhile reporting while, in other cases, although they are of the same character and severity they are not reported' (Kuczynski, 1946: 173). It is with these concerns in mind that we concentrate mainly on the fatal injury exposure rate.

Table 1. Cycles of industrial production in Britain, 1946-92.

<table>
<thead>
<tr>
<th>Cycle</th>
<th>Trough</th>
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<th>Duration</th>
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<tr>
<td>I</td>
<td>1946</td>
<td>1952(3)</td>
<td>7</td>
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<td>II</td>
<td>1952</td>
<td>1963(1)</td>
<td>12</td>
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<tr>
<td>III</td>
<td>1963</td>
<td>1972(1)</td>
<td>10</td>
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<tr>
<td>IV</td>
<td>1972</td>
<td>1981(3)</td>
<td>10</td>
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<tr>
<td>V</td>
<td>1981</td>
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<td>5</td>
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<td>VI</td>
<td>1985</td>
<td>1992(2)</td>
<td>8</td>
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Figure 13. Ratio of unproductive to productive labour, 1974-88.
5. It should be noted that the major injury exposure rate is not a continuous series. The break in the series is between 1985 and 1986/87, when changes in reporting criteria were introduced with the move from Notification of Accidents and Dangerous Occurrences Regulation (NADOR) 1980 to Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) 1985. This does not, however, significantly undermine the argument developed here that the dynamic of injury causation is rooted in the specific form of exploitation. 6. These findings are in accordance with Nichols' computation of an exposure rate for British manufacturing in the Postscript of The Sociology of Industrial Injury (1997). Here Nichols warns that it is important not to be sanguine about the safety performance of British industry in the 1980s and 1990s “in the way that an uncritical interpretation of the HSE’s administrative statistics on injury rates might initially suggest” (Nichols, 1997, 205).

Technical Appendix

(A) Fatal exposure rate The numbers of fatalities are extracted from various Annual Reports of the Chief Inspector of Factories for the period 1948-1972 and from 1972 onwards from Health and Safety Executive publications and Health and Safety Statistics (various issues). Data on fatalities include injuries to workers in works of engineering construction which were recorded separately. The data on number of workers employed for 1948-1969 are based on employees contained in the Annual Abstract of Statistics (various issues), not all persons, and therefore exclude APTC staff; for 1969-1997 data on workers in construction series are derived from relevant editions of Housing and Construction Statistics and are a composite of public and private operatives as well as self-employed workers from Department of Employment estimates published in Housing and Construction Statistics and the Employment Gazette. APTC employees are not included in the series (1969-96) due to considerations of unproductive labour and the “distribution of risk”. Data on hours worked are taken from Historical Abstract of British Labour Statistics for 1948-1969 and from Housing and Construction Statistics from 1969 onwards. Missing data on hours worked for 1969 were extracted from the Monthly Digest of Statistics. (B) Major injury exposure rate Major injuries data come from various issues of Health and Safety Statistics for 1981 onwards. The number of workers and hours worked are as (A) above. (C) Unemployment Data used in the unemployment series for 1948-69 are from Annual Abstract of Statistics (various issues); for 1969-81 from Housing and Construction Statistics; and from 1981-84 from Employment Gazette; and from 1984-97 from Labour Force Survey: Historical Supplement (ONS, 1997). (D) Trade union membership Trade union membership referred to in the paper is taken from the recorded membership of UCATT in various volumes of the Annual Report of the TUC for 1972-1997. Before 1972, trade union membership relates to the composite membership of the unions which later amalgamated to form UCATT. (E) Strike action While there are problems with using thousands of days lost per year as a measure of labour strength - as more prolonged actions may be the result of relative weakness and short (successful) actions a function of relative strength - this was felt to be the most appropriate measure given space constraints. The data are from the Annual Abstract of Statistics, British Labour Statistics and the Employment Gazette throughout the period under consideration. (F) Self-employment The series for self-employment (or workers on the ‘Lump’) is taken from Department of Employment estimates published in Employment Gazette and Housing and Construction Statistics for 1960-97. Inland Revenue Statistics have also been consulted; however, the most consistent series (Department of Employment) has been adopted here. There are major discrepancies between the Department of Employment estimates and the Inland Revenue returns for self-employment SC60/714 (the latter being around 30 per cent higher). While issues of illegal employment do pose problems for the statistical series it is impossible to comment decisively on whether the impact of this has changed greatly over time, although the statutory codification of the AGrip/Lump® in the 1970s statutes make this less of a problem® for the second half of the series, at least in a strictly legal sense. (G) Wage-profit rate, profit rate and investment rate These series are all derived from the National Accounts and Expenditure, now known as UK National Accounts (or “Blue Book”). The term wage-profit ratio owes something to the work of Phelps Brown (1968); however, its construction in this paper follows the method developed by Marx in the formulation of surplus value, i.e. s/v, or the amount of surplus produced as a percentage of the variable capital laid out. The ratio attempts to enumerate and evaluate the specific forms that exploitation takes over time. Contractors' output and profit here include estimates of output by small firms and self-employed workers as well as local authority and private contractors' output. Further comment on the construction of the wage-profit ratio can be found in Cockshott, Cottrell and Michaelson (1995; 1996). The rates are calculated as follows: WP = P/W x 100; LS = W/O x 100; INVtot = GDFCtot/P x 100; and INVPm = GDP/P x 100. WP is wage-profit, P is profit, W is wages, LS is labour share, O is output, INVtot is total investment, INVPm is investment in plant and machinery, GDFCtot is total investment, and GDP is investment in plant and machinery. In the Blue Book, Income from Employment equals wages, salaries and employers' contributions; Income from Self-Employment is the income of persons from unincorporated businesses, sole traders and partnerships measured after deductions for business operating expenses (before tax, interest payments and appreciation/depreciation); Gross Domestic Fixed Capital Formation is expenditure on fixed assets (buildings, vehicles, plant, machinery) either for replacing or adding stock of fixed capital; GDP equals total economic activity and is the sum of all incomes plus the sum of value added by sector; Gross Profits are trading profits before deductions of tax, interest payments, appreciation/depreciation.

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