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**WORK ORGANISATION AND COMPARATIVE HISTORICAL STATISTICS ON THE  
EXTENT OF THE MANAGERIAL HIERARCHY**

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# **Work organisation and comparative historical statistics on the extent of the managerial hierarchy**

Guy Vernon, SKOPE, Oxford.

June, 2001.

## ***Abstract***

Much of the terrain of cross-national comparative employment relations concerns issues of work organisation, variously regarded. The research programme to which David M. Gordon (e.g. 1996) was central pretends to indicate something of the comparative nature of work organisation from aggregate occupational classifications. By the late 1990s such work was becoming cited in cross-national comparative analyses, with some scholars attracted by the apparent comprehensiveness and precision of the gauges of work organisation offered. This paper explores the significance of official statistics bearing on the extent of the managerial hierarchy in eleven advanced industrial nations, focusing on manufacturing. Ultimately, this exploration of comparative historical gauges of the extent of the managerial hierarchy demonstrates only the inadequacy of such indicators of cross-national differences in work organisation, however this is conceived.

## ***The significance of the extent of the managerial hierarchy.***

The 1990s have seen much business and popular discussion of the extent of managerial hierarchies, particularly in the largest corporations. Corporate initiatives intended to strip out layers of the managerial and administrative bureaucracy, often motivated by an appreciation of the structure of Japanese companies, have been the subject of much media attention. Terms such as ‘de-layering’ and references to the flattening of hierarchies have become commonplace across the advanced industrialised countries, although they are perhaps more prominent in the Anglo-Saxon world.

Discussion of historical and cross-national variation in occupational structures is quite common in the literatures of employment and industrial relations, often with the discussion centred specifically on the extent of managerial employment. Braverman

(1974, 239-241) interprets the growth in the proportion of managerial and administrative employees in manufacturing activities apparent in the US as evidence of a creeping separation of conception and execution in US corporations. In the so-called 'societal effects' literature, there is much attention to the 'span of control' of managers and supervisors, with the presumption that the intensity of managerial presence expresses much of the nature of work organisation (Maurice et al, 1986; Lane, 1989). In comparative work within Europe, several National Institute for Economic and Social Research studies suggest that in manufacturing management are drawn in to tackle day to day shopfloor problems where these are not dealt with by the employees immediately involved, so that the extent of managerial employment may be a reflection of the polarisation of skill formation or utilisation (e.g. Mason et al, 1994; Prais, 1995; Mason, 1997). Many European scholars stress explicitly the significance of the depth of the managerial hierarchy for the direct participation of employees on the manufacturing shopfloor, regarding this aspect of the occupational structure of a company as a key expression of the autonomy and variety of work enjoyed by shopfloor employees in manufacturing (e.g. Berggren, 1994; Streeck, 1996; Roth, 1997). The depth of the managerial hierarchy may thus also indicate something of the style of management, whether authoritarian or consultative, which is itself stressed by writers on international human resource management (e.g. Holden et al, 1993).

Although the bulk of the research that touches on the extent of management is case oriented, this is not the only approach which might be taken. Periodic labour force surveys and censuses provide breakdowns of the occupational structures of the advanced capitalist countries. Even where, as is often the case, the official statistics are based on sample surveys, the numbers questioned tend to be large, constituting 10-20% of the total workforce. Typically, such occupational classifications are utilised in detailed employment forecasting, but have more recently been used in efforts within labour economics to grasp the skill structure of those employed (on which see Elias & McKnight, 2001). These classifications also offer some prospect of an aggregate cross-national comparative characterisation of the extent of managerial hierarchies, and thus some indication of the texture of work organisation.

Although Braverman (1974, 239-241) refers briefly to census statistics in his seminal contribution, the avenue was not pursued for a number of years. More than a decade ago, however, David M. Gordon began to explore in detail the historical movements in the relative extent of managerial hierarchies in the US using such official statistics (Gordon, 1990). His subsequent variable oriented comparative work on managerial hierarchies represents the most ambitious and best developed aggregate level quantitative attempt to compare this aspect of corporate organisation across national borders (Gordon, 1994a; 1994b; 1996). This work was a development of the self-styled 'radical political economy' approach to employment relations, which stresses employers' motivation of employees by the prospect of job loss, and hence emphasises the monitoring role of management (e.g. Bowles, 1985). The role of management in planning, coordination, administration and engineering, and indeed its ideological role in managing meaning (e.g. Legge, 1995), is played down in the tradition.

Whilst acknowledging that the category of administrative and managerial occupations will include many managers who have little immediate role in supervision, or even in the organisation of production, Gordon (1994a, 1996) suggests that their principal significance is as elements of a multiple layered hierarchy of supervision. Managers and administrators constitute a 'pyramid of surveillance' which culminates in the supervision of direct labour in the workplace. Thus, for Gordon and other writers in his school, supervision may be indirect, but it remains the critical function of management.

Despite the emphasis of the US radical political economists, it is quite possible to recognise the diverse roles of management whilst still regarding the extent of the managerial hierarchy apparent in official statistics as a possible indicator of the direct employee participation allowed by the shape of prevailing work organisation. As the work of industrial relations scholars discussed above suggests, the extent of management expresses something of the separation of conception of production from the execution of manual labour in the workplace. It provides an indication of the lengths to which the functions of administration, planning, problem solving and innovation are removed from the shopfloor.

In principle then, census and labour force statistics regarding the occupational structure promise some insight into the extent of the direct participation of the typical non-managerial employee of a nation. Such an indication of the nature of work organisation in the typical employment relationship is more than is promised by any other generally available official series. Thus, by the late 1990s, Gordon's work was becoming cited, as for example in the development of Tilly & Tilly's (1998, see esp. Figure 10.2) argument that the organisation of work varies substantially across national borders according to the historical development of employment relations.

The remainder of this paper derives and assesses the sort of comparative measures of the extent of the managerial hierarchy which Gordon argues are indicative of the nature of work organisation. The paper focuses as far as is possible on the experience in manufacturing, to attenuate the danger that the discussion be confused by the issue of industrial composition. The paper outlines Gordon's approach, and uses it to derive comparative historical estimates of the extent of the managerial hierarchy for eleven nations, centreing on Europe, for the years 1960-1995. The plausibility of the historical shifts these measures suggest is then considered, and the comparative implications in the light of estimates of the aggregate extent of the managerial hierarchy based on other statistical sources is then assessed. The paper then moves on to consider the correspondence of such gauges of the organisation of work with the conclusions of less ambitious efforts, and of survey based attempts to gauge the location of authority. The body of the paper closes with some reflections on the significance of even well established cross-national differences in the extent of the managerial group. Some concluding comments close the paper.

### ***Gauging the aggregate extent of the managerial hierarchy.***

Gordon's (1996) final work features his most elaborate cross-national comparative analysis of the official statistics available on the extent of the managerial hierarchy. This work, in common with his earlier comparative contributions (1994a, b), draws exclusively on official statistics on occupational structure collated by the

International Labour Office (ILO) in the annual ILO Yearbook of Labour Statistics. Gordon's (1996) book presents only his calculations of the proportion of administrative and managerial staff in the workforce, the 'bureaucratic burden' as Gordon describes it. This is in contrast to his earlier work in the area, which discusses alongside the 'bureaucratic burden' what he (1994a, b) terms the 'intensity of supervision', a ratio which amounts to the inverse of an aggregate measure of the span of control of managerial employees. Whilst played down in his final contribution, the notion of the 'intensity of supervision' stresses the monitoring activities which Gordon argued are central to management.

Gordon's (1994a, b; 1996) work deals with the experience in as many as 18 OECD nations. In all his published cross-national work in this area, however, he confines his attention to snapshots of the comparative extent of the managerial hierarchy around 1980, not venturing any attempt to use the official figures for comparative historical analysis. The comparative scope the present paper is more limited, being confined to eleven nations, centreing around Europe, but extending across all of the G7 nations. Whilst all the largest industrial nations of the world thus feature, the paper treats experiences in a number of smaller nations widely thought to display political economic complexions differing substantially from those in the largest (see e.g. Ferner & Hyman, 1992; Pekkarinen et al, 1992; Crouch, 1993). The paper thus concerns the nations of France, (West) Germany, Italy, the UK, Canada, the US and Japan, and the smaller nations of Austria, Finland, Norway and Sweden, rather than Gordon's OECD eighteen. However, the paper seeks to employ ILO figures to explore the historical dimension rather more than does Gordon, to further illuminate the contribution of research on managerial hierarchies which employs official statistics. The historical occupational decompositions carried in the ILO Yearbooks and the ILO (1990) Retrospective are central to this exploration.

In as far as is possible, attention is focused here on developments in manufacturing, in contrast to Gordon's work, which treats the non-farm economy as a whole. This is to take seriously the possibility that differences in the aggregate extent of the managerial hierarchy may reflect something of substance in the organisation of work, by attenuating the possibility that such differences be seen simply as a result of

differences in industrial composition. For the years from 1960 to the early 1970s, no sectoral breakdowns of occupational structures are generally available from the classifications carried in the ILO Yearbooks. For these years, therefore, the analysis must centre on the comparative situation in the non-agricultural economy in its entirety. The more recent statistics, from the mid-1970s, allow, in general, the isolation of the experience in nations' manufacturing sectors specifically, although for some countries the sporadic data available allows the breaking out of sectoral occupational structures for few if any years.

The statistics on occupational structure carried in the ILO Yearbooks are, with few acknowledged exceptions, presented in the categories defined by international standard occupational classifications (ISCOs). ISCO-58 is applied over the ILO figures for 1960-73, whilst ISCO-68 is applied over the ILO figures from 1974 onwards. Although ISCO-88 was published in 1990, it is not applied in the decompositions featuring in the ILO Yearbooks. The 'major groups' of the ISCOs into which countries' responsible bodies were requested to map the national data collected from population censuses and labour force surveys for submission to the ILO (see ILO,1990, XIV) are as shown in Tables 1 and 2.



Major group of ISCO-58	
0.	Professional, technical and related workers.
1.	Administrative, executive and managerial workers.
2.	Clerical workers.
3.	Sales workers.
4.	Farmers, fishermen, hunters, loggers and related workers.
5.	Miners, quarrymen and related workers.
6.	Workers in transport and communication occupations.
7-8.	Craftsmen, production-process workers, and labourers not elsewhere classified.
9.	Service, sport and recreation workers.
X.	Workers not classifiable by occupation.
AF.	Members of the armed forces.

Table 1. **The major groups of ISCO-58.**

Major group of ISCO-68	
0/1.	Professional, technical and related workers.
2.	Managerial and administrative workers.
3.	Clerical and related workers.
4.	Sales workers.
5.	Service workers.
6.	Agriculture, animal husbandry and forestry workers, fishermen and hunters.
7/8/9.	Production and related workers, transport equipment operators and labourers.
X.	Workers not classifiable by occupation.
AF.	Members of the armed forces.

**Table 2. The major groups of ISCO-68.**

The differences between the classifications are, at least for present purposes, of minor significance. With regard to white collar work, the first four categories of ISCO-58 remained essentially the same in ISCO-68, though their numbering changed, and their labelling was amended slightly. With regard to agriculture, the old category 4 became the new category 6. In services, the category 9 of ISCO-58 became the category 5 of ISCO-68. With regard to industry, the old categories 5, 6, 7-8 were collapsed together to become new category 7/8/9. Across all economic activities, the classification of first line supervisors according to the occupational category of the direct labour they supervise, rather than as management, is explicitly required under ISCO-68 whilst seeming implicit under ISCO-58. Finally, regardless of the ISCO in question, the treatment of the unemployed in the figures presented varies between countries. Some countries classified the jobless according to their last job if they had one, and registering them in the residual

group as non-classifiable if they did not, whilst others tended to exclude the unemployed from the classification altogether (ILO ,1990, XIV). The implications of this are unclear.

The ‘bureaucratic burden’ in corporations, the focus of Gordon’s (1996) best developed analysis, is defined by him as the proportion of administrative and managerial employees in total non-farm employment, and is usually expressed as a percentage. Derived similarly from ISCO-58 and ISCO-68, under ISCO-68 the bureaucratic burden is approximated as:

Bureaucratic burden = administrative & managerial / non-farm employment

where total non-farm employment is the sum of the numbers of administrative and managerial, professional and technical, clerical, sales, service, production workers (i.e. craftsmen, production and related workers, transport, mine and quarry workers, and those labourers not elsewhere classified) and those left completely non-classified.

The ‘intensity of supervision’ stressed more in Gordon’s (1990; 1994a; b) earlier work, is expressed as a ratio - that of the number of administrative and supervisory workers to the number of direct workers.

Intensity of supervision = administrative & managerial / direct non-farm employment

Where the number of direct workers is the sum of clerical, service, production (as above) and non-classified employees. The intensity of supervision thus excludes from the denominator (in addition to the agricultural occupations excluded in all the analysis) professional, technical and related workers and sales workers as well as administrative and managerial workers. The inclusion of workers not classified at all by occupation in the denominator of both gauges overcomes the problem of the differing national categorisations of workers unemployed at the time of the survey (see above), except to the extent that these workers are excluded from the classification process altogether in some countries but not in others.

If the bureaucratic burden is expressed as a fraction rather than as a percentage, the construction above implies that the ratio expressing the intensity of supervision

always exceeds it. However, as comparison of the figures featured in Gordon (1994a, b) demonstrates for the non-agricultural economy around 1980, the ranking of nations according to the bureaucratic burden tends to be almost identical to that based on the intensity of supervision. Thus, the empirical focus here, as in Gordon's (1996) later work, is solely on the bureaucratic burden. Since sectoral decompositions of occupational structure are unavailable for the period from 1960 to the mid-1970s, so that estimates of the extent of the managerial hierarchy in manufacturing specifically are available only from the mid-1970s to the mid-1990s, estimates of the bureaucratic burden for the entire non-farm economy were derived over 1960-95 to allow some commentary on apparent developments throughout this longer period.

	US	Canada	Japan	Germany	France	Italy	UK
1960	8.6	9.6	3.3	3.6	4.1	1.8	2.8
1965	10.5	10.2	3.8			1.6	3.2
1970	8.2	10.6	4.9	2.4	3.3	0.8	3.8
1975	10.3	6.1	4.6	3.4	3.8		
1980	11.1	5.4	4.4	3.1	0.3	8.4	10
1985	11.3	6.6	4	3.9			
1990	12.6	13	4.1	3.9			
1995	13.8	13.6	3.9	3.4		10.1	17

**Table 3 Bureaucratic burden in the non-farm economy, G7.**

	US	Canada	Japan	Germany	France	Italy	UK
1975/78	7		4.4	2.7			
1980	7.8	5.5	4.4	2.6		2.3	6.6
1985	10.8	7.1	3.9	2.9			
1990	12.1	11.3	4	3.6			
1995	13.8	12.8	3.9	2.9		1.9	

**Table 4 Bureaucratic burden in manufacturing, G7.**

	Austria	Finland	Norway	Sweden
1960	1.9	2.5	4	2.5
1965				2.5
1970	0.7	2.2	4.1	2.4
1975	0.8	2.9	4.1	2.2
1980	1.6	3.4	5.5	2.4
1985	5.5	5	7.1	2.5
1990	6.1	4.8	7	2.7
1995	5.8	4.5	7.5	2.9

**Table 5 Bureaucratic burden in the non-farm economy, Austria and Nordic nations.**

	Austria	Finland	Norway	Sweden
1975/78		2.7	4.7	1.7
1980	1.5	3.4	4.3	2
1985	3.2	5.4	5.5	2
1990	3.7	5.6	5.8	1.7
1995	3.1	5.2	6.9	2

**Table 6 Bureaucratic burden in manufacturing, Austria and Nordic nations.**

*Measures of the extent of the managerial hierarchy.*

Comparative historical estimates of Gordon's 'bureaucratic burden' for the eleven advanced industrial nations which are the focus of this study are shown in Tables 3 to 6 above. The dating of the estimates is approximate, relying as they do on the availability of labour force surveys and censuses. The availability of statistics pertaining specifically to manufacturing was particularly uneven in the first years in which such decompositions began to be possible, so that the first estimates for manufacturing specifically relate to an even wider span of years than do the other estimates, as indicated in the table. Gaps in the table indicate the absolute unavailability of the figures on occupational structure necessary for the construction of estimates of the relative extent of management.

Broadly, these estimates of the extent of the managerial hierarchy suggest that it tends to be of greatest magnitude in Anglo-Saxon nations, being relatively limited in other countries. This, however, glosses over substantial historical variation in the bureaucratic burden apparent in the figures for most nations. The figures for Japan, West Germany, Sweden and, to a lesser extent Finland and Norway, display a relative stability over time. The figures for the US suggest a gradual growth in the extent of corporate bureaucracy. The figures available for the other nations show sudden and dramatic fluctuations over time.

Gordon (1994a, b; 1996) insists that the measures of the ‘bureaucratic burden’ and ‘intensity of supervision’ he derives reflect real differences in work organisation across nations. Though he argues that the experience of the ILO in compiling official statistics from a number of countries provides some guarantee of the cross-national comparability of the figures on occupational structure presented in the Yearbooks, the ILO itself expresses reservations about these statistics. As it notes, the figures depend critically on the designations used by the responsible bodies in the various nations in the preparation of their submissions to the ILO. The ILO requests that statistics are submitted to it according to the major groups of the prevailing ISCO, but this requires often substantial mapping from national classifications, a process which is often complex and approximate (ILO, 1990, XIV).

As regards the countries under study here, the historical statistics on occupational structure available in the Yearbooks for France and Italy are not only fragmentary and confusing, as Gordon (1994a) acknowledges, but indicate that there may be profound problems of data comparability. To an extent, the problems of data comparability are apparent in the very figures presented by Gordon himself in his unpublished work. Thus, Gordon’s (1994a, Table 1) only quantitative depiction of comparative *historical* developments in occupational structure features figures for Italy which suggest implausible leaps in the relative extent of managerial and administrative employment in the non-farm economy, with shifts between 1964 and 1978 from 11.6% to 3%. The same table shows the bureaucratic burden in the UK leaping from 2.9% in 1961 to 10.1% in 1981. Perhaps most interestingly, glancing beyond the countries under study here, Gordon (1994a, Table 1) also indicates that an identifiable 1986 change in the system of

occupational classification applied in Australia brought such a shift in the mapping of individuals into the ISCO that the ‘bureaucratic burden’ in the non-farm sector derived rose from 6.8% in 1980 to 14.6% in 1989.

The comparative historical estimates of the bureaucratic burden derived here underscore these difficulties, particularly with regard to France, Italy and the UK. The fragmentary figures for the bureaucratic burden for the total non-agricultural economy, which are almost all that are obtainable for these nations, demonstrate absurd discontinuities. This renders comparisons between the extent of the managerial hierarchies typical amongst these nations, and between these and other nations, practically meaningless.

The general sensitivity of these ILO based figures on the extent of the managerial hierarchy to cross-national differences in the system of collation of information on the occupational structure are thus highlighted by the comparative historical statistics presented in the tables above. The consistency of the ILO indicators of occupational structure in the US with the indicators prepared by the Bureau of Labor Statistics may be less the expression of the general accuracy and thus cross-national comparability of the ILO statistics which Gordon (1994a) takes it to be, and rather more an expression of the importance of the shape of national classifications for the figures which appear in the ILO Yearbooks. In this context, alternative benchmarks of the occupational structure are of great potential value.

#### *Alternative benchmarks for the extent of the managerial hierarchy.*

Some recent statistics on occupational structure are available for the four core EU nations of West Germany, France, Italy and the UK for 1991, in an authoritative treatment of sectoral employment in the contemporary members of the Union (ERECO, 1994, Table 4 - Table 21). The occupational decomposition, which is based on ISCO-88, a classification which seems to offer some advantages over ISCO-68 in the identification of managerial employees but otherwise differs little, allows the derivation of estimates of the extent of the managerial hierarchy for the economy as a whole and also for manufacturing specifically. The two sets of national rankings implied are identical, with

the apparent extent of the managerial hierarchy in the UK much the greatest, and West Germany, France and Italy in that descending order quite closely bunched (Table 7).

	West Germany	France	Italy	UK
Total economy	6.1	4.2	1.2	14.8
Manufacturing	3.7	1.3	1	11.8

**Table7 ERECO based bureaucratic burden, European core nations.**

Earlier EEC statistics on the occupational structure for the total economy in the 1970s, presented in OECD (1987, Table 3.5), promise a further opportunity for corroboration of relative managerial employment in the cases of West Germany, France and Italy. The figures were derived from extensive labour force surveys which, in the case of France and West Germany, spanned 80-90% of the employed, and 55% in Italy (OECD, 1987, 79). Whilst there was broad agreement on the occupational definitions to be applied the task of classification was, however, left to the relevant national authorities (OECD, 1987, 95 n19). The comparative implications of the statistics for the extent of the managerial hierarchy, though they are covered by an idiosyncratic occupational decomposition, accord with those of the more recent ERECO (1994) statistics for the three contemporary EEC members covered. Whilst the comparative differences apparent are limited, the managerial hierarchy seems most extensive in West Germany, followed by France and Italy respectively.

Whilst these alternative figures for the largest European nations are of interest in the context of the profoundly confused picture of the comparative situation in these countries which emerges from the ILO tables, they cannot eradicate a general scepticism about the meaning of such aggregate figures on the reach of the managerial hierarchy. The relation of the comparative differences in the bureaucratic burden apparent in the alternative European statistics to the stylised facts established in case work in industrial relations, most clearly in the ‘societal effects’ tradition of comparative analysis (e.g.



Maurice et al, 1986; Lane, 1989), is worrying. Lane (1989) reports substantial comparative work relating to West Germany, France and the UK which suggests that the extent of management in industry is much the most limited in West Germany, with France and the UK sharing a more common experience which has French companies, with, if anything, a slightly more extensive managerial hierarchy than is common in the UK. This cross-national comparative impression, which seems quite consistent with the impressions of others involved in case work in these European nations (see Ferner and Hyman, 1992; 1998) is quite at odds with the comparative representation provided by the European official statistical compilations.

With doubt thus cast on the validity of all official gauges of occupational structure, direct evidence of cross-national comparative differences in the treatment of occupational structure is of much interest. Beardwell & Holden (1994, 615) note that the very basis of conception of the occupational composition is quite different in France from that in Anglo-Saxon nations. In Anglo-Saxon nations the customary distinction is four-fold, distinguishing between management, professional/technical, clerical and manual employees. In contrast, in France, the customary division is three-fold, with 'cadres' (roughly, management with some professionals) distinguished from 'ETAM' (roughly, administrative, technical and advisory employees) and 'ouvriers' (operatives). This manifests the more general danger that any representation of occupational structure derived from nations' official statistics on may be severely contaminated by the prevailing national occupational distinctions, expressing more these than the actuality of work organisation on the ground. It seems that the problems of language and terminology are particularly acute with regard to occupational structure, rendering severely problematic efforts to analyse managerial hierarchies at a distance with officials statistics. The constitution of official statistical categories is murky at such a distance, and the task of harmonising labels retrospectively massive.

Wright (1997) suggests that in Anglo-Saxon nations there seems a tendency to give particular regard to any management or supervisory activities in which an individual engages in the classification of the nature of their work, with the result that the extent of management apparent in the resulting statistics is inflated. This may simply be a reflection of the comparatively greater actual importance to Anglo-Saxon employers of

the administrative and surveillance activities of its indirect employees, at worst exaggerating what are real differences between Anglo-Saxon and other nations in the nature of activities on the ground. It may however be purely a result of classificatory practice, belying a social reality of cross-national commonality in work practice.

A recent large scale international study has made a serious effort to classify occupations consistently according to the activities they involve. Wright (1997) provides an overview of the findings of this Comparative Class Analysis Project which, whilst employing local experts, implemented internationally agreed concepts in the survey investigation. One aspect of the questioning focused particularly on the issue of whether individuals' job roles involve the exercise of authority, taken as characteristic of supervisory or managerial activities. Although the questioning covered a large number of countries, the nations for which Wright (1997) considers the results reliable are limited. One of several minimum requirements is that more than 1000 respondents were questioned in the nation concerned in the course of the 1980s. Nevertheless, Wright (1997) does draw some comparative conclusions. As Gordon (1996, 45) notes, the rank order amongst four countries for which the results seem reliable is exactly that suggested by the ILO data, with the study suggesting that the relative extent of employment involving the exercise of authority is greatest in the US, with Canada ranked second, Norway third and Sweden fourth.

Thus, this comparative survey provides some reassurance of the validity of the ILO based indicators for at least some of the eleven countries treated here. But Wright (1997), whilst regarding the survey results for the UK as reliable, can of course offer no reassurance of the validity of the ILO based data for the UK, as there is no time consistent finding from the official statistics with which to compare his survey finding that the pattern of the exercise of authority in the UK is similar to that in Canada. Moreover, Wright (1997), cautious of the validity of his findings, offers no analysis at all of the pattern of the exercise of authority in the remainder of Europe or in Japan. Overall, then, the substantiation of the implications of the ILO statistics is limited. There must remain doubts about the general comparability of the ILO based measures of the extent of the managerial hierarchy across countries, and indeed over time, even beyond the obviously problematic figures for the European core.

*A thin thread.*

Where there is substantial evidence of cross-national comparative difference in the extent of relative managerial and administrative employment in manufacturing industry, there remains the issue of how this should best be interpreted. Esping-Andersen (1990, 202-3) suggests that what he terms the ‘peculiar managerial bias’ in the US may result in large measure from an internalisation by US corporations of activities necessary in every modern economy which are in other nations performed by the public sector. Thus, he argues, the extent of managerial and administrative employment in the US is largely a product of US corporations’ provision of welfare benefits, their need to generate the functional equivalent of labour exchanges, and need to organise training internally.

Gordon (1996) argues that there is evidence that it is the further and final of the possible explanations for the extent of the US corporate bureaucracy offered by Esping-Andersen (1990) which is the key. Esping-Andersen (1990, 203) argues that the exceptional policing of US workforces, with ‘armies of supervisory staff’, provides another reason for the extent of managerial and administrative employment in the nation. Gordon (1996, 44-5) argues, with special reference to his findings for the US and Japan, that the general similarity of the bureaucratic burdens he derives for a nation’s (predominantly private) manufacturing sector and that for its non-farm economy more generally (substantially public) suggests that the extent of the non-productive segment of employees in the US is not principally the result of a simple allocation of common tasks between the public and private sectors, but that it is largely the product of a strategy of labour control which relies heavily on monitoring and discipline.

Even if it is accepted that the limited indications of similarity between a nation’s manufacturing bureaucratic burden and its non-farm bureaucratic burden is evidence that it is not simply the case that in different nations activities are distributed differently amongst nations between the private and public sectors, Gordon’s (1996) conclusion about the nature of employment relations in the US does not precisely follow. The evidence from the ILO statistics presented here, of some similarity in the extent of managerial employment in any nations’ manufacturing sector to that in its entire economy, may just as well be evidence that it is the separation of conception from

execution, as simply the intensity of monitoring, which distinguishes nations' typical employment relations. Moreover, the problematic nature of the official series on occupational structure already considered here should be recalled in assessing such subtle argumentation. Such occupational classifications seem a thin thread on which to hang such finely drawn conclusions about the nature of employment relations.

### ***Conclusion.***

This paper assesses the meaning of figures on the relative extent of managerial employment drawn from official statistics of eleven countries of widely differing political economic complexions, including all the nations of the G7. In general, one must conclude that such figures should be regarded with extreme caution. Writers such as Tilly & Tilly (1998) are unwise to base any judgements about the organisation of work in different nations upon them. There are clearly such severe difficulties with the international comparability of the occupational classifications employed by the various nations, and with any attempt at allowing for the cross-national differences in data collection methodology, that little may be done in this area by individual researchers. There are significant indications from Wright's (1997) detailed survey work that the available official statistics do properly express differences in the relative extent of managerial employment amongst the US, Canada, Norway and Sweden, at least from the 1980s. Yet this provides no more general reassurance on the meaning of estimates of the comparative extent of the managerial hierarchy amongst other nations. Particular problems are apparent in comparisons made amongst the largest European countries, most of all in estimates such as Gordon's (e.g. 1996) based on the statistics collated in ILO sources.

Only considered, detailed questioning on the nature of the tasks undertaken by an individual offer the prospect of an accurate view of current cross-national differences in the relative extent of managerial employment. However, a still more intensive effort would be required to retrospectively render comparable the historical statistics on occupational structure which are available, and thus construct comparable comparative historical estimates of the extent of management. Even then, inferences about the nature

of employment relations, and of work organisation more specifically, would remain problematic.

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