



**National Institute
of Economic and
Social Research**

INITIAL REVIEW OF WERS98:

**FINAL REPORT TO
THE SPONSORS OF WERS98**

from

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September 2002

Acknowledgements

In preparing this report, I benefited greatly from the assistance of a number of colleagues at the National Institute of Economic and Social Research. Tracy Anderson, Research Officer, made a valuable contribution to the analysis of the research literature based on WERS98. Patricia Oliver, the Institute librarian, assisted with the identification of new research papers based on the survey. Simon Kirby, Research Officer, assisted in the updating of our database of WERS98 users, with the help of staff at the UK Data Archive. Neil Millward, now retired from the National Institute, also made valuable additions to the text. Their contributions are gratefully acknowledged.

I also gratefully acknowledge comments made on an earlier version of this report by representatives of the WERS98 sponsors (in particular, Barbara Kersley at the Department of Trade and Industry), participants at the 2002 Annual Conference of the British Universities Industrial Relations Association and Mark Cully, Head of the WERS98 Research Team.

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Summary

The sponsors of the 1998 Workplace Employee Relations Survey (WERS98) are now considering the case for a fifth survey in the WERS series. As part of this process, the sponsors have been consulting the user community over the summer of 2002 in order to obtain their views on all aspects of WERS.

In order to inform and complement this consultation process, the Department commissioned the National Institute of Economic and Social Research to conduct a systematic review of the use made of the WERS98 datasets in secondary analysis. The review comprised two elements:

- a) An examination of the extent and nature of analysts' use of the data from WERS98
- b) A synopsis of the problems and issues encountered by analysts in their use of the data from WERS98.

A preliminary descriptive report, which was published in July 2002 at the beginning of the consultation period, presented an initial examination of these two issues, building upon information collated by the ESRC-funded WERS98 Data Dissemination Service over the period October 1999 – September 2001. This final report extends that analysis, primarily through the consideration of further items of secondary analysis that have been published since September 2001.

Our investigation of the extent and nature of analysts' use of the data from WERS98 clearly suggests that the data is being well-used by the user community. The data is being used to address a number of pertinent issues in the field of employment relations, broadly defined, and it is encouraging to see that many of the analysts working on these topics have utilised new or expanded areas of questioning in WERS98. Nevertheless, some elements of WERS98 have clearly been under-utilised in comparison with others. These under-used elements include the Worker Representative Interview and the Panel Survey together with certain questions in the Management Interview and the Survey of Employees.

Our synopsis of the problems and issues encountered by analysts in their use of the data from WERS98 suggests that the general consensus among the user community is that WERS98 is a survey of high quality which has proved useful and accessible to a large number of researchers. However, a number of limitations or problems have been recognized by users, which will undoubtedly be of interest to the sponsors of WERS98 as they consider the opportunities for a future survey. Few of

these limitations or problems concern major issues of survey design, such as the coverage of the sample or the design of particular instruments, although some comments have been noted in these areas. Users have, by contrast, noted a number of areas in which additional questioning would be welcome. And they have also identified a number of questions which may benefit from some redesign.

INITIAL REVIEW OF WERS98:

FINAL REPORT (September 2002)

1. Introduction to the Initial Review

1.1. Background

The sponsors of the 1998 Workplace Employee Relations Survey (WERS98) are now considering the case for a fifth survey in the WERS series.¹ As part of this process, the sponsors have been consulting the user community over the summer of 2002 in order to obtain their views on all aspects of WERS, including: its broad design; the sampling population; survey content; and survey outputs.

The consultation, which ran from 14 June to 16 September, involved a period of dialogue with both the academic and policy/practitioner communities. The consultation with policy-makers and practitioners was led by the Department of Trade and Industry, whilst the consultation with academic users was led by Professor Keith Whitfield of Cardiff University (with funding from the Economic and Social Research Council). The academic consultation included a national workshop held at the National Institute of Economic and Social Research on 2nd September.

In order to inform and complement this consultation process, the Department of Trade and Industry commissioned the National Institute of Economic and Social Research to conduct a systematic review of the use made of the WERS98 datasets in secondary analysis. A preliminary descriptive report was published in July 2002 at the start of the consultation process. This final report extends the analysis presented there, primarily through the consideration of further items of secondary analysis that have been recently published. It is intended to complement the reports of the two consultation exercises and thus to contribute to discussions among the WERS sponsors over the design of a future survey.

1.2. Aims and objectives

The review is primarily a backward-looking exercise which focuses on the use of the WERS98 data in secondary analysis. Its aims are:

- to examine the extent and nature of analysts' use of the data from WERS98; and
- to provide a synopsis of the problems and issues encountered by analysts in their use of the data from WERS98.

¹ The sponsors of WERS98 comprise: the Department of Trade and Industry, the Economic and Social Research Council, the Advisory Conciliation and Arbitration Service and the Policy Studies Institute.

The review therefore comprises two distinct elements, which will be considered individually in this report.

The use of WERS98 by non-analysts is also an important aspect of the use of the survey data. This may occur through reading the various publications presenting primary analysis of the survey (Cully *et al*, 1998, 1999; Millward *et al*, 2000), through accessing the tabulations on the WERS98 Data Dissemination Service website and through teaching. However, these uses of the data are outside the remit of this paper. They are being considered separately by the WERS sponsors as part of the broader consultation process.

1.3. Methodology

The methodology that has been adopted in each of the two elements of the review is described below.

1.3.1. Examining the extent and nature of analysts' use of the data from WERS98

Our examination of analysts' use of the data from WERS98 focuses solely on published secondary analysis and is based upon the latest edition of the WIRS bibliography dated September 2002 (Millward *et al*, 2002). The WIRS bibliography provides the most complete record of analysts' use of the WERS98 data - its scope extends to all known publications that make original use of the survey data, including: books; journal articles; discussion papers; mimeos; PhD theses; and Masters' dissertations. The bibliography has been updated as part of this review, with around 20 publications having been added since the preparation of the preliminary descriptive report. The September 2002 edition of the WIRS bibliography lists a total of 82 publications that are based on original analysis of data from WERS98.

Our examination begins by categorising each of these 82 papers according to the principal or subject area that is under investigation (e.g. wage levels, workplace performance). This gives a broad indication of the areas in which WERS98 is being utilised. However, we then go on to look at the papers in more detail in order to identify which particular elements of the survey have been utilised (e.g. Management Interview, Survey of Employees) and, furthermore, which sets of questions have been drawn upon in the analysis.

This detailed investigation has involved dividing each of the four components of WERS98 (Management Interview; Worker Representative Interview; Survey of Employees; and 1998 Panel Interview) into a series of blocks, representing groups of questions that address particular topics.² Each paper is then examined in detail in order to record which blocks of questions have been utilised by the analyst.

² The timetable of this review prohibits an analysis of the use of individual questions within WERS98. There are, for example, around 390 separate questions in the Management Interview and around 160 in the Worker Representative Interview.

For example, Section C of the Management Interview has been divided into four blocks, as follows:

Block:	Topic area:	Questions:
C-1	Vacancies and recruitment	CVACANT1-CSTUCKIN
C-2	Training	COFFJOB-CJOBDE09, COTHJOB
C-3	Work organization	CLASSIF, CVARIETY-CONTROL
C-4	Team working	CTEAMS-CTEAMHOD

Similar blocks of questions have been compiled around topic areas in each of the four components of WERS98, with each block containing an average of 8-9 questions. Our final categorisation divides the Management Interview into a total of 42 blocks of questions. The Worker Representative Interview is divided into 20 blocks, the Survey of Employees 6 blocks and the 1998 Panel Interview 35 blocks. Once the WERS98-based papers in our bibliography have been examined and their use of the data coded against this categorisation of questions, it is possible to generate some useful summary information about analysts' detailed use of the survey data. This information is reported in Section 2.1 below.

Full details of our categorisation scheme can be found in the Appendix, together with usage statistics for each block of questions in all four components of WERS98.

1.3.2. Summarising the problems and issues encountered by analysts in their use of the data from WERS98

The second element of our review draws upon and summarizes information gathered from users on the problems and issues they have encountered in their use of the data from WERS98. Three areas are examined:

- (i) The overall design of individual survey elements (e.g. sample design);
- (ii) The design of individual questions (particularly routing or wording issues); and
- (iii) Ancillary aspects relating to use of the datasets, such as access and documentation.

Information arises from two principal sources. We draw heavily upon comments gathered from users during the life of the ESRC-funded WERS98 Data Dissemination Service, which operated between October 1999 and September 2001. This information has been augmented with comments documented by users in the papers listed in the WIRS bibliography.

2. Results of the Initial Review

2.1. Examination of the extent and nature of analysts' use of the data from WERS98

It is clear that the WERS98 data has been well used. As of July 2002, some 276 individual had registered with the UK Data Archive to use the data since its release in March 1999. Some 251 of these 276 users have registered to use the WERS98 Cross-Section data; 109 have registered to use the data from the 1990-98 Panel Survey. These users have produced an impressive array of research addressing a wide range of issues within the general themes covered by WERS98.

The September 2002 edition of the WIRS bibliography lists 82 known publications from these users that are based on original, secondary analysis of data from WERS98.³ The 82 publications comprise: 23 journal articles; 6 reports; 33 discussion papers; 19 mimeos; and 1 Masters dissertation. These publications form the basis of our initial review of the extent and nature of analysts' use of the data from WERS98.

As a simple means of examining the use of the WERS98 data in these publications, we have categorised them into subject areas. The process of doing so is somewhat subjective, since a number of papers have dual themes. For instance, one might argue as to whether a paper examining the impact of family-friendly working arrangements on workplace performance should be categorised under 'Equal opportunities & family-friendly arrangements' or 'Workplace performance'. To minimise arbitrariness, our categorisation gives priority to the dependent variable in any analysis (in this case 'Workplace performance'). But we freely acknowledge that other approaches are feasible. Table 1 shows the results of our categorisation of the 82 publications by subject area.

³ This total excludes those publications which report the primary analysis of the survey data (Cully et al, 1998; Cully et al, 1999; Millward et al, 2000) and those which merely summarise original analysis presented elsewhere (e.g. Dex and Smith, 2002; Millward et al, 2001).

Table 1: Topics covered in WERS98-based publications (ranked)

Subject area (dependent variable)	No. of papers
Wage levels	16
Workplace performance	13
Equal opportunities / Family-friendly	11
Job satisfaction	6
Consultation	5
Employment patterns	4
Employment levels	4
Union membership/organization	4
Health and safety	3
Conflict	2
Management organization	2
Training	2
Payment systems	2
Employment relations climate	2
Recruitment	1
Other	5
TOTAL	82

The numbers in each cell are to some extent a reflection of the publication strategy adopted by the researchers involved. Dex and colleagues, for instance, have produced five working papers reporting different aspects of their study of family-friendly working arrangements. Another research team might have produced only a single, large report in the same circumstances. It should also be noted that our review extends only to published work, not work in progress, and so this table does not represent the *full* range of original research based on WERS98.

Notwithstanding these qualifiers, some interesting points emerge from the table. The first is the prevalence of research publications focusing on subject areas that were either new to (or expanded in) WERS98, most notably those publications using the employee wage data in the Survey of Employees and the questions on equal opportunities and family-friendly arrangements in the Management and Employee surveys. Analysis of the determinants of workplace performance also figures prominently. This is not a new area in WERS98; indeed there was a significant amount of WERS90-based literature on the topic. But WERS98 offers a wider range of performance measures, including product/service quality, absenteeism, labour turnover, and intermediate variables such as employee commitment. Ramsay et al (2000) is a good example of one paper which makes use of such data.

Another striking feature of Table 1 is the lack of research material reporting analyses of union membership and organization. Only four papers are listed. In part this is because our categorisation gives priority to 'outcome' variables, such as wages, workplace performance or training. Indeed, around one third of the

remaining 78 papers have the effects of trade unions on such outcomes as their primary focus. But even so, the amount of research into the nature of union organization itself does appear to have declined in comparison with earlier surveys in the series.⁴

Whilst such a broad, thematic examination of the use of WERS98 data is interesting, it nonetheless provides us with a mere overview of the analyses that have been undertaken using WERS98. The more pertinent questions for our review address the extent to which analysts have made practical use of the different surveys within the WERS98 suite and the questions on particular topic areas within each of these surveys.

To address these, more detailed questions, we have undertaken some further analysis of the WERS98-based publications listed in the WIRS bibliography, which looks in greater detail at which specific elements of WERS98 have been utilised by analysts. Our methods are outlined earlier in the report (see Section 1.3.1) but the main point to emphasise is that, in this further analysis, we have examined the full range of WERS98 data used throughout each of the 82 publications. In publications reporting multivariate statistical analysis, for example, this means that we broaden our focus to include both dependent and independent variables.

The first and most obvious item of interest is the extent to which analysts have used each of the four components of WERS98. Among the 82 papers, we find that 47 use data solely from the Cross-Section surveys (Management Interview, Worker Representative Interview or Survey of Employees), two use data solely from the 1990-98 Panel Survey and one uses a combination of Cross-Section and Panel data (Table 2).

⁴ Further papers on this subject may emerge in due course from the Leverhulme-funded programme on 'The Future of Trade Unions'. However, a cursory examination of the titles of the 24 papers that are listed in the WIRS bibliography as having been published in 1994 shows that 9 appear to be concerned with union density or with the coverage or institutions of collective bargaining. It seems highly unlikely that the subject will achieve such prominence in secondary analysis of WERS98.

Table 2: Use of survey components of WERS98-based publications (ranked)

WERS98 component	No. of papers
1998 Cross-Section only:	70
<i>Management Interview only</i>	16
<i>Survey of Employees only</i>	2
<i>Worker Representative Interview only</i>	0
<i>Management & Survey of Employees</i>	46
<i>Management & Worker Representative</i>	5
<i>Management & Worker Representative & SEQ</i>	1
1990-98 Panel Survey only:	6
<i>1990 and 1998 Interview Data</i>	3
<i>1990 Interview plus 1998 'Survival' Data</i>	3
Cross-Section and Panel Survey:	6
<i>Management & Panel Interview Data</i>	4
<i>Management, Survey of Employees & Panel Interview Data</i>	1
<i>Management, Survey of Employees & Panel 'Survival' Data</i>	1
TOTAL:	82

Among the 70 papers using solely Cross-Section data, only a minority focus on data from a single survey. Instead, the most common approach is for analysts to use a combination of data from the Management Interview and the Survey of Employees; invariably, this entails the analysis of a linked dataset. Almost two-thirds of the WERS98-based papers we have examined have adopted this route.

In total, 74 of the 82 papers have utilised data from the Management Interview, 51 have used data from the Survey of Employees, 6 have used data from the Worker Representative Interview and 12 have used data from the 1990-98 Panel Survey. The extensive use of the Survey of Employees is a clear endorsement of the introduction of this new element in WERS98. In contrast, the sparse use of the Worker Representative Interview and of the Panel Survey raises questions over the attractiveness of these data for secondary analysis. It is true to say that these two elements have historically been less extensively used in secondary analysis than the Management Interview. However, it is less clear whether this can largely be explained by the attention given to these data in the primary analysis of WERS98 (i.e. Cully et al, 1999, and Millward et al, 2000), whether it reflects fundamental limitations in the design of these surveys which dissuade analysts from exploring the data, or whether it simply indicates a lack of novelty on the part of analysts. It is hoped that the consultation process will have shed light on these questions.

When we go on to look at the use of particular blocks of questions within each of the surveys, we also find, not surprisingly, that some sets of questions have been more extensively used than others. Beginning with the Management Interview, we

find that the most commonly used blocks of questions cover: the composition of the workforce (EPQ-1); workplace and organization characteristics (A-1); union membership and recognition (E-1); the nature of the product market (K-1); and workforce characteristics (EPQ-2) (Table 3). These include some of the standard 'control' variables that are utilised in most multivariate statistical analysis, such as the number of employees at the establishment, its main industrial activity, whether it recognises trade unions for pay bargaining and the competitiveness of its product market. Other blocks that are widely used, such as F-1 which includes questions on payment systems and D-3 which includes questions on problem-solving groups, are well-used because they cover some of the key features of human resource management.

Table 3: Most-used blocks of questions in Management Interview (ranked)

Code	Description	No. of papers
EPQ-1	Composition of workforce	74
A-1	Workplace and organization characteristics	71
E-1	Union membership and recognition	59
K-1	Product market	48
EPQ-2	Workforce characteristics	47
F-1	Structure of payment systems and appraisal	46
D-3	Problem-solving groups	37
C-1	Vacancies and recruitment	34
D-1	Team briefing	32
C-2	Training	31
D-4	Direct communication practices	31

Turning to the least-used blocks of questions in the Management Interview, we find that all of the 42 blocks which comprise the Management Interview have been used in at least one of the 82 papers we have examined. But one block has been used in only one of the 82 papers: B-3, which includes questions on the sources of external advice. Three further blocks have been used in only four papers: G-2 (threat of industrial action); H-2 (disciplinary procedures and sanctions) and H-3 (Industrial Tribunal claims). Some of these blocks are small: B-3 contains only three questions and G-2 only four, compared with an average of eight or nine questions per block. However, when one considers that the average block of questions has featured in 23 of our 82 papers, those blocks listed in Table 4 still appear under-used.

Table 4: Least-used blocks of questions in Management Interview (ranked)

Code	Description	No. of papers
B-3	Sources of external advice	1
G-2	Threat of industrial action	4
H-2	Disciplinary procedure and sanctions	4
H-3	Industrial Tribunal experience	4
E-3	Non-union representatives	6
G-3	Incidence and effect of industrial action	6
F-2	Last pay review	8
M	Employment relations climate	9
E-4	Scope of bargaining and consultation	9

One of the more interesting aspects of analysts' use of the WERS98 data is the extent to which researchers engaging in secondary analysis have utilised those areas of questioning that were either new to, or expanded in, WERS98. Table 5 lists these areas and shows that they have each been extensively used, particularly the expanded questioning on problem-solving groups and briefing and the new questions on vacancies and recruitment. The least used of the new areas of questioning is the block covering aspects of performance monitoring (K-2) which has been utilised in only 11 of the 82 papers.

Table 5: Usage of new areas of questioning in Management Interview (ranked)

Code	Description	No. of papers
D-3	Problem-solving groups	37
C-1	Vacancies and recruitment	34
D-1	Briefing	32
C-2	Training	31
C-4	Team working	30
K-3	Performance measurement and benchmarking	25
C-3	Work organization	24
I-1	Equal opportunities	22
B-4	Strategic plans	20
A-2	Management attitudes	19
I-2	Family-friendly working arrangements	17
K-2	Monitoring of performance	11

Since the Survey of Employees represented a new element in WERS98, it is also appropriate to examine in greater detail the extent to which analysts have made use of the questions in that particular survey. In general, it is encouraging to see that

each part of the employee questionnaire has provided items of interest for analysts (Table 6). One might expect questions on job characteristics, such as tenure and working hours (A1), to be well used, along with demographic questions about the gender and ethnicity of the respondent (D). But even the least-used block of questions in the employee survey (B-2) has been as extensively utilised as the average block of questions in the Management Interview.

Table 6: Usage of all blocks of questions in Survey of Employees (following ordering of questionnaire)

Code	Description	No. of papers
A-1	Job characteristics	41
A-2	Job influence, stress, security, satisfaction	27
B-1	Training and family-friendly arrangements	33
B-2	Consultation and communication	21
C	Representation	30
D	Respondent details	42

Although it has not been practical to focus our examination on the use of individual questions in any of the four surveys that comprise WERS98, we have given some thought in our Initial Review to which may be the least-used questions in the Survey of Employees. Whilst not having undertaken any systematic quantitative analysis of this point, it is our perception, after examining the 51 papers that make use of the Survey of Employees, that questions A6, B1 and B6 have been least extensively used in secondary analysis (Table 7). But it is important to point out that even these questions have been used in at least one instance.

Table 7: Least-used questions in Survey of Employees

Question	Description
A6	Why work overtime
B1	Discussions with supervisors
B6	Helpfulness of notice boards, e-mail etc.

Note: Based on author's perceptions, rather than any systematic analysis.

The third element of the 1998 Cross-Section Survey – the Worker Representative Interview – has been utilised in only six of our 82 papers. As a result, we do not present any tables here showing the most and least-used questions in the Worker Representative Interview, but full details are provided in the Appendix (see Table A2). The most commonly used blocks of questions in the interview were block

WD-1 (Role of reps), which was used in four of the six papers, and block WG (Involvement in terms and conditions) which was used in three of the six. Overall, the six papers we examined used only 11 of the 20 blocks of questions, leaving 9 blocks unused apart from the attention given to them in *Britain at Work*.

The final element of WERS98 – the 1990-98 Panel Survey – has been utilised in 12 of the 82 papers. Eight of these 12 papers make use of the interview data collected in 1998 from a random sample of 846 continuing establishments. The remaining four papers rely solely on the ‘survival’ data collected in the screening questionnaire for all 2,061 establishments that participated in the 1990 cross-section survey, using this indicator in conjunction with the 1990 data to identify the determinants of workplace survival/closure. Full details of the use of each block of questions in the 1990-98 Panel Survey are presented in the Appendix (Table A4).

The eight papers that make use of the 1998 panel interview data restrict their attention to just 15 of the 35 blocks in our categorisation of the questionnaire. The 20 unused blocks of questions include all of the six blocks that cover pay bargaining (G1, G2 and J1-J4). Of course, it is possible that these questions on pay bargaining were of little interest to analysts, being covered in *All Change at Work?* However, it is also notable that these blocks contain some of the most complex routing and filtering rules in the questionnaire, which may have proven an obstacle for some users (although no such problems have been reported to us). Finally, it is also interesting to note that analysts have made little use of those questions in the 1998 panel interview that were designed to identify the nature and determinants of changes in employment practices, such as the derecognition of trade unions or the introduction of new payment systems. These were extensively used in *All Change at Work?* but have been ignored in secondary analysis, perhaps because they are most obviously suited to descriptive, rather than analytical, investigations.

To summarise the findings of our initial review of the extent to which WERS98 has been used in secondary analysis, we can point to many areas of encouragement for the sponsors of WERS98. First, the data is clearly being well-used by the user community, as shown by the large numbers registered with the UK Data Archive. Second, the data is being used to address a number of pertinent issues in the field of employment relations and beyond (e.g. labour economics). And third, many of the analysts working on these topics have utilised new or expanded areas of questioning in WERS98.

Nevertheless, some elements of WERS98 have clearly been under-utilised in comparison with others. It is hoped that the consultation process will have helped to uncover the extent to which this represents a lack of interest on the part of analysts or inherent limitations in survey or question design.

2.2. *Synopsis of the problems and issues encountered by analysts in their use of the data from WERS98*

This second element of our review draws upon and summarizes information gathered from users on the problems and issues they have encountered in their use of the data from WERS98.

Although the main aim of this part of the review is to highlight problems encountered by analysts, it should be noted that the general consensus from users appears to be that WERS98 is a high-quality survey which is well-documented and has an impressive coverage of pertinent topics. These features are enhanced by the emphasis on timeliness: an initial version of the cross-section data was released to the research community just 8 months after the end of fieldwork, with the final dataset being available 7 months later. This combination of quality and timeliness is a reflection of the efforts of all who were directly involved in WERS98. It would also appear to reflect favourably on the consultation exercise which preceded WERS98 and on which the recent consultation process for a possible WERS 5 has been modelled.

That said, no survey is perfect and some problems have been identified as analysts have worked with the data. In practice, most relate to the design of individual questions. By comparison, few comments have been made on the overall design of the survey, perhaps because users take this as a given. But it is hoped that users will be encouraged to reflect on these broader design issues during the current consultation period.

The comments which we have gathered are summarized below under the three headings cited in Section 1.3.2. Sub-headings are used to group comments on related themes.

(i) The overall design of individual survey elements

Sample:

- Many users see the survey's exclusion of establishments with less than 10 employees as unfortunate. However, there is little evidence to suggest that it has inhibited analysts from using the data, the problem only seeming to be acute for researchers examining industry sectors where micro units are particularly prevalent (e.g. Lucas, 2001).
- A small number of researchers (2-3) have been prevented from pursuing their analysis by the low numbers of workplaces sampled from specific public sector organizations (e.g. the NHS). However, any such research would presumably also need to consider issues of respondent confidentiality.
- The marked decrease in the precision of estimates from WERS98 in comparison with WIRS90 (as shown by the increase in the 'design factor' from 1.25 to 1.5) is a concern, given the relatively small amount of analysis that has been

undertaken of those small industry sectors which are the beneficiaries of the more complex sample design (SIC92 Major Groups E, F, H, J and O).

Instruments:

- The small number of non-union worker representatives interviewed has prohibited detailed analysis and comparison with the representatives of recognised trade unions. However, given the low level of usage of questions on non-union representatives in the Management Interview, it is doubtful as to whether a more extensive sample of non-union representatives would have generated a considerable degree of interest among analysts.
- Some users have noted that it is generally not possible to be sure whether practices reported in the Management Interview, such as team working or performance-related pay, do in fact apply to the individuals sampled as part of the Survey of Employees, other than by assuming homogeneity within the broad occupational groups that are used for classificatory purposes in both surveys. See, for example, Ramsay (2000: 507).

Missing topics or questions (Management Interview):

- A number of users have been disappointed that plans to match the WERS98 data to micro-data from the Annual Business Inquiry have not yet come to fruition. This matched data would clearly have been extensively used had it been available. It is understood that the Department of Trade and Industry is currently funding a detailed investigation of the feasibility of matching ABI data to the limited sub-sample of WERS98 establishments where permission to do so was obtained from the WERS98 respondent.

And in no particular order:

- Knight and Latreille (2000: 548) suggest that more detailed information on Industrial Tribunal claims, which would record the number of claims in each jurisdiction, would provide a better understanding of the determinants of unfair dismissal claims. The absence of data on the number of Tribunal claims in each jurisdiction, and the number of different types of grievances, also limits Pudney's analysis of discrimination (Pudney, 2000: 38).
- Harley (2001: 738) notes the absence of questions on why employers introduced team-working.
- Similarly, Wood et al (2002: 19) would have liked to have been able to look at the reasons why employers introduced family-friendly arrangements and at the costs and benefits of individual arrangements.
- Forth and Millward (2000a: 49) suggest that one requires more information than WERS98 can offer about the broader organization of which the workplace is a part in order to adequately explore the determinants of pay in the public sector.
- The lack of one-year or two-year change variables limits analysis of the determinants of the size of the most recent pay settlement. See Forth and Millward (2000b).
- The omission of a question on the country of ownership of the establishment is noted as an omission by those interested in the practices of foreign-owned concerns. AHEADOFF is not considered by some analysts to provide a reliable

indicator, since an organization's head-quarters may not be located in the parent country.

- In comparison with WIRS90, the omission of questions on the incidence of job evaluation limits the analysis of gender wage differentials.
- The omission of questions on technology limits analysis in a number of areas, not least in respect of skills.
- The omission of questions on the bargaining coverage (numerical and occupational) of different unions in multi-union situations also limits the analysis of the structure of collective bargaining.
- The omission of questions on the internalisation of previously sub-contracted activities limits any analysis of sub-contracting solely to the externalisation of activities.

Missing topics or questions (Survey of Employees):

Again, in no particular order:

- Rose (2000: 7) notes the limited coverage of certain aspects of job satisfaction, particularly satisfaction with extrinsic elements of the job such as hours and fringe benefits.
- Rose (2000: 19) also notes the lack of detail on an employee's skill level, aside from information on their qualifications and recent receipt of training.
- Similarly, Anderson et al (2001: 75) note the lack of detailed job descriptions or detailed occupational coding which, in their case, limits their analysis of wage differentials. This limitation has been commented upon informally by a number of analysts as restricting the usefulness of the wage data.
- The lack of work-history data is also cited as a weakness of WERS98 in comparison with some other individual-level datasets when analysing the determinants of wage levels. See, for example, Anderson et al (2001: 75), Booth and Bryan (2001: 11).
- Charlwood's analysis of the effectiveness of union organising strategies is limited by the absence of information on which union an employee belongs to, since one cannot confidently establish a link between employees and their representatives (Charlwood, 2001: 10).
- The absence of continuous pay data is also noted to prohibit the accurate identification of low-paid employees. See, for example, McNabb and Whitfield (2000b), Forth and Millward (2001a).
- Finally, Bryson et al (2002: 8) note that the lack of data on employees' motivations limits the analysis of union membership and job satisfaction, since motivation may be positively correlated with both variables.

(ii) The design of individual questions

For the most part, the issues noted in this section of our review represent a summary of those problems noted in the volumes of Variable Notes produced for each survey in WERS98 by the ESRC-funded WERS98 Data Dissemination Service. However, the small number of further problems noted by analysts in published papers have also been included. The ordering of comments follows the ordering of the relevant questionnaire. Question names are provided where appropriate.

Management Interview:

- The data arising from Questions 1 to 3 on the Employee Profile Questionnaire have been found to lack internal consistency, with some rows and columns found not to sum to the relevant totals. The most common problem is that the numbers of full-time/part-time male and female employees cited in the occupational grid in Question 3 do not sum to the totals given in Question 2.
- **ASTATUS:** The move from a multi-category question in WIRS90 to a simpler, three-category question in WERS98 appears to have led to confusion among respondents, with a number of private sector establishments having to be recoded by the Research Team.
- **APREV5YR:** The routing of this question excludes establishments that have been at their current address for more than 10 years, but which have previously moved location. This prohibits the calculation of the total number of years that such establishments have been in operation.
- **BHAVQUAL:** Hoque and Noon (1999: 5) make the point that the routing unfortunately excludes non-specialists. This group are perceived to increasingly hold personnel-related qualifications, but WERS98 does not allow this to be examined.
- **ERECOG:** The current routing prohibits the identification of union recognition agreements that apply to workplaces with no union members at the time of the survey.
- **ERECOG & FSOC:** Doubt has been cast over the accuracy of the union recognition and pay determination data provided by some public sector respondents. See, for example, Millward et al (2000: 263 - Endnote 13). A separate note compiled by the WERS98 Data Dissemination Service provides further details.
- **EPAYA-EPERFORA:** The wording of these questions implicitly restricts their focus to workplace-level negotiations with local representatives. This limits their use as indicators of the scope of bargaining where negotiations take place at higher levels. There is also a high level of disagreement with similar questions in the Worker Representative Interview, raising questions as to whether respondents have interpreted them correctly. See, for example, Forth and Millward (2000a: 25).
- **FVARPAY:** The reformulated questions on payment systems in the Management Interview appear to capture only a subset of the payment by results and merit systems captured by the questions used in the Panel Survey, which were taken from WIRS90. See, for example, Millward et al (2000: 270 – Endnote 21).

- FCOVER: The data provided here does not correspond well with data collected on FSOC. This indicates that the term ‘coverage of collective bargaining’ in FCOVER may have been misinterpreted by respondents, who perhaps confused it with union membership density – something that was noted during WIRS90.
- HTYPE & HREASON: Pudney (2000: 38) notices a discrepancy between the code-frames for HREASON, which identifies Tribunal claims relating to sex discrimination separately from those relating to race discrimination, and HTYPE which groups the two together. Separate identification is preferred.
- IJOINT: A third option, ignored by the current question, is a joint committee which covers a range of issues but which is less important or as wide-ranging as the committee nominated in D1COMM.
- IFAMILY: It has been suggested that the meaning of the term ‘parental leave’ may not have been clear to management respondents and that it may have been confused with ‘paternity leave’, covered by IMALEOFF, leading to a risk of double-counting. See Dex and Smith (2001b: 9).
- GROSSWT: The grossing factors provided on the dataset have been deemed inaccurate by the Research Team; users have been advised to ignore them.
- Minor issue: The coding of Don’t Know and Not Answered responses is not consistent throughout the dataset, with the meaning of 8 and 9 codes being reversed on certain types of question.

Survey of Employees:

- The dataset contains 25 employee records for which there is no corresponding workplace observation.
- A6: This question was multi-coded by some respondents, despite a clear request for a single-code on the questionnaire. This suggests that respondents found it difficult to choose a single reason.
- B7: The ordering of codes was printed incorrectly on the questionnaire, necessitating a reduction from four usable codes to only two in the dataset.
- B3: It has been suggested that the meaning of ‘parental leave’ may not have been clear to respondents, who may have been uncertain as to whether it referred to maternity leave, paternity leave or leave during early childhood, or all three. See Dex and Smith (2001a: 9).

Worker Representative Interview:

- There are eight interviews in which the worker representative does not appear to meet the criteria governing selection for interview.
- WUNION: The code frame used on this question does not match that used on question EUNIONA, which may potentially cause confusion among analysts.

Panel Survey:

- It is possible that the use of more detailed feed-forward data (such as the names of unions recognized in 1990, rather than simply the number) would have helped respondents to remember what had changed and why.
- It is thought that the follow-up questions used to investigate change may also have benefited from being more precise. It is evident that the single question

'How did that come about?' does not properly distinguish between the process of change and the reasons for change. As a result, a mixture of responses were given.

- YBMIC: This question inadvertently uses the wording of question A27 from the 1990 management interview, but the code frame from question A26.
- YBSELLS: A third and important option not covered by the current question wording is an establishment that makes goods or provides services for other establishments in its own organization.
- YCJOB: This question includes an additional option 'Human Resources' on its code-frame, inhibiting comparisons with the similar question in 1990.
- YVISYR: This question uses a different recall period to the equivalent question in the 1990 management interview. The code frames used in 1998 and 1990 also differ in a number of important respects. Both issues inhibit the comparability of the data.
- It should be noted that there are also inevitably a number of instances in which respondents' recall of events is inconsistent with the data collected in 1990 and 1998. These are not summarized here, but are outlined in the Variable Notes relating to the Panel Survey.

(iii) Ancillary aspects relating to use of the datasets, such as access and documentation

- Access to restricted data files: The length of time that was required to consider users' applications for restricted data was a source of frustration for many users. Users were also put off from applying by the amount of detail that was requested on the application form (e.g. regarding their storage of the data).
- Accuracy of the Management Questionnaire document: A large number of inaccuracies appear to have been introduced during the process of translating the CAPI questionnaire into a Word document, particularly in the translation of the routing rules.
- The use of text-fills: The CAPI questionnaires made extensive use of text-fills to change the wording of a particular question, depending upon answers to previous questions. This seems to have taken the place of different strands of routing. See, for example, EOTHREPS, although more use was made of this technique in the Panel Survey. This approach inevitably makes the process of correctly interpreting the routing in the questionnaire documents more difficult for users.
- Survey of Employees Question D10: It was not clear to many users as to whether the editing code mentioned in Vol 5: Part C of the WERS98 User Guide had been run by the Research Team prior to depositing the data file.

To summarize all of the above material would be difficult but, in closing this section of our report, a few general observations can be made. As stated at the beginning of this section, the general consensus from the user community appears to be that WERS98 is a survey of high quality which has proved useful and accessible to a large number of researchers. However, a number of limitations or problems have been recognized by users, which will undoubtedly be of interest to

the sponsors of WERS98 as they consider the opportunities for a future survey. Few of these limitations or problems concern major issues of survey design, such as the coverage of the sample or the design of particular instruments, although some comments have been noted in these areas. Users have, by contrast, noted a number of areas in which additional questioning would be welcome. And, although the vast majority of questions have proved unproblematic, users have identified a number of questions which may benefit from some redesign.

3. Next steps

The process of consulting with users over the broad design of a possible WERS 5 ended on 16th September 2002. The comments that were provided by users during this process will now be considered by the WERS sponsors, along with the contents of this Initial Review of WERS98. A paper outlining the Sponsors' decisions about how the next WERS will proceed is expected to be published early in 2003. It is anticipated that the Sponsors will also be consulting with teams of specialists on the design of new and expanded question areas before the end of the year.

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APPENDIX:

Full List of Question Blocks Used in Analysis of WERS98-based Publications

Table A1: Management Interview

Code	Description	Questions	No. of questions	No. of papers
EPQ-1	Workforce composition	Q1-4	4	74
EPQ-2	Workforce characteristics	Q5-11	5	47
A-1	Workplace and organization characteristics	ASIC-AHOWCHA	21	71
A-2	Management attitudes	APHRAS01-APHRAS10	10	19
B-1	Respondent's role and resources	BSEX-BASSIST	10	19
B-2	Division of ER responsibilities	BINVMANG-BREPOR9	11	16
B-3	Sources of external advice	BMEMBER-BAISSUE3	3	1
B-4	Strategic plans	BSTRATEG-BAPPLIED	5	20
C-1	Vacancies and recruitment	CVACANT1-CSTUCKIN	13	34
C-2	Training	COFFJOB-CJOBDE09, COTHJOB	5	31
C-3	Work organization	CLASSIF, CVARIETY- CONTROL	4	24
C-4	Team working	CTEAMS-CTEAMHOD	5	30
D-1	Briefing	DBRIEF-DTWOWAY	4	32
D-2	Formal representative forums	DJOINT-DCOUNUK	14	27
D-3	Quality circles	DCIRCLES-DOTHWAY5	7	37

Table A1 continued

Code	Description	Questions	No. of questions	No. of papers
D-4	Other communication schemes	DSURVEY-DSTAFFIN	7	31
E-1	Union membership and recognition	EANYEMP-EVIEWS, EUNIONUM-EREQUEST	19	59
E-2	Union reps and closed shop	ECHECKS-EDEDUCT, ESTEWARD-ESTEWTIM	9	16
E-3	Non-union reps	EOTHREPS-ESITON	4	6
E-4	Scope of bargaining or consultation	EPAYA-EWHYLES2	21	9
F-1	Structure of payment systems and appraisal	FFACTO01-FNOTPAY	19	46
F-2	Last pay review	FREVIEW-FCONSNEG	19	8
F-3	Structure of pay determination	FSOC1-FNEGOT	13	14
F-4	Non-pay terms and conditions	FWRITE1-FENTITL6	4	20
G-1	Dispute procedures	GPROCEDU-GUSED	10	11
G-2	Threat of industrial action	GPSTYR1-GFAVOUR	4	4
G-3	Incidence and effect of industrial action	GACTIO01-GDISRUPT	6	6
H-1	Grievance procedure	HPROCEDU-HTYPE12	8	11
H-2	Disciplinary procedure and sanctions	HOTHPRO-HSUSNUM	9	4
H-3	Industrial tribunal experience	HCOMPLAI-HDEAL	6	4

Table A1 continued

Code	Description	Questions	No. of questions	No. of papers
I-1	Equal opportunities	IPOLICY-IPRACTI6	7	22
I-2	Family-friendly arrangements	IFMOFF-IFAMBEN4	8	17
I-3	Health and safety	ICOMMTEE-ILLNUM	12	11
J-1	Contracting-out and non-standard employment	JNONEM01-JNEMPHM	25	19
J-2	Redundancies	JOBSEC01-JISSCON5	7	21
J-3	Organization of working time	JDURATIO-JTIMEAR6	3	17
K-1	Product market	KACTIVI-KWRKPLAC	13	48
K-2	Monitoring of performance	KHOWMON1-KEMPINF	6	11
K-3	Measurement of performance and benchmarking	KBNCHMA-KLACOST	10	25
L-1	Changes in past 5 years	LCHANG01-LIMPFAC5	11	11
L-2	Introduction of change	LMANCHA1-LYNCHA05	8	13
M	ER climate	MRELATE	1	9

Table A2: Worker Representative Interview

Code	Description	Questions	No. of questions	No. of papers
WA	Respondent details	WAREPTYP-WAREPGEN	13	1
WB-1	Number of reps	WBNUMREP-WBINCRRE	8	2
WB-2	Number of members	WBPROPME-WBWHYUP2	10	1
WB-3	Who reps represent	WBSOCME1-WBEMPOTH	7	1
WB-4	Election of reps and contact with full-time officials	WBHOWREP-WBOFFLE6	3	2
WC	Union recruitment	WCINFNWE-WCMANATT	7	1
WD-1	Role of reps	WDPROTW1-WDADDME4	7	4
WD-2	Facilities and training	WDPHONE1-WDEVTRAI	5	1
WE	Rep-management relations	WEMANCON-WERATERE	4	0
WF-1	Methods of communication	WFMANC01-WFRINFOR	19	0
WF-2	Health and safety	WFHSCOMM-WFHSREPS	5	0
WF-3	Redundancies	WFEMPRED-WFREDCON	5	0
WG	Involvement in terms and conditions	WGVARIPA-WGPERFAP	18	3
WH-1	Collective disputes procedures	WHFORMPR-WHDISPA	4	0
WH-2	Industrial action	WHINDA01-WHOTHERI	10	2
WI-1	Grievance procedures	WIGREVPR-WIGRIESA	9	0

Table A2 continued

Code	Description	Questions	No. of questions	No. of papers
WI-2	Disciplinary procedures	WIDISPRO-WINONUAP	5	0
WJ-1	Involvement in target setting	WJPERF01-WJINF TAR	3	0
WJ-2	Management attitudes to reps	WJMANCLO-WJFACT05	6	0
WK	Changes in past 5 years	WKHRDWRK-WKWHYNO3	13	1

Table A3: Survey of Employees

Code	Description	Questions	No. of questions	No. of papers
A-1	Job details	A1-A7	7	41
A-2	Stress, security and satisfaction	A8-A10	3	27
B-1	Training and family-friendly arrangements	B1-B5	5	33
B-2	Consultation and communication	B6-B9	6	21
C	Representation	C1-C6	6	30
D	Respondent details	D1-D12	12	42

Table A4: 1990-98 Panel Survey

Code	Description	Questions	No. of questions	No. of papers
BWDS	Basic Workforce Data Sheet	Q1-Q5	5	7
B1	Changes in name, ownership, location, size	YBNAMCHK-YBPAYDET, YBSICCHK-YBEMD_5, YBUCCCHK-YBOWNCHA	21	1
B2	Current activity, ownership, organization characteristics	YBSICDES, YBMIC_1-YBUKTOT, YBHO-YBSELLS	14	5
C	Respondent's role	YCTITLE-YCSTAFF	7	0
D1	Locus of management decision-making	YDNEWMAN-YDTOPBOD	5	1
D2	Information collected and distributed	YDMAN_1-YDEMP_11	2	0
D3	Employers' association membership	YDEAMEM-YDEA2_5	5	0
E1	Current union membership	YEUNIMEM, YEUDENS, YESUBCHK-YEVIEWS	5	2
E2	Changes in union membership	YEUDCHK1-YERECRUT	11	0
F1	Current union recognition	YFUNINUM-YFTOTREC	5	3
F2	Changes in union recognition	YFRCHK1-YFASKREC	8	1
G1	Current bargaining structure	YGHOWNEG-YGLUNI8, YGMANYBU-YGGROUPS, YGFORMAL	13	0
G2	Changes in bargaining structure	YG90CHK1-YG90NAM2, YGBUCHK-YGASKREC	11	0
H	Employee reps	YUREPS-YHOTHER	5	0
J1	Current bargaining level and factors affecting settlement	YJNEGCHKYJFACC_5, YJFACA_1-YJFACB_5, YJUNCHK-YJNONCOM	18	0

Table A4 continued

Code	Description	Questions	No. of questions	No. of papers
J2	Changes in bargaining levels	YJIMPCHK-YJIMP2_5, YJEXIS90-YJPY90_5	7	0
J3	Current extent and level of non-pay bargaining	YJNPHY-YJHHR3	18	0
J4	Changes in non-pay bargaining	YJPHYCHK-YJSTF2_5	6	0
K	Closed shop	YKSHOP_1-YKEND_5	4	0
M	Procedures and agreements	YMPROC_1-YMTRIBUN	18	0
N1	Current PBR and merit pay systems	YNPBR-YNMGRMER	26	1
N2	Changes in PBR	YNMANCHK-YNM2_5	6	0
N3	Average earnings and recording of working time	YNGROSS-YNNTIM	5	2
N4	PRP/ESOPS - current and changes	YNSCEM_1-YNSHPROP	8	2
P1	Current consultation and communication arrangements	YPJCC, YPJCCNUM- YPCOM_8, YPCONTC- YPCONMET	17	2
P2	Changes in consultation arrangements	YPJCCCHK-YPJCC2_5	3	0
P3	Information distribution	YPINFTC-YPINFMET, YPINFINV-YPINFORG	7	0
Q	Industrial action	YQACT_1-YQACT_12	1	0
R1	Workforce reductions and recruitment	YRREDUC-YRRECRUT	11	0
R2	Limits to organization of work	YRLIMIT-YRAG2_5	5	0
S	Non-standard employment & ethnicity	YSFIXED-YSETHNIC	3	1
T	Resignations & injuries	YTRESUM-YTINJNUM	3	0
U	Economic context	YURANGE-TULABCST	5	2

Table A4 continued

Code	Description	Questions	No. of questions	No. of papers
V1	Workplace performance	YVLABPRO-YVFINBLW	4	3
V2	ER evaluation	YVISYR_1-YVUHOW_4	5	1
CLOS	Closure code		1	4