

# Issues in the Comparative Measurement of the Supervisory Function

- First Draft -

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One important element in the operational definition of ESeC is the supervisory status. It is used to allocate workers who otherwise are coded as ESeC 3, 7, 8 or 9 into ESeC 2 or ESeC 6. While detailed instructions exist for occupations – for instance international manuals describing occupational titles in great details – the systematic study of the supervisory status is much less developed. Positions of supervisors are seen as somewhere between managers and ordinary employees, but it is a notorious problem on which basis and where exactly the boundaries should be set. In this paper, we basically examine two issues: First, we present findings from a pilot study that examines to which proportion workers identified as supervisors depend on the operational procedure used to code these workers as supervisors. We find that different procedures to assess supervisory status may lead to quite substantial variation in class distributions along the ESeC schema. Second, we therefore explore the procedures used to measure supervisory status in two major European Surveys that both aim to provide data at a high degree of cross-national comparability. The two examined surveys are the European Social Survey (ESS) and the Labour Force Survey (LFS). Our conclusion is that in both surveys there is considerable space to improve cross-national comparability.

### ***1 Different measures of supervisor status and their effect on the number of supervisors identified***

The measurement of supervisor status evidently must depend on the theoretical basis of the concept. Unfortunately, not much explicit discussion on supervisory function or supervisory status exists in the literature. In the sociological literature, the concept has its most explicit formulation in the various versions of Eric O. Wright's conceptions of the Class Structure, where its understanding varies with the latter's theoretical conception. In its early version (Wright 1976, 1978), Wright's conception echoes the often emphasized ambivalent position of supervisors between employers or their executives, on the one side, and the ordinary workers, on the other side. Supervisors are in a position of conflict, as they have to secure that orders from above are properly executed by their fellow workers in the work groups the supervisors themselves are part of. Supervisors, according to Wright's early writings are in a contradictory class location between the bourgeoisie and the proletariat, but as Wright explicitly states, they are rather close to the proletariat: They have minimal control over labour, but no control over the physical capital nor over money capital: They have control over the direct producers as their subordinates, but are not part of the hierarchy as such, have no autonomy over the immediate labour process and do even not participate in decisions concerning narrow aspects of subunits of production. In later versions (Wright 1985) the class structure is assumed to be based on the unequal distribution of productive assets (ownership of capital, of skills and of organization assets) which then give rise to exploitation by the asset owners over non-owners of the respective assets. In this conception supervisors have limited control over organization assets (still in an intermediate position between managers and their subordinate workers), and they are further differentiated according to the level of skill assets they possess. When, from the first to the second version, supervisors are rightly moved to a less marginal position in the class structure, it is now hard to see how and in which sense they come to be exploiters of their fellow workers.

For Goldthorpe and his associates, on whose class conception ESeC is essentially based, the aim of the class schema is to differentiate positions within labour markets and production units "in terms of the employment relations that they entail" (Erikson and Goldthorpe

1992:37). For employees in dependent work this concerns the nature of the relationship with their employers, and in this context the position of supervisors is characterized as taking a mixed form between the two prototypical contractual arrangements regulating the employment relationship: the labour contract and the service contract. Of the two elements that constitute the *raison d'être* of a service contract it is, when applied to supervisors, the requirement of asset specificity rather than the presence of monitoring problems that in Goldthorpe's view makes a difference to jobs that are regulated under a labour contract. While this assertion may be correct, it does not lead much further in indicating the specific characteristics that turn a job into a supervisor's job. However, as supervisors are conceived to be in a socio-economic category clearly different from that of other employees, one implicitly can derive, that "what is crucial is that those persons coded as supervisors should be only those in occupations that are formally recognised, usually in the actual job title, as having \*primarily\* supervisory functions and responsibilities - and thus status. Otherwise, their employment relations are unlikely to be different from those of rank-and-file workers." (John Goldthorpe, personal communication). According to this it would not be sufficient that a worker is responsible for supervising anyone else's work, because this would mean that every craftsman with a mate or clerical worker with an office junior becomes a supervisor. Their number would be grossly inflated and the connection with employment relations would be lost.

Even if we accept these considerations as a starting point for the definition of supervisory status for the construction of ESeC it is still an open question how its measurement can best be operationalized in population surveys. It is well known that survey results sensitively depend on the way survey questions are asked (Groves et al., 2004). The degree of question wording sensitivity depends on the concept to be measured. For some concepts variations in question wording may have huge effects, for other concepts the effect of variations may be small. As such variations cannot be known a priori and can hardly be derived theoretically, we often need empirical tests to establish the characteristics of measurement procedures. The measurement of the supervisory status is no exception to this rule.

In order to gather initial empirical evidence we report in the following initial results of a small pilot study carried out in Germany. The study probes different ways to operationalize supervisory status and then examines (a) its effects on the number of supervisors identified, (b) the specific supervisory responsibilities found among those identified with the different measurement procedures, and (c) the consequences of the different measurement procedures on the implied ESeC class distributions.

Concretely the study was carried out as a field experiment. Several questions have been included as part of the University of Mannheim Study of "Employment and the Family", the data of which was collected in spring 2006. Data was collected through a telephone survey that covers the population of Germany between the age of 18 and 65 and includes 931 respondents in total.<sup>1</sup> Besides questions about standard demographic and employment variables the survey focuses on the respondent's concept of the family and on working life experiences.

#### ***a) The impact of question wording on the proportion of employees identified as supervisors***

In total, 5 different questions were used to assess if the respondent holds a supervisor position. Not all respondents did receive all questions, because the sample was split into two randomly assigned groups whose members received supervision-related questions as shown in Table 1.

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<sup>1</sup> The survey is mainly conducted for teaching purpose and each student of an undergraduate class in methods of social science research has to interview 6 respondents in computer-assisted telephone interviews.

Table 1: Supervisor questions asked in the Mannheim Study of Employment and the Family 2006

|                       | English Translation*   | Original Question in German*   | Short Name               |
|-----------------------|--|--|--------------------------|
| <b>Random-Split A</b> |  |  |                          |
| A.1.                  | In your job, does it belong to your tasks to supervise the work of other employees?<br>if question A.1. is “yes” | Gehört es bei Ihrer beruflichen Tätigkeit zu Ihren Aufgaben, die Arbeit anderer Mitarbeiter zu beaufsichtigen?         | ESS-Question             |
| A.2.                  | In your job, are you formally responsible to supervise the work of other employees?<br>if question A.1. “yes”    | Sind Sie in Ihrer beruflichen Tätigkeit formal dafür verantwortlich, die Arbeit anderer Mitarbeiter zu beaufsichtigen? | Formal Responsibility    |
| A.3.                  | Is supervising other employees part of the main tasks in your job?   | Zählt das Beaufsichtigen von Mitarbeitern zu Ihren Hauptaufgaben bei Ihrer beruflichen Tätigkeit?                      | Supervising as main task |
| <b>Random-Split B</b> |  |  |                          |
| B.1.                  | In your main job, are you in a leading position?   | Sind Sie in Ihrer (Haupt-)Erwerbstätigkeit in einer leitenden Position tätig?  | LFS-Question             |

\*Questions are shown in present tense only. For former employment, we asked the same questions in past tense. Data Source and Questions: Mannheim Study of Employment and the Family, 2006

These questions have been chosen in order to be as close as possible to existing operationalisations of the supervisor concept in several core large scale surveys in Europe in which the ESeC classification might be applied, mainly the ESS and the LFS. Respondents’ reactions to the questions should thus inform on implications for the ESeC classes of several existing operationalisation options presently used in Europe. As the study was done in Germany we primarily relied on the wording used in the implementation of these surveys in Germany, but we also have included other aspects, either used in the operationalisation in other countries or discussed in the ESeC project.

Split A received as a first question of the supervision module the supervisor-question as implemented in the German ESS-survey. Split B received as a first question the supervisor-question as implemented in the LFS in Germany by the German NSI<sup>2</sup>. As respondents have been allocated randomly to either one of these treatments, differences in the proportion of supervisors found will be produced by the differences in question wording, except for random sampling error.

We consider the ESS-question to represent a very extensive understanding of supervision. Beside employees with an explicit supervisor status it can for instance include the monitoring of work of apprentices or of newly recruited personnel when it is introduced to the new job.<sup>3</sup> Under this operationalisation a large proportion of workers should be identified as supervisors, likely more than those with explicit supervisor status. In contrast, the operationalisation in the German version of the LFS is much narrower as it is closer to measure management status rather than supervisor status.

2 Split B was originally asked one more question, the one we used in our validation studies. It was originally planned, to ask all respondents this question after the German LFS-Question. Due to a technical problem, we asked only half of the sample in this way. We skipped this question from our analysis because the number of cases is too small and the result will add no further evidence to our main argument, that question wording influences the proportion of supervisors identified.

3 The English wording of the ESS-question in fact is even more extensive as it refers to any responsibility of supervision.

In order to cover additional aspects of the supervisory status, one of the two treatment groups received further questions. In split A, those answering the ESS question with “yes” were asked in a second question if they were *formally responsible* to supervise the work of other employees, and in a third question if supervising the work of other employees constituted *one of the main tasks* in a person’s job.<sup>4</sup> The question about formal responsibility is derived from the British LFS. As it emphasizes formal responsibility, we expect it to code less employees as supervisors than the ESS-Question alone. The third question relates to a definition of supervisors in the ESeC Draft User Guide: “Supervisors are employees *who are neither managers nor professionals but who are responsible as their main job task for supervising the work of other employees*” (Harrison/Rose 2006: 11).<sup>5</sup> However, instead of asking whether supervision is the main task (as suggested by Harrison/Rose), we relaxed the high requirement of this formulation by asking whether supervising is part of the main tasks. We assume that many workers who have supervisory status nevertheless can have various other tasks, and thus, the exclusive reference to the main task might be too narrow.<sup>6</sup>

Conceptually, there is a clear order among these questions: From question 1 to question 3 the requirements to be coded as a supervisor become more and more demanding. Positive answers to questions 2 and 3 imply a positive answer to question 1.<sup>7</sup>

Now, how many workers are identified as supervisors by each of these questions? First, we compare the difference in the proportion of workers identified as supervisors by the ESS and the German version of the LFS question. As these questions are the first asked to each randomly generated split, the splits can be treated like experimental groups.

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4 We are aware that some respondents might answer “no” in the first and “yes” in one of the following questions. In our pre-test, we asked every question to every respondent and the amount of yes-answers after denying the first question was close to 0. Further, the logic inherent in the ordering of the questions is quite clear and implicates that this response pattern makes no sense.

5 “Some datasets have a supervision question which includes the number of people supervised. In such case we recommend that someone should be supervising at least three people in order to be regarded as a supervisor” (Harrison/Rose 2006: 11)

6 The suggestion by Harrison and Rose might even lead to an operational dilemma: ESeC is built upon information on occupation and supervisory status (and information on self-employment). In order to get information about a respondent’s occupation, labour force survey questions usually ask for respondent’s “main job” and/or for what a respondent “mainly does in his/her job” (e.g. British Labour Force Survey 2006, [http://www.statistics.gov.uk/downloads/theme\\_labour/LFSUGvol2.pdf](http://www.statistics.gov.uk/downloads/theme_labour/LFSUGvol2.pdf)). If the respondent’s job is to mainly supervise other employees, i.e. if the main task of this person is to supervise other employees, then it is difficult to assign an occupational code. According to the ISCO88 definition, occupations should be coded into the range of ISCO88 1200-1319 if “the main tasks and duties of a job consist of planning, organising, controlling and directing the daily work activities of a group of subordinate workers” (ISCO-88, 1990: 11). One could argue that these tasks are most important for an employee whose main task is to supervise the work of other employees. According to ESeC, however, all ISCO88 1200-1319 codes should be treated as managers (Harrison/Rose 2006: 11). This could in fact result in a dilemma because we would code many (if not all) supervisors into managers, and the supervisor category would be void.

7 Because of the conceptually clear order of the questions and the results of our pre-test, we planned to ask those respondents who answered the ESS question with “no” no further question. But about the half of the respondents were asked all questions due to a technical problem during the data collection process. In this group, we can see that only a very minor part (4 out of 100) reply “yes” in questions A.2 and A.3 after replying “no” in question A.1. Therefore, we will base the construction of our ESEC classes on all cases.

**Table 2: Proportions of employees identified as supervisors by ESS and LFS question respectively.**

| Supervisor-Question | Percentage of Supervisors | N   | 95% Conf. Interval |
|---------------------|---------------------------|-----|--------------------|
| ESS question        | 42.2%                     | 360 | [0.35 ; 0.49]      |
| German LFS question | 26.6%                     | 365 | [0.21 ; 0.33]      |
| Difference          | 15.7%                     |     | [0.07 ; 0.25]      |

**Pr( |T| > |t| ) : 0.0000**

*Data-Source: Mannheim Study of Employment and the Family, 2006*

As table 2 shows, the two groups differ by about than 16 percentage points in the proportion of workers identified as supervisors. The German LFS question identifies a clearly smaller proportion of a sample of workers as supervisors than the ESS question. According to a two-sample-comparison t-test (assuming equal variances) the group difference is statistically significant at least at the 0.01-level. The 99%-confidence intervals of the supervisor proportions in both groups do not overlap.

**Table 3: Proportions of dependent workers identified as supervisors by ESS question and additional requirements**

| Supervisor-Question      | Percentage of Supervisors | N     |
|--------------------------|---------------------------|-------|
| ESS question             | 42.2%                     | 360   |
| Formal Responsibility    | 30.8%                     | 172 * |
| Supervising as main task | 13.4%                     | 172 * |
| LFS question (Germany)   | 26.6%                     | 365   |

*\*Based on cases who where asked both questions only! The percentage refers to all employees.*

*Data-Source: Mannheim Study of Employment and the Family, 2006*

Table 3 shows the proportion of supervisors depending on the different supervisor concepts which underlie our questions. When using the broad ESS definition, we identify about 42% of all employees as supervisors. With the concept of formal responsibility (British LFS), the proportion shrinks to 31%. The modified ESeC approach (“one of the main tasks”) is the most exclusive concept and categorizes only 13% of all employees as supervisors. As expected, the three measures are increasingly exclusive. In fact, they can be understood as an ordinal measurement.<sup>8</sup>

<sup>8</sup> Our data show that only very few respondents (less than 5%) have a non-transitive answering pattern.

**b) Effects of question wording on responsibilities held by employees identified as supervisors**

What are the characteristics of a supervisory position and how do the three supervisory concepts differ with respect to these characteristics? In our the Mannheim study, we tried to identify several areas in which we think supervisors have special responsibilities. The first two items (see Table 4) address the organization and conduct of other employees. Supervisors could be seen as being responsible for the assignment of work duties to their follow employees and of being in command on how the follow employees should conduct their work. The second set of items refers to the evaluation of subordinates, including performance appraisals, the authority to take disciplinary actions, and on wage/salary raise for the subordinates. The last item about strategic planning could be seen as an item that gears more towards managerial duties. Finally, we report the median number of subordinates.

**Table 4: Summary statistics of supervisory responsibilities by various definitions of supervisory status**

|   | assigning work duties                  | command of how employees to conduct work | giving performance appraisal | taking disciplinary action | raising wage/salary | strategic planning | number of subordinates (median) |
|---|--|--|------------------------------|----------------------------|---------------------|--------------------|---------------------------------|
| <b>ESS: supervising task</b>  | 55 <sup>a)</sup><br>(91) <sup>b)</sup> | 49<br>(89)                               | 28<br>(76)                   | 10<br>(61)                 | 2<br>(31)           | 6<br>(61)          | 5                               |
| <b>British LFS: formally responsible</b>                                    | 69<br>(97)                             | 55<br>(94)                               | 39<br>(88)                   | 15<br>(80)                 | 3<br>(40)           | 7<br>(65)          | 7                               |
| <b>modified ESeC proposal: among main tasks</b>                             | 86<br>(97)                             | 72<br>(93)                               | 59<br>(93)                   | 28<br>(93)                 | 7<br>(52)           | 10<br>(69)         | 13.5                            |
| <b>German LFS: „leading“ position</b>                                       | 77<br>(96)                             | 67<br>(91)                               | 40<br>(87)                   | 19<br>(79)                 | 6<br>(42)           | 13<br>(67)         | 7                               |
| <b>British LFS net: formally responsible, but not as a main task</b>        | 60<br>(96)                             | 48<br>(94)                               | 29<br>(85)                   | 9<br>(75)                  | 1<br>(35)           | 6<br>(62)          | 5                               |
| <b>ESS net: Superv. task, but not formally resp. and not as a main task</b> | 30<br>(82)                             | 35<br>(79)                               | 10<br>(54)                   | 0<br>(21)                  | 0<br>(12)           | 4<br>(56)          | 3                               |

Respondents had three answer categories for any given area: 1) R is able to decide on his or her own; 2) R has to consult co-worker and/or senior for decision; 3) R has no decision power at all.

a) Proportion of supervisors who have full discretion in a given field (answer category 1)

b) Proportion of supervisors who have at least some or full discretion (answers categories 1 and 2 accumulated)

Numbers of observations differ by definition of supervisory status:

ESS: N=148; British LFS: N=94; ESeC proposal: N=29; German LFS: N=95,

British LFS net: N=68; ESS net: N=48

Data-Source: Mannheim Study of Employment and the Family, 2006

For each of the items, the respondents were asked whether – in a given field – they can take a decision on their own, whether they have to consult other co-workers or seniors for decisions, or whether they have no influence at all. In Table 4, the first number in each cell refers to the share to supervisors who have full discretion in a given field, the number in brackets accumulates supervisors who have at least some discretion in a given field.

Two main results can be read from these numbers. If we look at the columns and if we move from the left to the right of the table, we find a substantial decrease in the proportion of positive answers. Starting at the left side, the majority of supervisors have complete or at least partial discretion in the field of work assignment and in the command of how the subordinates should do their work.<sup>9</sup> More legally relevant items like performance appraisals, disciplinary actions, and wage raises are markedly less often to the supervisors' own decisions. Pay increases in particular are apparently not an issue for supervisors to rule, but this could be a German specific phenomenon. Last, although quite a few supervisors are involved in strategic planning, it is still likely to be more of a managerial task<sup>10</sup>. In sum, we obviously address different elements of a supervisor's work tasks, and we find substantial variation in the difficulty of these items to be answered positively by our supervisors. Our items might function as empirical background for future work on the clarification of the supervisor concept. For the present purpose, however, it is more interesting to focus on the second main result of the analysis which relates to the different definitions of a supervisor.

If we look at the rows of the table – and for now we should only focus on the first three rows – we find strong variation in the answers of supervisors depending on the supervisory concept. The ESS definition is the most comprehensive one. For all items, these supervisors have the lowest numbers of positive answers. In addition, their median number of subordinates is the lowest as well. The British LFS definition ranges in the middle. About 69% can assign work duties at their own discretion, about 39% give performance appraisals, but only 15% are eligible to decide autonomously on disciplinary actions. Together with co-workers and seniors, their influence ranges between 97% and 80% for the first four items. The modified ESeC definition (“one of the main tasks”) is the most exclusive definition. Together with other co-workers and seniors, almost all supervisors have some say with respect to the first four items (between 93-97%). About 86% of these supervisors can assign work duties independently, 59% give performance appraisals, and for disciplinary actions, there are still 28% who can decide these matters without consultations (this share is about twice as high compared to the British LFS definition). The median number of subordinates is also highest with 13.5 employees. The decline in positive answers as we move to the items at the right hand side of the table can be also found for supervisors defined by the modified ESeC proposal. Yet, this decline is much less pronounced, in particular if we look at the combination of the two positive answer categories. The German LFS question returns similar results to the British LFS question. It is only in the first two items where the German LFS definition shows more supervisors who can decide independently.

Overall, our data suggest that the most exclusive supervisor definition (modified ESeC proposal) returns hardly any *false positive* supervisors, i.e. employees coded as supervisors even though they do not have supervisory responsibilities. The “ESeC” supervisors seem to be well equipped with supervisory rights in the area of work organisation and evaluation of their subordinates. One could argue, though, that some of them could even be seen as managers, or, in other words, that the high level of supervisory responsibilities found might be due to the fact, that a large proportion of the “ESeC” supervisors are indeed managers.

A replication of the present analysis, in which managers (identified by ISCO88) are excluded, however, returns practically the same results, and thus does not affect our conclusions. The modified ESeC definition, therefore, appears to be an adequate definition to identify “true”

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9 For now, we ignore the last two rows of the table.

10 As an additional cross tabulation shows, about 86% of all managers (ISCO88 1200-1319) tell us that they have at least some say in this area.



supervisors (whatever concept one has in mind about supervisors). Yet, the question is whether the modified ESeC definition produces *false negatives*, i.e. respondents who are coded no supervisor although in fact they are supervisors at their workplace. If we compare the number of respondents who are coded supervisor according to the British LFS definition and according to the modified ESeC definition, we find that the number of LFS supervisors is three times as high as the number of modified ESeC supervisors. If we recall the rather moderate differences between these two definitions in the supervisor characteristics of Table 4, one might suspect that the modified ESeC definition in fact misses some “true” supervisors. To get some idea about these very supervisors, the fourth row in Table 4 represents those supervisors who are formally responsible to supervise the work of other employees, but it is not one of their main tasks, i.e. we consider the “net supervisor definition” of the British LFS question. The figures in brackets show that at least three quarters of these supervisors have at least some decision-making power with respect to the first four items. About 60% of them are even independent when it comes to work assignments, about 48% when it comes to the conduct of work of the subordinates and still about 29% give performance appraisals independently. One could well argue that these respondents should be regarded as supervisors, too.

In the last row of Table 4, we did the same analysis with the ESS question. We only considered those respondents who were coded supervisor under the ESS definition, but not under the definition of the British LFS or the modified ESeC proposal. As can be easily seen, these respondents are very much restricted in supervising their subordinates independently –only about one third of the respondents are eligible to assign work duties and control the conduct of work of their subordinates. In all other fields, they have much less say.

The analyses in Table 3 and 4 show that our three main definitions of supervisors (ESS, British LFS, and modified ESeC proposal) differ substantially when it comes to the number of supervisors identified and when we look at the characteristics and the autonomy the supervisors have. The modified ESeC definition is a very strict definition, and we suspect that it might produce *false negatives*. One could argue that the best definition is somewhere in between the modified ESeC definition and the British LFS definition. The ESS question, however, is apparently too inclusive. It produces too many *false positives*, at least for Germany. The definition of supervisors, however, might affect the distribution of ESeC classes because supervisory status is seen as a special kind of employment relationship that results in a “higher” class position. It is this effect of the supervisory definitions on ESeC to which we will turn now.

### **c) *The impact of question wording on the distribution of ESeC Classes***

Given that the different questions identify clearly different proportions of supervisors, what is the impact on the construction of the ESeC classes? To examine this, four ESeC versions are constructed, using the Lisbon-Matrix (3 Digits) and each supervisor procedure in turn. Table 5 and figure 1 illustrate how the four different supervisor procedures lead to different sizes of the ESeC classes.

Table 5: ESeC classes based on different supervisor-questions

| ESeC class                | Random Split A |                                    |                                     | Random Split B     |
|---------------------------|----------------|------------------------------------|-------------------------------------|--------------------|
|                           | ESS<br>(A1)    | Formal Respon-<br>sibility<br>(A2) | Supervision as<br>main task<br>(A3) | German LFS<br>(B1) |
| 1. Higher Salarial Occ.   | 10.7           | 10.7                               | 10.7                                | 6.9                |
| 2. Lower Salarial Occ.    | 29.4           | 27.5                               | 23.9                                | 24.4               |
| 3. Intermediate Occ.      | 16.5           | 18.4                               | 22.0                                | 19.6               |
| 6. Lower Superv. & Techn. | 18.7           | 11.3                               | 4.9                                 | 11.8               |
| 7. Lower Service Occ.     | 8.0            | 9.5                                | 11.9                                | 15.4               |
| 8. Lower technical Occ.   | 7.0            | 9.5                                | 11.4                                | 10.8               |
| 9. Routine Occ.           | 9.8            | 13.2                               | 14.7                                | 11.1               |
| <i>N</i>                  | 327            | 327                                | 327                                 | 332                |

*Data-Source: Mannheim Study of Employment and the Family, 2006*

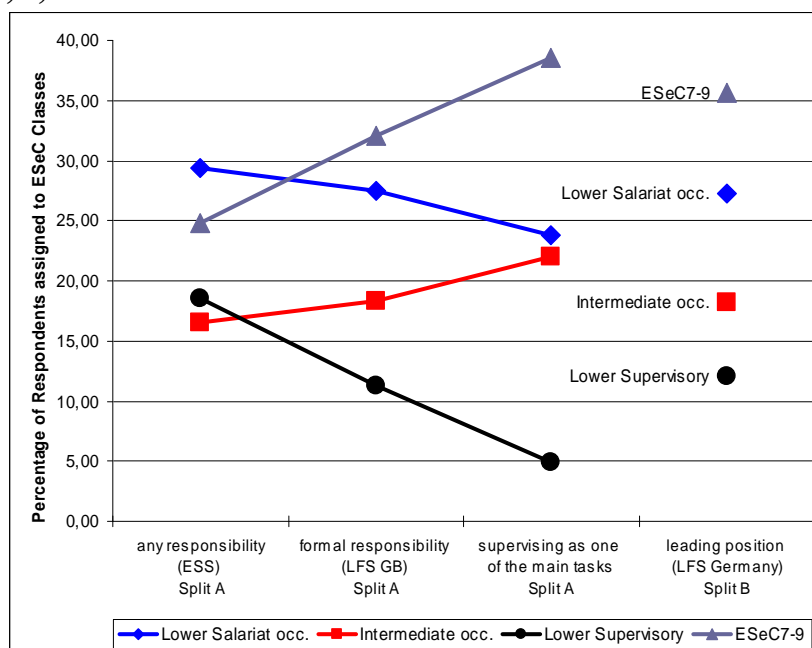
Class I, the higher salariat occupations, is by definition not affected by supervisory status, because coding into class I does not depend on having or not having supervisor status. We should note, however, that for all procedures to identify supervisors a part of those identified as supervisors will be coded class I, because class I members may indeed supervise other personnel, managers in particular, but also other class I occupations. As class I codes do not depend on supervisor status, the (remarkable) differences in Class I proportions between the different versions in split A (10.7 percent) and split B (6.8%) can only be caused by random sample differences.<sup>11</sup> But how does the assignment of respondents to the other six ESEC-Classes – considering only workers in dependent employment - change as the supervisor question varies.

The proportions of respondents assigned to both ESeC class 2 and ESeC class 6 decrease as the supervisor question is formulated in a more and more narrow way and therefore produces fewer supervisors. In split A, the proportion of ESeC 2 declines from 29% to 24% and the proportion of ESeC 6 declines from 19% to 5%. The German LFS version produces 24% ESeC 2 and 12% ESeC 6, and thus comes closest to the “formal responsibility” variant in Split A.

The varying supervisor questions affect much more the size of ESeC class 6 than that of ESeC class 2. This is likely due to the fact that being coded into class 2 is mainly a result of being employed in a specific occupation, whereas class 6 codes mainly derive from supervisory responsibilities.

<sup>11</sup> Because of that, ESEC-Class 1 is not illustrated in Figure 1.

**Figure 1: Impact of different supervisor questions on the proportions of ESEC classes 2, 3, 6, 7, 8 and 9**



Data-Source : Mannheim Study of Employment and the Family, 2006

In contrast, all other ESeC classes become larger when supervisors are defined more narrowly. Interestingly, the proportions of each class 3, 7, 8 and 9 increase at a similar rate (proportional to the size of each of these classes). In other words: When we move from a strict to a less strict operational definition of supervisors, a similar proportion of respondents coded in each of the classes 3,7,8 and 9 become supervisors<sup>12</sup>.

In conclusion: The wording of questions to identify supervisors thus influences to a non-negligible extent the proportion of workers identified as supervisors, and in consequence also the ESeC class distribution. In order to improve the distinctiveness of the ESeC classes, a question is needed, that identifies only those employees as supervisors who hold a clearly distinct position from other employees with the same job. Considering this, the ESS question might be too broad and might code too many employees as supervisors. In thinking about a theoretically appropriate operationalisation, it should be of particular interest which aspect of the supervisor position justifies shifting an employee to another class position.

Although our analysis is limited to the German case, we think that similar variation will exist in other countries as well. For comparative research at least two further complications can be expected: One may derive from different institutional arrangements of supervisory functions that are due to different national legislative norms, work organization and agreements among social partners; the second may be due to the multi-language nature of surveying in different countries and the difficulties to find functionally equivalent measurement procedures using different languages in different institutional settings. In the next two sections, we will turn to these issues and especially examine the ESS- and LFS-operationalisation of the supervisor status as presently implemented in the various countries who participate in these surveys. We are particularly interested in the comparability (both between the two surveys and between different countries) of the measurement procedures used.

12 According to a two-sample-comparison t-test (assuming equal variances) the group difference in ESEC Class 1 between the ESS and the German LFS Question is not statistically significant at the 0.05-level whereas in Class 6, this difference is statistically significant on that same level.

## 2 *Operationalisation of supervisor status in the ESS and LFS*

While in the previous section we were concerned with implications of different operationalisations of supervisor status on the ESeC classification, we now briefly review the practice of comparative measurement of supervisor status in two widely used large scale population surveys in Europe, the ESS and the LFS. Both surveys differ in many respects (such as subjects covered, methodology, sampling procedures and sample size), both explicitly aim to collect data with a high degree of comparability. But, to achieve comparative measurement, different strategies are pursued. The ESS strives to achieve comparability mainly through input harmonization using equivalent measurement procedures (Hoffmeyer-Zlotnik/Wolf 2003). The most important means to achieve this is to use identical survey instruments, that in the different countries ideally differ only in the language used. To realize this, a master questionnaire, written in a source language (English in the case of the ESS) is translated into other languages with the aim to attain for each question a semantically equivalent meaning.<sup>13</sup> The LFS philosophy is different. It follows the strategy of output-harmonization. Output harmonisation starts with an internationally agreed definition for variables (including the statistical units, categories and classifications) not questions and leaves it to each country how to implement the variables. In case of an ex-ante output harmonisation the international standard is already included in the measurement procedure. In case of an ex-post output harmonisation conversion procedures are used to adapt existing national statistics to the agreed international standard (Ehling 2003).

The evaluation of the comparability of the respective questions in the ESS and LFS questionnaires in different countries is not easy and the present exploration can only be a very first step. A major difficulty is, to understand exactly what has been measured by the questionnaires written in so many different languages. We had experts translating the supervisor-question from the different languages back to English. For both ESS and LFS the question asked in the national questionnaires together with back-translation into English are shown in Appendix A and Appendix B. These translations are perhaps not fully adequate in all cases. So we kindly ask for support and advice when the translations made or our understanding of it are not adequate. We think, however, that even at this initial examination, as rudimentary it may be, the results are clear enough to indicate that for both surveys further efforts should be made to improve the comparability of the measurement of supervisory status.

For examining the questions it will be useful to distinguish between-country and within-country-variation. Between-country-variation can occur even between countries sharing a common language when the question is asked differently in the different countries. Within-

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13 Concretely, the translation procedure implemented in the ESS follows the so called “Translation, Review, Adjudication, Pre-Testing and Documentation (TRAPD) -approach (ESS Tech. Report, 2004; p. 3) instead of other commonly used practices such as back-translation. In the first step, two professional translators translate independently the English version into their strongest language (normally their native language). In a review panel, then the two translators meet with a reviewer to discuss the translation. They are supposed to compare the two translations question by question and document the discussion. In the adjudication step an adjudicator who either sits in the review panel or compares both translations and the reviewer’s comments decides on that basis. Someone can be at the same time adjudicator and reviewer. Both the reviewer and the adjudicator have to be familiar with the aims of the survey, research methodology and need to be fluent in both languages. If no one can fulfil all this, review and adjudication can be done by a team. When countries “share” languages, they are encouraged to cooperate<sup>13</sup> and to “avoid unnecessary differences in translation” (ESS Tech. Report 2004; p. 8). On the other hand, there is no explicit insistence to “use the same wordings throughout” (ESS Tech. Report, 2004; p.8)”. In countries with multiple languages, after the review-process in each language, there has to be one adjudicator to harmonize the questions asked in the country.

country-variation can occur when a country implements the questionnaire in more than one language.

*a) Supervisor status as measured in the ESS*

To collect information about supervisor status, the English “Source Language Questionnaire” formulates: “In your *main job*, do/did you have *any responsibility* for *supervising* the work of other *employees*?” (our italics)

In the ESS-protocol the crucial aim is semantically equivalent translation. We therefore mainly focus on this aspect. In the first section of the paper we have already observed that the ESS question represents a rather extensive understanding of supervisory status. In comparing different translations of the source question, particular attention should be paid to the italicized terms because they refer to essential elements in the ESS understanding. A different articulation of these elements in the translation may affect the respondents’ understanding of the question and their response to it. Now, how do the translations represent the different elements?

Almost all translations directly refer directly to the respondents’ main job. “Responsibility” and “supervising”, on the other hand, appear to be conceptualized with different connotations in different translations. In many instances, for example, the reference to the extensive qualifier “any responsibility” is lacking. Supervision sometimes receives the connotation of “leadership” or “management”. Another important distinction is whether supervisory responsibility refers to other “employees” or – much broader – to other “people” or “persons”. A teacher, for example, might not necessarily be supervising other *employees* (as intended in the concept of supervisor status), when he or she affirms responsibility for the supervision of other *persons* (e.g. students); and a jailor might supervise prisoners but not necessarily other employees.

To take a somewhat more systematic approach, we classify the diverse translations in three groups, “Close to English wording”, “At most one element clearly different from English wording” and “More than one element clearly different from English wording”. Results are summarized in table 6.

Table 6: Wording of the ESS supervisor question compared to the English master question

| Close to English Wording | At most one element clearly different from English wording | More than one element clearly different from English wording *) |
|--------------------------|--|---|
| Austria (German)         |  |   |
| Switzerland (German)     |  |   |
| Switzerland (French)     |  |   |
| Switzerland (Italian)    |  |   |
| Luxembourg (French)      |  |   |
| Spain (Castilian)        |  |   |
| Spain (Catalan)          |  |   |
| Portugal (Portuguese)    |  |   |
| Greek (Greece)           |  |   |
| Norway (Norwegian)       |  |   |
| Denmark (Danish)         |  |   |
| Israel (Hebrew)          |  |   |
| Israel (Arabian)         |  | Israel (Russian)  |
| Belgium (French)         | Belgium (Flemish)  |   |
|                          | Netherlands (Dutch)  |   |
|                          | Germany (German)   |   |
|                          | Finland (Finnish)  |   |
|                          | Finland (Swedish)  |   |
|                          | Iceland (Icelandic)  |   |
|                          | Hungary (Hungarian)  |   |
|                          | Italy (Italian)  |   |
|                          | Ukraine (Russian)  |   |
|                          | Ukraine (Ukrainian)  |   |
|                          | Slovakia (Hungarian)                                       |   |
|                          |  | Estonia (Russian)   |
|                          |  | Sweden (Swedish)  |
|                          |  | Poland (Polish)   |
|                          |  | France (French)   |
|                          |  | Estonia (Estonian)  |
|                          |  | Czech Republic (Czech)  |

\*) Cases are coded into this category as well if only one element is clearly different and if this leads to deviation from the English master question, for example asking for people or persons instead of employees

Evidently, there is some uncertainty about the placement of given translations into the three groups. Even though we are liberal in the understanding of what is “close to the English wording”, in quite a number of cases the translations are not “close” to the meaning of the question in the master questionnaire.<sup>14</sup> We cannot discuss each single case. Rather we select a few exemplary cases, in which we mainly focus on different national translations into an “identical” target language.

For the ESS, the supervisor-question has been translated into three different German versions for Switzerland, Austria and Germany. French versions exist for Switzerland, France, Bel-

14 Translations that we consider as far from the English source include e.g. the Swedish version, - which does not refer to the main job and asks for leadership function in work rather than supervisor responsibility – or the Polish version – which uses the wording “oversee the work of other people”, and thus can mean quite different things than “supervising other employees”. Examples of smaller deviations in the middle category are the Hungarian version – which only asks whether the respondent has any subordinates, but it does not refer to the responsibility of supervision – or the Icelandic version, which asks for overseeing rather than supervising the work of other employees. If the Icelandic wording really means “to oversee” this is likely to have broader connotations than “to supervise”.

gium and Luxemburg. Both of these country groups are good examples to illustrate how differently the same source question can be translated into a largely identical language (table 7) – even within a culturally quite homogeneous area. Among the German translations, the one used in Germany appears to be problematic. It contains one clearly different element: Instead of referring to supervisory *responsibility*, it refers to supervisory *tasks*. Asking for supervisory tasks emphasizes less the formal aspect of supervision than asking for responsibility. The German question can therefore provoke more false positives than the English source. The Swiss and the Austrian translations both come close to the English wording, though in a different way. The Austrian translation is almost literal, but clumsy and does hardly correspond to all-day language use. The Swiss version is better in this latter respect, but the “any”-element of the source question is missing.

In the French versions, Belgium and Switzerland used exactly the same wording of the supervisor-question. All key-terms – main job, supervise / supervision, employees and responsibility – are included. But “any” before “responsibility” is replaced by a definite article. We consider this version and the translation used in Luxemburg therefore as close to the English master question. The translation used in France can have more general connotations: “Encadrer” may be understood as supervising, but it can also have the meaning of “taking care of someone”. Especially, as the question refers to other persons and not to other employees, it may not be understood as supervision in the intended sense.

*Table 7: The wording of German and French ESS supervisor questions in different countries*

| <b>Country</b>          | <b>German</b>  | <b>English</b>   |
|-------------------------|--|--|
| Austria                 | Haben/Hatten Sie in Ihrer Hauptbeschäftigung irgendwelche Verantwortung in der Aufsicht über die Arbeit anderer Beschäftigter? | Do/Did you have in your main job any responsibility of supervision over the work of other employees? |
| Switzerland             | Sind/waren Sie in Ihrem Hauptberuf für die Beaufsichtigung von anderen Mitarbeitenden verantwortlich ?                         | Are you in your main job responsible for the supervision of other employees?                         |
| Germany                 | Gehört/gehörte es in Ihrem Hauptberuf zu Ihren Aufgaben, die Arbeit anderer Mitarbeiter zu beaufsichtigen?                     | In your main job, does/did it belong to your tasks to supervise the work of other employees?         |
|                         | <b>French</b>  | <b>English</b>   |
| Belgium and Switzerland | Dans votre emploi principal, av(i)ez-vous la responsabilité de superviser le travail d'autres employés ?                       | In your main job, do you have the responsibility to supervise the work of other employees?           |
| France                  | Dans votre travaille principale, av(i)ez-vous la responsabilité d'encadrer d'autres personnes ?                                | In your main job, do you have the responsibility to supervise other persons?                         |
| Luxembourg              | Dans votre travail principal, avez/aviez-vous des responsabilités de supervision du travail d'autres employés ?                | In your main job/work, do you have responsibilities to supervise the work of other employees?        |

Substantial differences in question meaning may also result when within a country different languages are used<sup>15</sup>. Take Israel as an example: Whereas the Hebrew and Arabian translation refer to “responsibility of supervision” respectively “supervisory responsibility”, the Russian language version - “Are you responsible for the work of other colleagues (or co-workers) at your main working place?” means clearly something rather different. Another example is Belgium: While the French version is close to the English source, the Flemish version does not refer to the main job, and besides “supervision” it also mentions “give leadership”.

Even though the ESS-project has made big efforts to achieve equivalent translations with its TRAPD-procedure, the resulting instruments to measure supervisory status still appear to vary quite a bit in the questionnaire versions of different countries. The different instruments then are likely to lead to measures of supervisory status that are not fully comparable between different countries.

### ***b) The supervisory question in the European Labour Force Surveys***

As shown above in academic surveys like the ESS the preferred strategy to attain international comparability is mostly based on input harmonisation. Starting from internationally agreed standards all participating countries use harmonised methods (e.g. the same wording of questions and answering categories as well as sequence of questions) in implementing the standards. As a rule country specific differences should be restricted to the language used for the questionnaire. Thus while in the ESS there is master question regarding the ‘supervisory status’ of employees, which can be used to look for variations between countries, such a master question doesn’t exist with respect to the Labour Force Surveys (LFS). As a starting point we therefore use the explanatory notes given in the Draft Commission Regulation (Doc. Eurostat/D0/04/DSS/8/2/EN-rev) regarding the implementation of the variable ‘supervisor responsibilities’ in the LFS. While the codification (name, column, periodicity, code, description, filter)<sup>16</sup> of the variable is binding to the NSIs when transmitting the data to Eurostat, the explanatory notes are only recommendations and do not have legal status. Nevertheless these recommendations and their application are essential for obtaining comparable data at the European level and therefore can be used as a baseline to compare the supervisor questions between specific countries.

According to the explanatory notes “a person with supervisory responsibilities takes charge of the work, directs the work and sees that it is satisfactorily carried out” (Draft Commission 2004: 33). In this sense supervisory responsibility includes

- “*formal responsibility* for supervising other employees<sup>17</sup> (*other than apprentices*), whom they supervise directly,
- sometimes doing some of the work they supervise”.

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15 It should be taken into consideration that Israel needs three language versions, and can share none of these with another ESS-country. To reduce somewhat the burden of questionnaire translation with all the TRAPD-rules (see note 14), Israel was allowed a somewhat less strict translation procedure (ESS Tech. Report., 2004: 9).

16 For details see: Commission Regulation (EC) No 430/2005.

17 In this sense the function not the job title defines supervisory responsibilities. A ‘playground supervisor’, for example, supervises children but not employees and therefore is not considered to have supervisor responsibilities. Also a ‘store manager’ could be only a storekeeper and not a supervisor of employees (Draft Commission 2004: 33).



Supervisory responsibilities does not include

- “quality control (...) and consultancy”

Furthermore the supervisory responsibilities refer to the *main job*. Persons, who are having supervisory responsibilities only on a temporary basis, because they are replacing another person absent, should not be considered as supervisors. In case the supervisory responsibility is only part of a person’s job or is shared with others, the person should nevertheless be considered as having supervisory responsibility. Persons are considered to have supervisor responsibilities if they supervise the work of at least one other employee.

In the next step we were interested whether specific key terms mentioned in the explanatory notes are included in the wording of the LFS supervisor questions. By comparing different questions, the focus is on the terms ‘*formal responsibility*’, ‘*other than apprentices*’, ‘*main job*’ and ‘*regular basis*’. The country specific questions and their English translation are documented Appendix 2. To begin with, none of the LFS questions explicitly include all four key terms, and only a few refer to at least one key term. Most likely the questions refer to the criteria ‘*formal responsibility*’; the other criteria are each mentioned only once. The summarized results are listed in table 8. The missing reference to the ‘*main job*’ might simply be explained by a preliminary filter set in the questionnaires, that is, the supervisor question in fact only refers to the respondent’s main job. In case of the other criteria ‘*formal responsibility*’, ‘*other than apprentices*’ and ‘*regular basis*’ we do not know, whether the missing reference in the question actually means that these criteria are not considered or whether further explanations concerning the supervisor question are to be found in the LFS interviewer manuals.<sup>18</sup> However, even if there are further explanatory notes in the manuals, the international comparability of the data would gain a lot, if the important key terms are explicitly included in the questions.

*Table 8: The extent to which the wording of the ,supervisor question’\* in the European Labour Force Surveys\*\* meet the criteria mentioned in the explanatory notes*

| LFS supervisor question mentions... |                          |
|-------------------------------------|--------------------------|
| ...at least one of the key terms    | ...none of the key terms |
| Cyprus                              | Austria                  |
| Czechia                             | Belgium                  |
| France                              | Denmark                  |
| Germany                             | Greek                    |
| Ireland                             | Hungary                  |
| Suisse                              | Italy                    |
| UK                                  | Luxembourg               |
|                                     | Norway                   |
|                                     | Slovenia                 |
|                                     | Spain                    |
|                                     | Sweden                   |

\* Inclusive additional notes in the questionnaire, as far as we know them

\*\* The list is incomplete. Neither did we contact all NSIs, nor did all NSIs contacted, reply.

<sup>18</sup> In Austria, for example, the LFS interviewer manual points out, that supervising of apprentices should not be considered as supervisor responsibilities.

Like in the ESS, it seems that the conceptualization of ‘supervisory responsibilities’ in the LFS comes along with different connotations in different languages or countries. Provided that our English translations of the questions are adequate,<sup>19</sup> in some countries the supervisory concept is operationalized by just asking the respondents whether they supervise the work of other employees. In other countries the respondents are asked whether they supervise other employees, which might not necessarily bear the same meaning, but very likely will not be mistaken by the respondents. A more striking contrast, which could influence the comparability of the data, is that in some countries the respondents are asked whether they are (supervising or) *coordinating* the work of other employees. Coordination could include supervising, but doesn’t have to. A secretary, for example, typically coordinates the work of other employees (meetings, correspondence, business trips etc.), but as a rule she is not supervising employees in the sense of the supervisory concept. Therefore asking not only for ‘supervising’ but also for ‘coordinating’ seems to widen the scope of the supervisory concept too much. A similar problem arises, when – as it is true for many LFS supervisor questions - the respondents are asked whether they are (supervising and/or) *managing* the work of other employees. We might be wrong, but according to our understanding ‘managing’ refers to the executive personnel and therefore is a much narrower concept than ‘supervising’, which rather refers to foremen functions.

Among the LFS questions we looked at, the most deviating concept of supervisory responsibilities is found in the German and the Austrian LFS. The respondents are either asked whether they have a leading function (Austria) or a leading position (Germany) (see table 9). This concentration on a leading or managerial function (or even worse: ‘position’) seems to us a quite exclusive concept, because it refers mainly to executive personnel. It can therefore be assumed, that the share of respondents who will answer ‘yes’ very likely will be quite small, at least a lot smaller than in case of a ‘supervisory/coordinating’ or ‘supervisory/managing’ question. One might wonder why Germany and Austria deviate to such an extent from other countries. A quite simple explanation can be found in the Official Journal of the European Union (L71/41; 17.3.2005) in which the codification of the LFS supervisor question (not the wording of the question) is specified. Thereafter the official EU translation of ‘supervisor responsibilities’ is ‘Leitungsfunktionen’<sup>20</sup>. This seems a rather bewildering translation, given the explanatory notes to the supervisory concept described above. Moreover, like the reference to ‘coordinating’ or ‘managing’ in some LFS questions, this translation indicates that there is some uncertainty, what precisely should be measured by the supervisory concept.

To what extent the conceptualisation of the supervisor status varies even when the same language is used, is illustrated in table 9 for Austria, Germany, Switzerland and Belgium, all of which have a German version of the LFS questionnaire. While the Austrian and German questions as just described exclusively refer to a leading function (or position), the Belgian question refer to supervising and coordinating responsibilities. In contrast, in the Suisse questionnaire the respondents are simply asked how many persons were responsible to them. In terms of the explanatory notes all questions are imperfect. Nevertheless, while the Austrian and German supervisor questions are much too exclusive and the Belgium question seems much too broad, the Suisse version in our understanding is the most adequate implementation of the supervisory concept. It not only asks for the number of subordinates, but by using the term ‘*unterstellt*’ it also implies a formal responsibility, thus making sure, that the respondent doesn’t mistake ‘coordination’ for ‘supervising’.<sup>21</sup>

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19 The questions and translations are listed in Appendix A. In case our understanding of a question is not adequate, any comments are welcome.

20 Which backwards would be rather translated as leading or managerial functions.

21 Another term with a similar meaning would be ‘weisungsbefugt’ (‘authorized to issue directives’).

**Table 9: German LFS-Questions**

| Country     | German   | English   |
|-------------|--|---|
| Austria     | Haben Sie in Ihrer Tätigkeit Leitungsfunktion? (Das kann auch in weniger qualifizierten Berufen der Fall sein) | Do you have leading [managerial] function in your job? (This could also be the case in less qualified jobs)   |
| Germany     | Sind Sie in Ihrer (Haupt-) Erwerbstätigkeit in einer leitenden Position tätig?                                 | In your (main) job, are you in a leading [managerial] position?   |
| Switzerland | Wieviele Personen sind Ihnen direkt oder indirekt insgesamt unterstellt?                                       | How many persons are altogether directly or indirectly responsible to you?                                    |
| Belgium     | Trägt F/H Verantwortung, d.h. hat F/H die Aufsicht bzw. die Koordination über die Arbeit anderer Arbeitnehmer  | Does she/he have responsibility that is supervising and coordinates respectively the work of other employees. |

If we had a closer look to the English or French language versions (see Appendix) we also would find some important variations. Even if they are not as crucial as in the German versions, slightly differences in the meaning of questions, might influence the share of ‘supervisors’, as has been shown by the Mannheim Study. Insofar as the purpose of the implementation ‘supervisory status’ in the LFS is not only to separate ‘supervisors’ from ‘other workers’ but also to monitor ‘gender equality’, ‘equal opportunities’ as well as it might be used as an indicator of ‘career progression’ (Bundesrat 2003; Eurostat 2005), it seems adequate to re-think the supervisory concept.

### 3 Discussion

Supervisor status is an important element to construct the ESeC classification. This paper explores several open issues in the measurement of supervisor status in comparative research. Even though the analyses that we can provide in this paper are exploratory and rudimentary, they lead to several observations to be taken into consideration for further improvement in the measurement of supervisor status.

1. Different existing ways to conceptualize and operationalize supervisor status lead to clearly different proportions of the employees identified as supervisors. The groups identified as supervisors by the different, more or less strict delimitations, clearly differ in their supervisory responsibilities. In turn this also leads to clearly different distributions for the ESeC classes. It is thus important that both an explicit definition of supervisor status and well defined measurement procedures are elaborated and used in data collection.

2. So far, measures of supervisor status in different large scale surveys in Europe such as the ESS and the LFS are based on different conceptions of supervisor status. In the ESS supervisor status is operationalized rather extensively. By referring to “any responsibility of supervision” it is likely to identify workers as supervisors even if their supervisory functions constitute only marginal elements of their job profile, that hardly make a difference to common employees. The LFS requires formal responsibility for supervising other employees. If we can trust the findings of our pilot study for Germany to be more generally indicative of work and job organisation under modern organisational contexts, then formally having supervisory

functions does represent a stricter definition of supervisory status than the ESS-concept. On the other side, under the LFS definition employees are considered supervisors if they supervise at least one other employee. The LFS may thus also identify supervisors with very limited supervisory functions. In contrast, the ESeC notion that supervisors “are responsible as their main task for supervising the work of other employees” (Harrison/Rose 2006:11) may be too exclusive a requirement. Supervisors often have a rather complex task profile. It might thus be more adequate to only require, that supervising the work of other employees is part of (or among) the main tasks of an employee. Even with this latter requirement the proportion of supervisors declined rather strongly in the German pilot study.

Whatever solution will be found to this issue, it would be highly useful if a standard could be developed and this standard applied in an uniform ways in future surveys, be they carried out by social sciences researchers or by NSIs.

3. Another source of heterogeneity in particular in cross-national comparative research derives from incompatible implementations of agreed concepts in different countries. As our explorations on this issue show, the problem occurs with both input- and output-harmonization strategies. One reason for this to occur may be that in the implementation stage not enough attention is given to scrutinize all different national and language versions of a questionnaire in order to bring to light such inconsistencies. If they can be found post festum – when they data are already collected – it must be possible to find them also before the survey is fielded. One way to reduce the problem would involve meetings of expert groups who critically cheque instrument by instrument and pursue this task with a view on all countries or at least large groups of countries taken together. This is certainly rather tedious, but inconsistencies are most likely to come to light if different implementations are compared.

4. Even though we do not have yet a perfect solution for all issues, this does not invalidate the efforts made on the way to develop ESeC. Progress is a process in steps. It is already a important step to see more clearly where additional work is needed. The comparative measurement of supervisory status could certainly be improved with experiments similar to those described in the first section of the paper, but with larger samples and in a larger set of countries. Even without such experiments the formulation of the questions to measure supervisor status should be revised to become more consistent with the intended concepts, at any rate in some of the countries.

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## Appendix A

### ESS and LFS Superviso Questions and their translation into English

#### The ESS Supervisor-Question

##### Germanic Languages

###### English source questionnaire

In your main job, do/did you have any responsibility for supervising the work of other employees?

###### Danish

|                | Danish  | English   |
|----------------|---|---|
| <b>Denmark</b> | Har/havde du ansvar for at føre tilsyn med andre medarbejderes arbejde i dit primære job? | In your main job, do you have any responsibility for leading/supervising other employees? |

###### Dutch/Flemish

|                                | Dutch   | English   |
|--------------------------------|---|---|
| <b>Belgium and Netherlands</b> | Heeft u enige verantwoordelijkheid (gehad) om leiding te geven of toezicht te houden op het werk van andere werknemers? | Are you responsible for the supervision or (leiding) of other employees<br><br>OR: Do you have any responsibility “to give leadership” or to hold supervision on the work of other employees? |

###### German

|                    | German  | English  |
|--------------------|---|--|
| <b>Austria</b>     | Haben/Hatten Sie in Ihrer Hauptbeschäftigung irgendwelche Verantwortung in der Aufsicht über die Arbeit anderer Beschäftigter | Do/Did you have in your main job any responsibility of supervision over the work of other employees? |
| <b>Germany</b>     | Gehört/gehörte es in Ihrem Hauptberuf zu Ihren Aufgaben, die Arbeit anderer Mitarbeiter zu beaufsichtigen?                    | In your main job, does/did it belong to your tasks to supervise the work of other employees?         |
| <b>Switzerland</b> | Sind/waren Sie in Ihrem Hauptberuf für die Beaufsichtigung von anderen Mitarbeitenden verantwortlich ?                        | Are you in your main job responsible for the supervision of other employees?                         |

###### Icelandic

|                | Icelandic   | English  |
|----------------|---|--|
| <b>Iceland</b> | Þarft/þurftir þú, í aðalstarfi þínu, að hafa umsjón <sup>49</sup> með vinnu annars starfsfólks? | Do you/Did you, in your main job, oversee the work of other employees? |

## Norwegian

|        | Norwegian   | English   |
|--------|---|---|
| Norway | Har/hadde du noe ansvar for å lede andre ansattes arbeidshovedjobben din? | In your main job, do you have any responsibility for the (supervision/leadership) of other employees? |

## Swedish

|         | Swedish  | English  |
|---------|--|--|
| Finland | Har/Hade Ni underordnade eller hörde det till Era uppgifter att leda andras arbete i Er huvudsyssla? | In your main job, does it belong to your tasks to supervise other employees or do you have subordinates? |
| Sweden  | <TEXT 'Har' OM ARB>0>> <<TEXT 'Hade' OM ARB=0>> du någon arbetsledande funktion?                     | Do you have in your job any leading / supervising responsibilities?                                      |

## Romanic Languages

### French

|                         | French  | English   |
|-------------------------|---|---|
| Belgium and Switzerland | Dans votre emploi principal, av(i)ez-vous la responsabilité de superviser le travail d'autres employés ?        | In your main job, do you have the responsibility to supervise the work of other employees?    |
| France                  | Dans votre emploi principal, av(i)ez-vous la responsabilité d'encadrer d'autres personnes ?                     | In your main job, do you have the responsibility to supervise the work of other persons ?     |
| Luxembourg              | Dans votre travail principal, avez/aviez-vous des responsabilités de supervision du travail d'autres employés ? | In your main job/work, do you have responsibilities to supervise the work of other employees? |

### Italian

|             | Italian  | English  |
|-------------|--|--|
| Italy       | Nella Sua attività principale, Lei ha/aveva la supervisione o la responsabilità diretta sul lavoro di altre persone? | In your main job, do you have a supervisory function or the direct responsibility for the work of other persons? |
| Switzerland | Nel suo lavoro principale ha/ha avuto un incarico di supervisione del lavoro di altri impiegati ?                    | In your main job, do you have a responsibility to supervise the work of other employees?                         |

## Portuguese

|                 | Portuguese  | English  |
|-----------------|---|--|
| <b>Portugal</b> | No seu trabalho principal tem/teve alguma responsabilidade de supervisão do trabalho de outras pessoas? | In your main job, do you have any responsibility of supervising the work of other persons? |

## Spanish: Castilian

|              | Castilian  | English   |
|--------------|--|---|
| <b>Spain</b> | En su trabajo principal ¿Es/Era Ud. Responsable de supervisar el trabajo de otros empleados? | In your main job, are you responsible to supervise the work of other employees? |

## Spanish: Catalan

|              | Catalan  | English   |
|--------------|--|---|
| <b>Spain</b> | En la seva feina principal, és/era vostè responsable de supervisar el treball d'altres empleats? | In your main job, are you responsible to supervise the work of other employees? |

## SLAVONIC LANGUAGES

### Czech

|                       | Czech  | English  |
|-----------------------|--|--|
| <b>Czech Republic</b> | Máte /měl(a) jste ve své hlavní pracovní činnosti zodpovědnost za vedení jiných zaměstnanců? | In your main job, do you have any responsibility for leading other people? |

### Polish

|               | Polish   | English   |
|---------------|--|---|
| <b>Poland</b> | Czy w swoim głównym miejscu pracy kieruje/kierował/a P. pracą innych osób? | Do /Did you <u>oversee</u> the work of other people at your main working place? |



## Russian

|         | Russian  | English  |
|---------|--|--|
| Israel  | На Вашем основном месте работы являетесь\являлись ли Вы ответственным за работу других сотрудников?              | Are you responsible for the work of other colleagues (or co-workers) at your main working place? |
| Ukraine | На Вашей основной работе, приходилось ли Вам руководить сотрудниками и отвечать за их работу?                    | At your main job did you use to supervise your co-workers or to be responsible for their work?   |
| Estonia | На Вашем основном месте работы, есть\были ли Вы ответственны за руководств или надсмотр за работой других людей? | In your main job, are you responsible for managing or supervising the work of other people?      |

## Slovakian

|           | Slovakia  | English |
|-----------|---|---------|
| Slovakian | Vo vašej hlavnej práci máte/mali ste nejakú zodpovednosť za riadenie a dozor nad prácou iných zamestnancov? |         |

## Slovenian

|          | Slovenian  | English |
|----------|--|---------|
| Slovenia | Ali pri svojem delu tudi nadzorujete delo drugih zaposlenih, oziroma ste zanj odgovorni? |         |

## Ukrainian

|         | Ukrainian   | English   |
|---------|---|---|
| Ukraine | На Вашій основній роботі, чи доводилося Вам керувати співробітниками та відповідати за їх роботу? | At your main job do you use to supervise your co-workers or to be responsible for their work? |

## FINNO-UGRISTIC LANGUAGES

### Estonian

|         | Estonian  | English  |
|---------|---|--|
| Estonia | Kas Te olete / olite oma põhitöökohal vastutav teiste töötajate töö juhendamise või järelevalve eest? | In your main job, are you responsible for advising or supervising the work of other employees? |

### Finnish

|         | Finnish  | English   |
|---------|--|---|
| Finland | Onko / oliko teillä päätyössänne alaisia tai kuuluiko tehtäviinne ohjata muiden tekemää työtä? | Do you have employees (subordinates) in your position at work or does your work include supervising others? |

## Hungarian

|                 | Hungarian  | English  |
|-----------------|--|--|
| <b>Hungary</b>  | Vannak-e / voltak-e Önnek beosztottjai a főállásában?                        | In your main job, do you have / did you have any subordinates?                         |
| <b>Slovakia</b> | Állásában vezetnie és felügyelnie kell (kellett) más alkalmazottak munkáját? | In your job, do you have to lead/supervise and/or control the work of other employees? |

## Other Languages:

### Arabic

|               | Arabic  | English  |
|---------------|---|--|
| <b>Israel</b> | نمض ني رخوا لامع قبق ارم تاي لووسم كيدي دل تن اأ له كلكم؟ | In your job, do you have supervisory responsibility? |

### Greek

|               | Greek   | English  |
|---------------|---|--|
| <b>Greece</b> | Στην κύρια απασχόλησή σας, έχετε (είχατε) κάποια υπευθυνότητα να επιβλέπετε τη δουλειά άλλων υπαλλήλων; | In your main job, do you have the responsibility to supervise the work of other employees? |

### Hebrew

|               | Hebrew   | English  |
|---------------|--|--|
| <b>Israel</b> | תוירחא דל התיה/דל שי מאה, דלש תירקיעה הדובעב מירחא מידבוע לע חקפל? | At your main job are you responsible for the supervision of other workers? |

## Appendix B

### The LFS Supervisor-Question

#### Germanic Languages

##### Danish

|         | Danish  | English                                    |
|---------|---|--|
| Denmark | Har De personaleledelse som en af Deres arbejdsopgaver? | Is personnel management one of your tasks? |

##### English

|         | Englisch   |  |
|---------|--|--|
| Belgium | Do you have a responsible job, in other words, do you supervise other personnel ?  |  |
| Ireland | Do you supervise the work of other people on a regular basis?<br>Note: This does not include people who monitor quality control only or persons who only supervise on a temporary basis. |  |
| UK      | In your job, do you have formal responsibility for supervising the work of other employees?  |  |
| Sweden  | Do your tasks include managing and supervising the work of other employees?  |  |

##### Flemish

|         | Flemish   | English  |
|---------|---|--|
| Belgium | Draagt M_ verantwoordelijkheid in die zin dat M_ belast is met supervisie of de leiding van ander personeel | Does M. bear responsibility in the sense that M. is entrusted with the supervision or management of other employees. |

##### German

|             | German   | English   |
|-------------|--|---|
| Austria     | Haben Sie in Ihrer Tätigkeit Leitungsfunktion? (Das kann auch in weniger qualifizierten Berufen der Fall sein) | Do you have leading [managerial] function in your job? (This could also be the case in less qualified jobs) |
| Germany     | Sind Sie in Ihrer (Haupt-)Erwerbstätigkeit in einer leitenden Position tätig?                                  | In your (main) job, are you in a leading [managerial] position?   |
| Switzerland | Wieviele Personen sind Ihnen direkt oder indirekt insgesamt unterstellt?                                       | How many persons are altogether directly or indirectly responsible to you?                                  |
| Belgium     | Trägt F/H Verantwortung, d.h. hat F/H die Aufsicht bzw. die Koordination über die Arbeit anderer Arbeitnehmer  | Does she/he has responsibility, that is supervise or coordinate the work of other employees.                |

##### Swedish

|        | Swedish  | English   |
|--------|--|---|
| Sweden | Ingår det i dina arbetsuppgifter att leda och ha tillsyn över andra anställdas arbete? | Do your tasks include monitoring and supervising the work of other employees? |

## Romanic Languages

### French

|                    | French   | English   |
|--------------------|--|---|
| <b>Belgium</b>     | M _ a-il / elle des responsabilités en matière de supervision ou d'encadrement de personnel ?  | Does she/he have responsibilities in matters of supervision or management of employees?   |
| <b>France</b>      | Avez-vous un ou plusieurs salariés sous vos ordres ou votre autorité ?<br><br>Si OUI, l'augmentation des salaires, les primes ou la promotion de ces salariés dependent-elles étroitement de vous ?    | Do you have one or more employees responsible to you or under your responsibility?<br><br>If YES, do salary increases, bonus payment or promotion of these employees closely depend on you? |
| <b>Luxembourg</b>  | La personne exerce-t-elle une responsabilité d'encadrement ou de supervision? (concerne uniquement les salariés)   | Does the person have management or supervisory responsibilities ?   |
| <b>Switzerland</b> | Combien de personnes en TOUT avez-vous sous vos ordres, directement et indirectement ?<br><br>Faites-vous partie de la direction de l'entreprise ou occupez-vous un poste à responsabilité similaire ? | How many persons are ALTOGETHER directly or indirectly responsible to you?<br><br>Are you a member of the management body or do you have a position with similar responsibility?            |

### Italian

|              | Italian   | English  |
|--------------|---|--|
| <b>Italy</b> | "NOME" ha l'incarico di coordinare il lavoro svolto da altre persone? | "Name of Interviewed" are you in charge of coordinating the work of other employees? |

### Spanish (Castilian)

|              | Spanish  | English  |
|--------------|--|--|
| <b>Spain</b> | Qué tipo de puesto de trabajo tiene? Opciones:<br>-Empleado (con jefes y sin subordinados)<br>-Encargado, jefe de taller o de oficina, capataz o similar<br>-Mando intermedio<br>-Director de pequeña empresa, departamento o sucursal<br>-Director de empresa grande o media<br>-Ocupado independiente (sin jefes y sin subordinados) | What kind of job do you have? Options:<br>-Employee (with boss and without subordinates)<br>-Person in charge, workshop or office manager, foreman or similar<br>-Middle management<br>-Manager of a small enterprise, department or branch<br>-Manager of medium or big enterprise<br>-Self-employed (without bosses or subordinates) |

## Slavonic Languages

### Czech

|                       | <b>Czech</b>                     | <b>English</b> (Translation by Czech NSI) |
|-----------------------|----------------------------------|---|
| <b>Czech Republik</b> | Má osoba v zaměstnání podřízené? | Does s/he have subordinate(s) in the job? |

### Slovenian

|                 | <b>Slovenian</b>                      | <b>English</b> (Translation by Slovenian NSI) |
|-----------------|---------------------------------------|---|
| <b>Slovenia</b> | Ali pri svojem delu vodite zaposlene? | Do you lead other employees?                  |

## Finno-Ugristic Languages

### Hungarian

|                | <b>Hungarian</b>   | <b>English</b>   |
|----------------|--|--|
| <b>Hungary</b> | Végez-e irányító tevékenységet (irányítja-e mások munkáját)? | Do you have supervisory responsibilities (do you supervise other persons job)? |

## Other Languages

### Greek

|               | <b>Greek</b>  | <b>English</b>   |
|---------------|---|--|
| <b>Cyprus</b> | Στα καθήκοντα της εργασίας σας περιλαμβάνεται και η εποπτεία/επίβλεψη άλλου/ων υπαλλήλου/ων; (Δεν αφορά άτομα υπεύθυνα για την εκπαίδευση μαθητευόμενων ή νέων υπαλλήλων) | Do you have responsibility for supervising other employees as one of your tasks? (responsibility for apprentices or newly hired employees should not be counted) |
| <b>Greek</b>  | ??  | Do you have you supervisory responsibilities?  |