

**HOW WORKING IS DEFINED:**

**Structure and Stability**

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## How Working is Defined: Structure and Stability

Summary. Multidimensional scaling of statements that identify when individuals consider an activity in which one is engaged to be working was conducted on representative samples of the employed labor forces in Belgium, Germany, Japan and the USA at the time period 1982-83 and again at the time period 1989-92. Representative labor force samples of the employed labor forces in East Germany, Bulgaria, the Czech Republic, Hungary, Poland, Slovakia and Beijing, China studied at the time period 1991-92 were subjected to the same MDS analysis. The results provide strong support that one dominant dimension underlying the way in which people define working ranges from individual cost to social contribution. Individuals who define working in burden and/or constraint terms emphasize costs to the individual. Individuals who define working largely in responsibility and exchange terms emphasize reciprocal exchange relations between the individual and the organization/society. Individuals who define working largely in social contribution terms emphasize the social benefits of working. The work definition structures found in each of the four countries with replication samples are quite stable over time. In total, the work definition responses of over 18,000 individuals were studied.

### Introduction

There is abundant evidence that the activity of working and the outcomes flowing from working are of major significance to individuals in industrial societies (Terkel, 1972; Dubin, Hedley and Taveggia 1976; MOW International Research Team, 1981; Yankelovich *et al.*, 1985; Hall, 1986; MOW International Research Team, 1987).

These studies conclude that working has general significance and importance to individuals "because it occupies a great deal of their time, because it generates economic and socio-psychological benefits and costs, and because it is so interrelated with other important life areas such as family, leisure, religion and community." (England and Harpaz, 1990, p. 253).

While this composite rationale for the significance of working seems clear, we still have not developed sufficient understanding about the underlying structure of the denotative characteristics which identify or signify when an activity in which one is engaged is considered to be working.

The present paper results from attempts to sharpen and clarify a previously articulated literature based classification of three major types of definitional concepts: 1) broad rationales or

reasons for doing or being engaged in working, 2) personal outcomes or states which result from performing or engaging in working activities, and 3) constraints or controls related to the context or performance of working activities (England and Harpaz, 1990, 256-258). Multidimensional scaling of interrelationships among categorical variables that identify when individuals consider an activity in which one is engaged to be working revealed only partial empirical support for the above literature based structure of work definitional statements. Initial results, however, led us to develop an ordered four category structure which included burden characteristics, constraining characteristics, responsibility and exchange characteristics, and social contribution characteristics.<sup>1</sup>

Thus, the present paper will utilize 15 representative samples of the employed labor forces in 11 nations to make inferences about the generality of work definition structures among nations as well as inferences about the stability (or instability) of work definition structures at different time periods for each of 4 nations where replication samples were studied six to nine years later than the original study. Particular emphasis will be placed on work definition structure similarities and differences among nations and across time periods for certain nations with secondary analyses among gender and age groups. Basically we are interested in (1) determining whether or not there is a common structure across nations in the ways in which individuals define the activity of working, (2) determining whether or not work definition structures generalize across time periods for specified nations, and (3) comparing the relative influence of national context and demographic context (gender and age) on work definition types.

### Background

The Meaning of Working International Research Project (the source of the present paper) was decentralized collective research where researchers from the participating countries jointly designed, developed and implemented the research, analyzed data and reported findings (Ruiz-

Quintanilla, 1994). The MOW Project represents cross-national research in the form of empirical/survey research which is cross-sectional in nature. A detailed presentation of the MOW Project in terms of its scope, purposes, developmental and pilot-testing procedures utilized, techniques used to improve questionnaire translations and achieve conceptual equivalence, attempts to minimize social desirability and response set problems and sampling design can be found in (MOW International Research Team, 1981, 1987). Here, it seems most important to note that the present paper utilizes data collected during several phases of the MOW project. Data collected in the time frame 1981-83 from national labor force samples in Belgium (Flanders), Germany (FRG), Japan and the USA are compared with similar data collected from the same labor forces in 1989/91 to indicate how well work definition structures in nations generalize over time. National labor force data collected in 1989/91 from Belgium (Flanders), Germany (FRG), Japan and the USA and national labor force data collected in 1991/92 from Bulgaria, Czech Republic, East Germany (former GDR), Hungary, Poland, Slovakia and Beijing, China are utilized to determine how well the ordered four-category work definition structure generalizes across eleven different nations. It must be noted that the Belgian samples represented only Flanders (the Dutch-speaking part of Belgium) and the Beijing, China sample was a stratified sample of the labor force in the Beijing region. In all samples, respondents were selected by various random methods (e.g., stepwise random selection according to random household identification, random choice among those who fell within prescribed categories, and random quota sampling). They were interviewed individually by professional interviewers from national opinion survey agencies or by other highly trained interviewers using a standardized questionnaire. The samples represent a cross section of individuals from different occupations, industries, services, jobs, gender and age distributions, educational levels, backgrounds and situational contexts as found in the employed labor forces of the participating countries at the time the data were collected. Comparisons of

sample data with census data show a high degree of representativeness in the samples<sup>2</sup> (MOW International Research Team, 1987; Wilpert and Maimer, 1993; Ruiz-Quintanilla 1992a, 1992b, 1992c, 1992d). Interviews generally ranged from 30 to 60 minutes in duration and covered a wide range of questions relevant to the meaning that working has for the individual. The data presented here were obtained from 18,673 respondents.<sup>3</sup>

### Work definition Measurement

England and Harpaz (1990) presented the literature based development of the MOW work definition measurement procedure and it is repeated here.

“The intent of the work definition measurement was to obtain a definition of working from those engaged in and experiencing working. While this seems simple on the surface, it is quite complex in practice. There are few empirical examples to follow and discussion about the topic is quite voluminous and highly variable in content, coverage and basic approach. We developed a work definition measurement procedure by reviewing the general conceptual and empirical literature on work definitions and work meanings in search of concepts and ideas which should be represented. Three major classes of concepts emerged from this review: (1) broad rationales or reasons for doing or being engaged in working, (2) personal outcomes or states which result from performing or engaging in working activities, and (3) constraints or controls related to the context or performance of working activities.

Within the category of *broad rationales or reasons* for working, many authors focus on working in terms of its economic rationale. Firth (1948) suggests that ‘income producing activity’ covers a general definitional use of the term work. Friedmann and Havighurst (1954) see one function of work as maintaining a minimum sustenance level of existence. Dubin (1958) says that by work we mean continuous employment in the production of goods and services for remuneration. Anderson (1961) defines work as an ‘activity of some purpose’ or, in more direct

terms, as time given to a job for which one is paid. Braude (1975) states that work may be viewed as that which a person does in order to survive; work is simply the way in which a person earns a living. Miller (1980) defines work as the various ways in which human beings attain their livelihoods. Other major rationales for working also are suggested. Friedmann and Havighurst (1954) and Donald and Havighurst (1959) note that one function of work is to serve or benefit society. The authors of *Work in America* (Special Task Force, 1973) define work as an activity that produces something of value for other people. Salz (1955) defines work as activity one does in the execution of a task or project.

*Personal outcomes or states* which result from engaging in working activity include a variety of notions. Weiss and Kahn (1960), in one of the few attempts to define work empirically, noted that one-fifth of the men interviewed in their samples defined work as an activity which requires physical or mental exertion. Warr (1981) also regards employment as providing outlets for physical and mental energy. Morse and Weiss (1955) identify a sense of belonging as a personal outcome of working; interviewees noting that working gives them a feeling of being tied into the larger society. Work is also seen as a source of identity and peer-group relations (Friedmann and Havighurst, 1954; Steers and Porter, 1975). Shimmin (1966) notes that one distinguishing feature of work is that it is not enjoyable. Support for this idea is also advanced by Weiss and Kahn (1960) by defining work as activity one performs but doesn't enjoy. Firth (1948), however, warns against representing work simply as something which people do not like doing.

Finally, other authors have identified a range of notions which are *constraints or controls* relating to the context or performance of work activities, Miller (1980) states that the context of meaning about work that has most occupied sociologists of work in this century is that of the workplace. Anderson (1961) identifies 'time given to a job' as important. Thus, both where

work takes place and when it takes place, are potential defining elements. Hearnshaw (1954), Weiss and Kahn (1960), and Friedman (1961) identify elements of obligation, control and restraint when defining work. Accountability, compulsion and being directed by others are suggested as potential defining elements of working.

It is easy to see why Firth (1948) concludes that any definition of working must to some extent be arbitrary. What does seem significant about the MOW project formulation of work definition measurement is that it attempts to include major conceptual elements identified in the literature, it relies on the views of those working, and it is done in a standardized manner in all countries based on pilot studies. The work definition item finally utilized in the MOW project which provides the basic data for the present paper is as follows: Not everyone means the same thing when they talk about working. When do you consider an activity as working? Choose four statements from the list below which best define when an activity is 'working'.

- a. If you do it in a working place.
- b. If someone tells you what to do.
- c. If it is physically strenuous.
- d. If it belongs to your task.
- e. If you do it to contribute to society.
- f. If by doing it, you get the feeling of belonging.
- g. If it is mentally strenuous.
- h. If you do it at a certain time (for instance from 8 until 5).
- i. If it adds value to something.
- j. If it not pleasant.
- k. If you get money for doing it.
- l. If you have to account for it.

m. If you have to do it.

n. If others profit by it.

The above item resulted from pilot studies on various versions of the item involving some 26 defining elements. The reason that respondents were asked to 'choose four statements' also comes from pilot study results. When respondents were asked to choose all of the statements that defined when an activity is working for them, 61 percent utilized either three or four statements. The four statement choice occurred nearly three times as frequently as the three statement choice. The other numbers of statements chosen ranged from 2-10 and none were utilized by more than 6 percent of the pilot groups. The benefits gained from utilization of a standardized four statement defining task for respondents seemed greater to us than the relatively small amount of information lost by the standardization. It also should be noted that the definition of working item occurred rather late in the questionnaire (about two-thirds of the way through) and that the preceding context implied but never directly stated that employment served as the general referent for working."

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pp. 255-256.

#### Proposed work definition structure

Review of the fourteen work definition statements (a-n) in terms of content categories and early multidimensional scaling efforts led us to classify the statements into four ordered categories as follows:

##### Burden

- b. if someone tells you what to do
- j. if it is not pleasant
- m. if you have to do it

##### Constraint

- a. if you do it in a working place
- c. if it is physically strenuous
- h. if you do it at a certain time (for instance from 8 until 5)



Responsibility and  
Exchange Rationale

- d. if it belongs to your task
- g. if it is mentally strenuous
- k. if you get money for doing it
- l. if you have to account for it

Social Contributions

- e. if you do it to contribute to society
- f. if, by doing it, you get the feeling of belonging
- i. if it adds value to something
- n. if others profit by it

This ordered categorization suggests that a dominant dimension underlying the way in which individuals define working ranges from individual cost to social contribution. Individuals who define working largely in burden and/or constraint terms emphasize costs to the individual. Individuals who define working largely in responsibility and exchange terms emphasize reciprocal exchange relations between the individual and the organization/society. Individuals who define working largely in social contribution terms emphasize the social benefits of working. It is the generality of this proposed structure of work definitions across nations and across time periods within nations that will be assessed in the present paper.

National responses on the work definition item

Table 1 shows the percentage of individuals by sample who chose each of the 14 statements as defining when an activity is working. Table 2 ranks the percentages within each country from high (1) to low (14) values. The data are displayed within the four ordered categories (burden characteristics, constraint characteristics, responsibility and exchange characteristics and social contribution characteristics). For a general picture of national differences and similarities it seems most useful to look at the last 11 columns in Table 1 and 2 which show work definition results for the 11 national samples having data collected in the most recent time frame (1989 to 1992). These data obviously reveal both similarities and differences between countries in how their labor

forces define working. As might be expected, getting money for doing an activity is the most frequently cited defining characteristic of working across the 11 countries. The percent who chose this item as defining working ranged from 53% to 78% and was the most frequently cited item in 7 countries, 2nd most frequently cited item in 3 countries and 3rd most frequently cited item in 1 country. The 2nd most frequently cited item was (if it belongs to your task). The percentage of citation across the 11 nations for this item ranged from 18% to 79% and was 50% or above in 6 of the 11 countries.

(Table 1 and 2 about here)

The least frequently cited item was (if it is not pleasant) with percentage frequencies ranging from 1 to 10 percent. This item was the least frequently cited item in 9 of the 11 countries and was chosen by 2% or less of the labor force members in 7 of the 11 countries. Working is clearly not defined by many individuals as an activity that is experienced as unpleasant.

Again looking at the last 11 columns in Table 1, it is clear that the greatest differences between countries in citation percentages occurs on responsibility and exchange items and on social contribution items (for example, if it belongs to your task ranges from 18 to 79 percentage citation while if you do it to contribute to society ranges from 16% to 71% citation).

Using the first 8 columns of Table 1 and 2, one can note the general changes in the way work is defined over a 6 to 9 year period for USA, Belgium, Germany (FRG) and Japan. Generally, the USA exhibits the greatest change between time 1 and time 2, with Belgium, Japan and Germany changing the least. The USA also changes most in a directional sense. There is a general increase in the USA in terms of defining working in terms of burden and constraint items and a decrease over time in defining working in social contribution terms.

### Assessing the proposed work definition structure

Nonmetric multidimensional scaling analysis (ALSCAL from SPSS for windows) was conducted on each of the 15 samples, thus one is able to make inferences about the generality of work definition structures among 11 countries as well as inferences about the stability (or instability) of work definition structure for a given country at different time periods (replicability). Since the data from our work definition procedure are binary in nature (each given definitional statement is either “chosen” or “not chosen” by a respondent as best defining when an activity is “working”), we used the Jaccard similarity measure (similarity ratio) as the most appropriate similarity measure for our data and our purpose. The Jaccard similarity measure ranges from 0 to 1 and for each pair of work definition items is the ratio of the times the two definitional items are both chosen as defining working divided by (the times that both definitional items are chosen plus the times only one of the two items is chosen as defining working). This measure is not influenced by instances where neither of the two definitional items is chosen.

The Jaccard measure was subtracted from 1 in each instance to convert it to a dissimilarity measure for use with a nonmetric classical MDS Euclidean distance model in two dimensional space (Kruskal, 1964). We are interested in observing how well our empirical data fit the suggested ordered categorization of definitional statements. For this purpose we represent the similarity information geometrically so that items are represented by points that are distributed in a geometric space in a way that the higher the similarity between two variables, the closer the points representing them. This correspondence between item similarities and geometric distances, allows us to examine the usefulness of our definitional system in the MDS space by trying to partition the space in a way that points representing items belonging to the same category (facet elements) all fall into the same region (regional hypothesis).

As our hypotheses proposes a linear pattern of the work definition structure from 'Burden' over 'Constraint' to 'Responsibility and Exchange', and finally 'Social Contribution, we expect a linearly ordered axial pattern (see Borg & Shye, 1993, pp.137), i.e. one where the partitioning lines cut the space in a parallel fashion into ordered regions (axial simplex of regions). We expect ordered regions because the 'Burden' region should always come first and before the 'Constraint' region. The 'Responsibility and Exchange' region should always follow the 'Constraint' region, and should in turn be followed by the 'Social Contribution' region.

If the partition lines can be drawn in a way reflecting the expected order of the regions, we can asses our hypotheses further by considering the number and magnitude of errors of classification, e.g. count how many items are found in a region where they were not hypothesized, and how distant the error points lie from the hypothesized region. Obviously, the fit is better if there are less classification errors, or - in case of an error - if the point is located in a neighboring region. For an estimation of the degree of structural change between the two time points, we can look at the fit or number of classification errors at both points. With the increase of the number of different item points misclassified at either time 1 or time 2, the indication for structural stability becomes weaker.

First, consider the replication data (two time periods) for the USA, Belgium (Flanders), Germany (FRG) and Japan.

The results for the USA are shown in Figure 1. For Time 1, an axial simplex of ordered regions is shown with no deviations from our classification. For Time 2, an axial simplex of ordered regions is shown with one deviation (a is in the responsibility and exchange region but should be in the constraint region). There is strong indication that the structure of work definitions does not change appreciably in the USA from 1982 to 1989.

(Figure 1 about here)

The results for Belgium are shown in Figure 2. For Time 1, an axial simplex of ordered regions is shown with one deviation from our classification (m is in the constraint region but should be in the burden region). For Time 2, an axial simplex of ordered regions is shown with one deviation (g is in the constraint region but should be in the responsibility and exchange region). There is substantial indication that the structure of work definitions does not change appreciably in Belgium from 1982 to 1990.

(Figure 2 about here)

The results for Germany (FRG) are shown in Figure 3. For Time 1, an axial simplex of ordered regions is shown with two deviations (n is in the constraint region but should be in the social contribution region; and c is in the burden region but should be in the constraint region). For time 2, an axial simplex of ordered regions is shown with one deviation (item n is in the responsibility and exchange region but should be in the social contribution region). There is substantial indication that the structure of work definitions does not change appreciably in Germany from 1983 to 1989.

(Figure 3 about here)

Figure 4 shows the results for Japan. For Time 1, an axial simplex of ordered regions is shown with two deviations (g is in the constraint region but should be in the responsibility and exchange region; and m is in the constraint region but should be in the burden region). For Time 2, an axial simplex of ordered regions is shown with two deviations (m is in the constraint region but should be in the burden region; and f is in the burden region but should be in the social contribution region). There is moderate indication that the structure of work definitions does not change appreciably in Japan from 1982 to 1991.

(Figure 4 about here)

On balance, we conclude that the work definition structures found in each of these four countries are quite stable over time (6 to 9 year periods). The deviations from our proposed classification of work definition items are relatively minor with the exception of one large deviation in the German Time 1 data and one large deviation in the Japan Time 2 data. The results from these four countries thus provide support for the replicability of work definition structures over time as well as supporting the view that one dominant dimension underlying the way in which people define working ranges from individual cost to social contribution.

For ease in presenting work definition structure data for the remaining 7 countries, we show the results for two countries in one figure. Figure 5 shows the two dimensional MDS plots for East Germany and Poland. For East Germany, an axial simplex of ordered regions is shown with one deviation from the proposed classification (j is in the constraint region but should be in the burden region). For Poland, an axial simplex of ordered regions is shown with one deviation (f is in the constraint region but should be in the social contribution region).

(Figure 5 about here)

Figure 6 shows the MDS plots for Slovakia and for the Czech Republic. For Slovakia, an axial simplex of ordered regions is shown with one deviation (j is in the responsibility and exchange region but should be in the burden region). For the Czech Republic, an axial simplex of ordered regions is shown with two deviations (c is in the responsibility and exchange region but should be in the constraint region; and l is in the constraint region but should be in the responsibility and exchange region).

(Figure 6 about here)

Figure 7 shows the MDS plots for Hungary and for Bulgaria. For Hungary, an axial simplex of ordered regions is shown with one deviation (n is in the burden region but should be in the social contribution region). For Bulgaria, an axial simplex of ordered regions is shown

with two deviations (g is in the social contribution region but should be in the responsibility and exchange region; and l is in the social contribution region but should be in the responsibility and exchange region).

(Figure 7 about here)

Figure 8 shows the MDS plot for the Beijing, China data. Here, an axial simplex of ordered regions is shown with three errors (h is in the social contribution region but should be in the constraint region; m is in the responsibility and exchange region but should be in the burden region; and l is in the social contribution region but should be in the responsibility and exchange region).

(Figure 8 about here)

Utilizing the work definition data from the 11 national samples most recently studied (1989-1992), there are 16 deviations from the ordered four category structure (burden, constraint, responsibility and exchange, and social contribution). Each country has at least one deviation from our classification while three countries have two deviations each and one country sample (Beijing, China) shows three deviations. Ten of the sixteen deviations are relatively minor in nature while six are large deviations. On balance, there is substantial support for the view that one dominant dimension underlying the way in which the labor forces in 11 countries define working ranges from individual cost to social contribution.

#### Assigning individuals to work definition categories

The empirical support in terms of both generality and replicability for the proposed ordered four category structure of work definitional statements suggests the real possibility that individuals might be assigned to one of four meaningful work definitional types plus a less meaningful "mixed" group. The four meaningful groups are obviously a) those who define working primarily in burden terms; b) those who define working primarily in constraint terms; c) those who

define working primarily in responsibility and exchange terms, and d) those who define working primarily in social contribution terms.

Each of the four definitional items chosen by each individual was assigned a 1 if it was a burden statement, a 2 if it was a constraint statement, a 3 if it was a responsibility and exchange statement, and a 4 if it was a social contribution statement. Given that four items were chosen and the number of possible statements for each category (3, 3, 4, 4) respectively, there are 33 unique combinations possible. The final assignment of these 33 combinations into the four meaningful groups and a mixed group is shown in Table 3.

(Table 3 about here)

The major criterion used to assign the 33 combinations of work meaning statements into one of the four meaningful categories (burden, constraint, responsibility and exchange, and social contribution) was assignment to the category which was primarily used to define working. This criterion was operationalized by assigning combinations to a given category if more elements came from it than came from any other category. Using this decision rule, 26 combinations were assigned to the four content categories. Combinations #1 through #6 were assigned to the burden category; #9 through #14 were assigned to the constraint category; #16 through #22 were assigned to the responsibility and exchange category, and #23 through #29 were assigned to the social contribution category. Three of the seven unassigned combinations (#31, #32 and #33) are clearly mixed in content so were assigned to a mixed category. Combinations #7, #8, #15 and #30 have two elements from one category and two elements from another category and in three of the four cases their elements come from adjacent categories. The final placement of combinations #7, #8, #15 and #30 was determined through Correspondence Analysis (CORRESP procedure, SAS Institute, 1989). Groups with combination #7, combination #8, combination #15 and combination #30 were treated as supplementary points (external information) and fitted into the



two dimensional graphical display of the five category groups (burden through mixed) not including #7, #8, #15, and #30. These displays clearly showed that combinations #7 and #8 fit the burden category, combination #15 fit the constraint category and combination #30 fit the social contribution category. Thus each individual can be assigned to one of four meaningful work definitional groups and one less meaningful mixed group. The distribution of individuals into these five groups for the 15 samples is shown in Table 4.

(Table 4 about here)

The results in Table 4 clearly show that there are large and statistically significant country differences in the work definition category distributions. Using a conservative .01 level test of significance, there are not statistically significant gender or age influences on work definition category distributions. When gender influence and age influence on work definition category distributions were tested for each country separately, only the two Japanese samples showed significant (.01 level) effects. In the two Japanese samples, the proportions in the burden and in the constraint categories decrease as age increases. Also in both the Japanese samples, a higher proportion of males are in the social contribution category than is the case for females. While the age and gender differences in the Japanese samples are real, they are much smaller in magnitude than the country differences shown in the upper part of Table 4.

#### Discussion and general observations

The proposed ordered four category structure of work definitional statements (burden, constraint, responsibility and exchange, and social contribution) generalizes to a large degree over eleven quite different countries. The robustness of the proposed structure is enhanced by the finding that the structure replicates over time (6-9 years) in the four countries (Belgium, Germany, Japan and the USA) where replication data were available. The proposed work definition structure seems robust.

It is also clear from Table 4 results that the fact that work definitional statement structure is the same (or similar) across a set of countries does not mean that there are no major country differences in how work is defined. A few examples attest to this point: First, a replication difference over time. In the USA, there is a significant increase from 1982 to 1989 in the proportion of individuals in both the burden and the constraint categories and a significant (and large) decrease in the proportion of individuals in the social contribution category. In 1989, work is defined more in terms of individual cost (or cost to the individual) and less in terms of contribution to society than was the case in 1982. A second example concerns the two Japanese samples as compared to the other national samples. About two-thirds of the Japanese respondents define work in responsibility and exchange terms. This is about double the proportion who define work in responsibility and exchange terms in six of the other countries and there is at least a 15% difference between the Japanese samples and any other sample in this respect. The median percentage of defining work in responsibility and exchange terms across all 15 samples is about 46%. A third example of large country differences concerns Slovakia and the Czech Republic and defining work in social contribution terms. Both the Slovak and the Czech Republics show over two thirds of their labor forces defining work in social contribution terms. This proportion is twice as large as that found in eight of the other countries and is at least 17% points higher than found in any other country studied. The median percentage of defining work in social contribution terms across all 15 samples is about 39%. Clearly, countries are quite different in how they define working even though the structure of the work definitions is similar across countries.

Finally, we would suggest that the way in which individuals define work may be related to two quite different orientations toward working. We would generally expect that individuals who define work in responsibility and exchange terms and in social contribution terms are signifying a

positive orientation toward one's working life. Conversely, we would expect that individuals who define work in burden terms or in constraint terms are signifying a negative orientation toward one's working life. Reality will probably not be packaged as neatly as our expectation would suggest, but the direction of our thinking seems likely.

## Footnotes

- 1 An early version of this paper was presented at the International Conference on Work Values and Behavior, held in Barcelona, Spain on July 10-13, 1994, and sponsored by the International Society for the Study of Work and Organizational Values (ISSWOV).
2. There is no sample-census data comparison available for the Beijing sample.
3. The authors are grateful to the following MOW colleagues for use of their national data: Belgium - Profs. Rita Claes and Pol Coetsier; Germany - Prof. Bernhard Wilpert; Japan - Prof. Jyuji Misumi; East Germany - Prof. Bernhard Wilpert and Hans Maimer; Bulgaria, Czech Republic, Hungary, Poland and Slovakia - Dr. S. Antonio Ruiz-Quintanilla; USA - Profs. George W. England and William T. Whitely and Beijing, China - Prof. Xu Liancang and Dr. E. H. Wang.

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Table 1. Percentage distributions<sup>a</sup> of definitional statements in fifteen samples

Sample	USA1	Bel. 1 <sup>b</sup>	Germ. 1	Jap. 1	USA2	Bel. 2 <sup>b</sup>	Germ. 2	Jap. 2	East Germ.	Poland	Slovakia	Czech Rep.	Hung.	Bul- garia	Beijing <sup>c</sup> China	
Sample size (N) <sup>d</sup>	989	443	1106	3055	982	527	1140	2979	1408	1056	665	910	1379	1215	819	
<b>Burden items</b>																
If someone tells you what to do	16%	13%	21%	7%	25%	17%	20%	8%	10%	11%	9%	8%	11%	6%	6%	
If it is not pleasant	8	6	4	6	10	2	6	8	7	2	2	2	2	2	1	
If you have to do it	14	20	19	24	18	20	21	19	16	11	10	8	25	2	20	
<b>Constraint items</b>																
If you do it in a working place	23	27	40	23	38	17	47	27	37	46	32	26	45	37	21	
If it is physically strenuous	20	21	27	17	27	23	24	17	20	34	10	14	13	34	6	
If you do it at a certain time (for instance from 8 to 5)	25	22	25	26	21	28	32	28	24	21	13	10	22	20	25	
<b>Responsibility and Exchange items</b>																
If it belongs to your task	48	66	40	64	61	67	40	59	39	51	35	33	53	18	79	
If it is mentally strenuous	28	18	22	17	26	23	20	18	23	21	9	12	7	28	17	
If you get money for doing it	54	58	68	76	53	66	68	78	72	72	72	57	75	65	57	
If you have to account for it	24	26	41	50	21	24	37	46	46	21	6	12	8	40	10	
<b>Social contribution items</b>																
If you do it to contribute to society	36	33	17	23	29	24	16	23	24	41	48	53	47	52	71	
If by doing it you get the feeling of belonging	31	44	36	6	21	30	27	6	41	18	55	51	42	20	22	
If it adds value to something	49	46	26	55	32	47	23	51	30	30	45	62	48	35	42	
If others profit by it	24	14	14	9	16	11	19	11	12	19	55	53	3	42	24	

<sup>a</sup>Percentage (rounded to the closest whole number) of the sample that chose a given statement as identifying when an activity is considered as working.

<sup>b</sup>The Belgium samples came only from Flanders at both time periods.

<sup>c</sup>The Beijing sample is a regional sample rather than a national sample.

<sup>d</sup>The sample sizes reported and used in analyses represent all respondents who had complete data on the work definition item (i.e., exactly four items were chosen).



Table 2. Intracountry ranks of definitional statements in fifteen samples

Sample	USA1	Bel. 1 <sup>a</sup>	Germ. 1	Jap. 1	USA2	Bel. 2 <sup>a</sup>	Germ.2	Jap. 2	East Germ.	Poland	Slovakia	Czech Rep.	Hung.	Bul- garia	Beijing China <sup>b</sup>
Sample size (N) <sup>c</sup>	989	443	1106	3055	982	527	1140	2979	1408	1056	665	910	1379	1215	819
<b>Burden items</b>															
If someone tells you what to do	12	13	10	12	8	11.5	10.5	12.5	13	12.5	11.5	12.5	10	12	12.5
If it is not pleasant	14	14	14	13.5	14	14	14	12.5	14	14	14	14	14	13.5	14
If you have to do it	13	10	11	6	12	10	9	8	11	12.5	9.5	12.5	7	13.5	9
<b>Constraint items</b>															
If you do it in a working place	10	6	3.5	7.5	3	11.5	2	6	5	3	7	7	5	5	8
If it is physically strenuous	10	9	6	9.5	6	8.5	7	10	10	5	9.5	8	9	7	12.5
If you do it at a certain time (for instance from 8 to 5)	7	8	8	5	10	5	5	5	7.5	8	8	11	8	9.5	5
<b>Responsibility and Exchange items</b>															
If it belongs to your task	3	1	3.5	2	1	1	3	2	4	2	6	6	2	11	1
If it is mentally strenuous	6	11	9	9.5	7	8.5	10.5	9	9	8	11.5	9.5	12	8	10
If you get money for doing it	1	2	1	1	2	2	1	1	1	1	1	2	1	1	3
If you have to account for it	8.5	7	2	4	10	6.5	4	4	2	8	13	9.5	11	4	11
<b>Social contribution items</b>															
If you do it to contribute to society	4	5	12	7.5	5	6.5	13	7	7.5	4	4	3.5	4	2	2
If by doing it you get the feeling of belonging	5	4	5	13.5	10	4	6	14	3	11	2.5	5	6	9.5	7
If it adds value to something	2	3	7	3	4	3	8	3	6	6	5	1	3	6	4
If others profit by it	8.5	12	13	11	13	13	12	11	12	10	2.5	3.5	13	3	6

<sup>a</sup>The Belgium samples came only from Flanders at both time periods.

<sup>b</sup>The Beijing sample is a regional sample rather than a national sample.

<sup>c</sup>The sample sizes reported and used in analyses represent all respondents who had complete data on the work definition item (i.e., exactly four items were chosen).

**Table 3. Assignment of 33 combinations of 4 work definitional statements to categories (burden, constraint, responsibility and exchange, social contribution and mixed)**

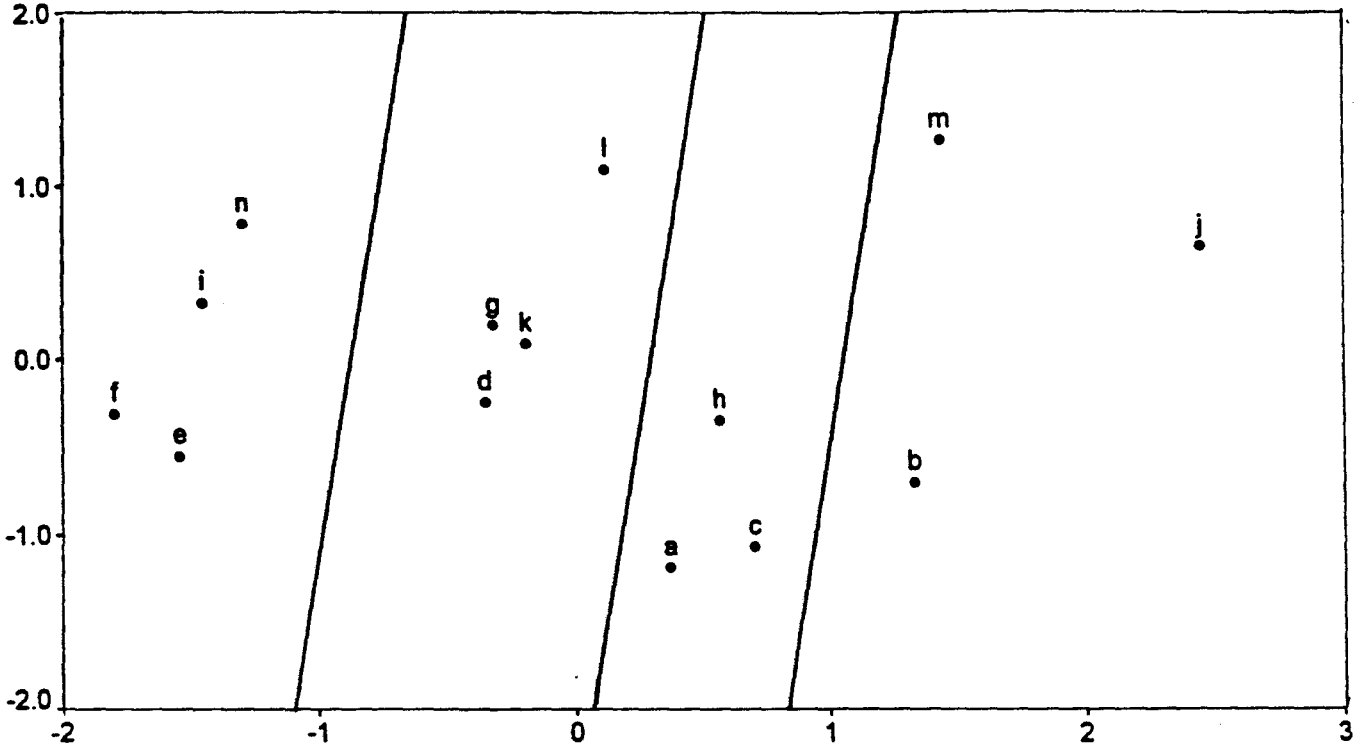
#	combinations		#	combinations	
1	1 1 1 2	<b>Burden</b>	16	3 3 3 3	<b>Responsibility and Exchange</b>
2	1 1 1 3		17	3 3 3 4	
3	1 1 1 4		18	3 3 3 2	
4	1 1 2 3		19	3 3 3 1	
5	1 1 2 4		20	3 3 4 2	
6	1 1 3 4		21	3 3 4 1	
7	1 1 2 2		22	3 3 2 1	
8	1 1 3 3				
9	2 2 2 1	<b>Constraint</b>	23	4 4 4 4	<b>Social Contribution</b>
10	2 2 2 3		24	4 4 4 3	
11	2 2 2 4		25	4 4 4 2	
12	2 2 1 3		26	4 4 4 1	
13	2 2 1 4		27	4 4 2 1	
14	2 2 3 4		28	4 4 3 2	
15	2 2 3 3		29	4 4 3 1	
			30	4 4 3 3	
			31	1 2 3 4	
			32	1 1 4 4	<b>Mixed</b>
			33	2 2 4 4	

**Table 4. Percentage frequency of work definition category membership and significance tests by country, gender and age**

Work Definition Category			Burden	Constraint	Responsibility and Exchange	Social Contribution	Mixed
<u>Nation</u>	<u>Year<sup>a</sup></u>	<u>Sample Size</u>					
USA	1982	(989)	4.1%	8.7%	37.0%	44.8%	5.4%
Belgium	1982	(443)	6.1	5.6	41.8	42.7	3.8
Germany	1983	(1106)	4.5	16.5	48.6	23.0	7.4
Japan	1982	(3055)	2.1	6.2	65.6	21.9	4.1
USA	1989	(982)	7.1	11.8	46.2	28.3	6.5
Belgium	1990	(527)	4.4	8.5	49.1	33.8	4.2
Germany	1989	(1140)	4.8	19.5	48.9	19.8	6.9
Japan	1991	(2979)	2.2	6.7	65.3	21.7	4.1
East Germany	1992	(1408)	2.3	12.3	50.3	28.6	6.6
Poland	1991	(1056)	.9	15.3	48.6	30.7	4.5
Slovakia	1992	(665)	2.1	7.2	15.8	70.5	4.4
Czech Republic	1992	(910)	1.9	5.6	14.9	73.1	4.5
Hungary	1991	(1379)	2.8	12.8	32.6	44.3	7.6
Bulgaria	1992	(1215)	.7	16.5	33.0	46.1	3.7
Beijing, China	1991	(819)	.7	5.9	37.1	52.6	3.7
Pearson Chi <sup>2</sup> = 2819.95 (56df) P < .0001 Sign.							
<u>Gender</u>		<u>Sample Size</u>					
Male		(10601)	2.8	9.8	48.7	33.5	5.3
Female		(8061)	2.8	10.9	46.7	34.6	4.9
Pearson Chi <sup>2</sup> = 12.20 (4df) P = .016 Not Sign.							
<u>Age</u>		<u>Sample Size</u>					
Under 30 years		(4722)	3.9	10.6	48.4	31.55.6	
30-50 years		(9807)	2.4	9.9	49.3	33.64.7	
Greater than 50 years		(4120)	2.4	10.8	43.6	37.55.7	
Pearson Chi <sup>2</sup> = 7.08 (8df) P = .528 Not Sign.							

<sup>a</sup>Year of data collection

USA Time 1 (Stress .152)



USA Time 2 (Stress .156)

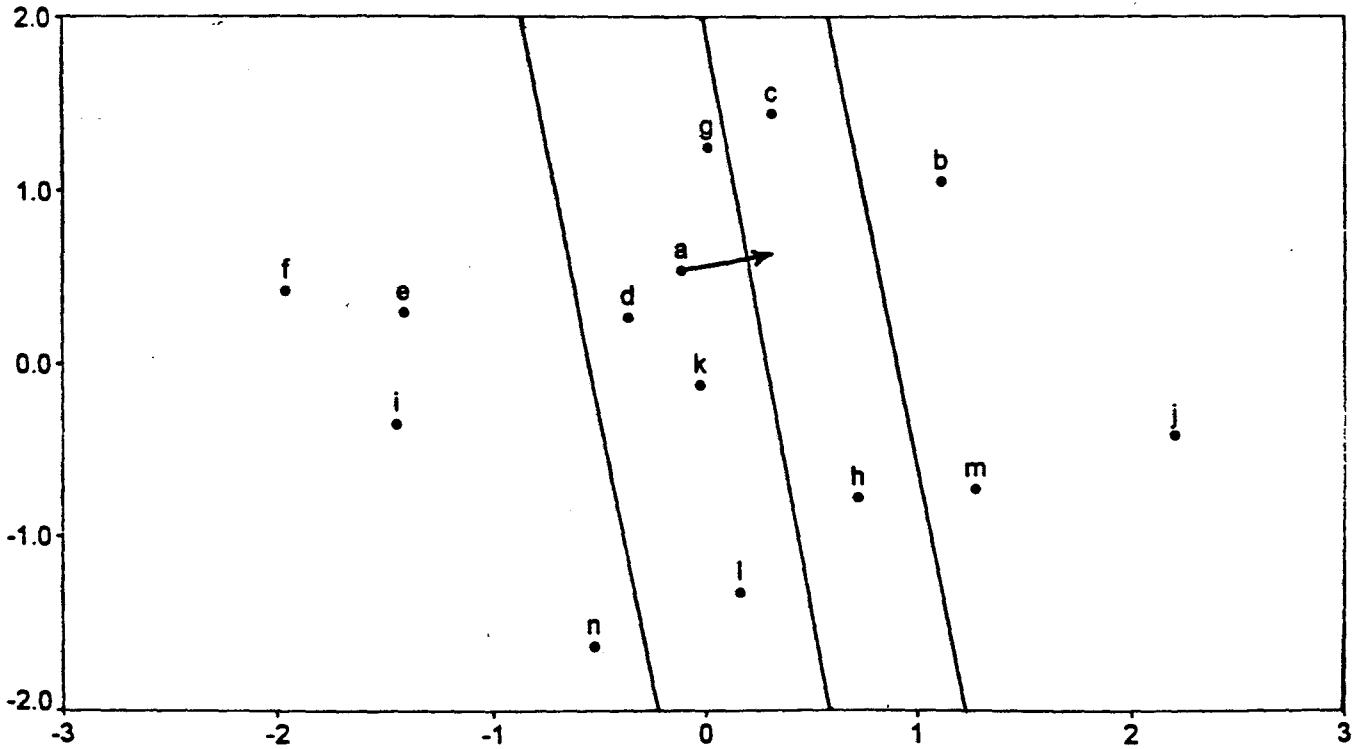
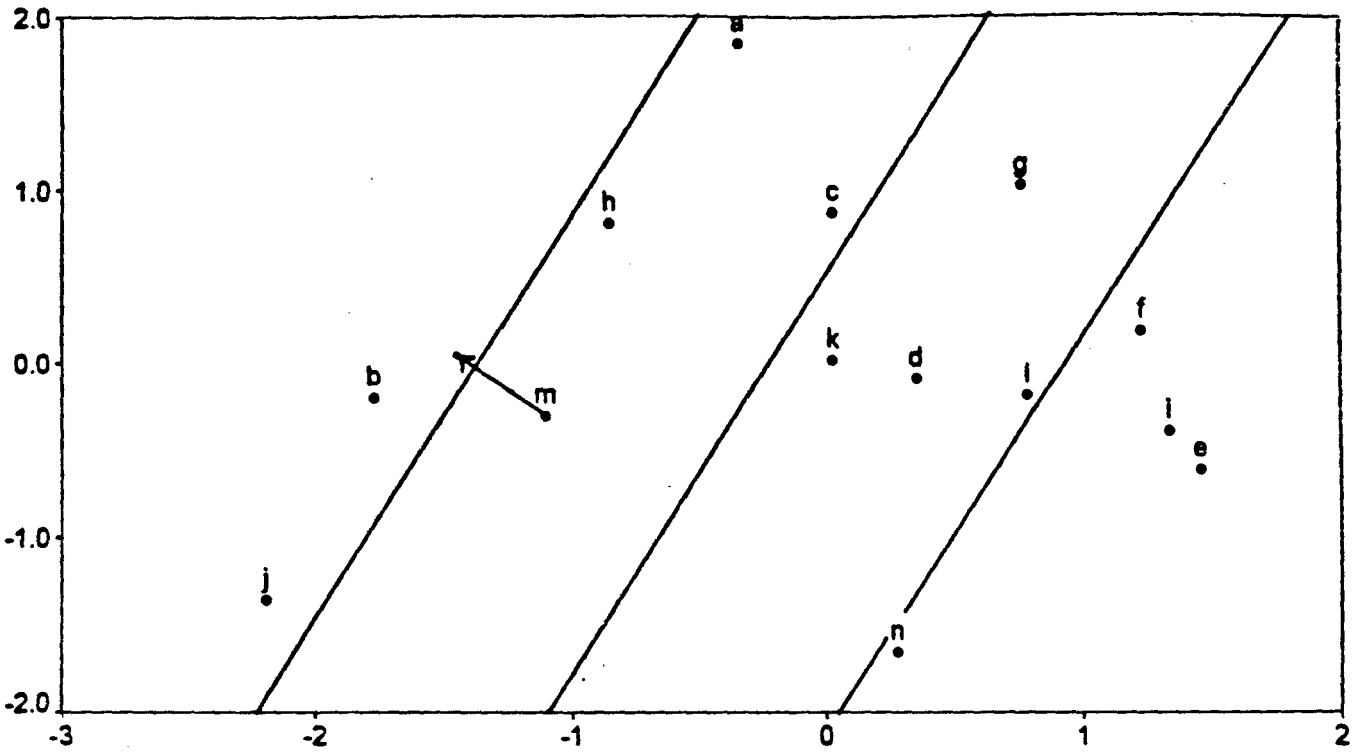


Figure 1. Work definition MDS plots for USA samples at two time periods

Belgium (Flanders) Time 1 (Stress .147)



Belgium (Flanders) Time 2 (Stress .172)

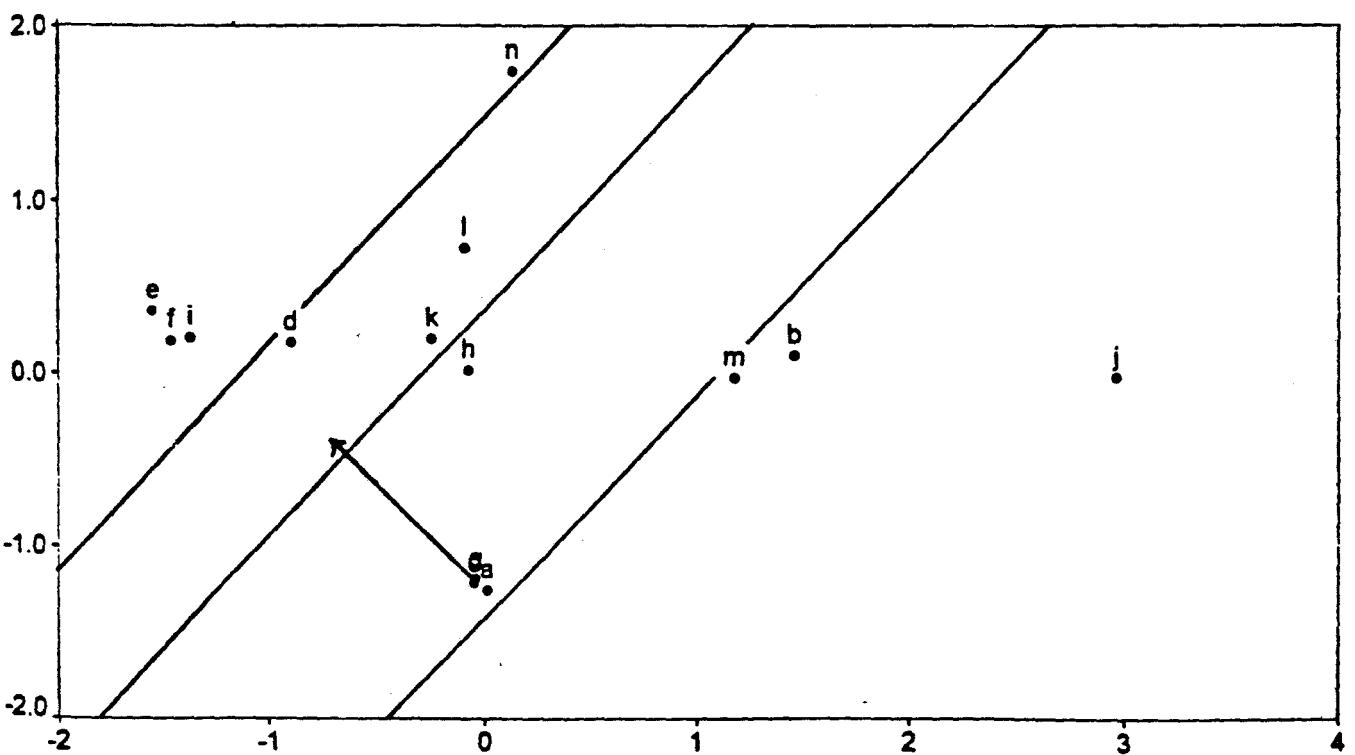
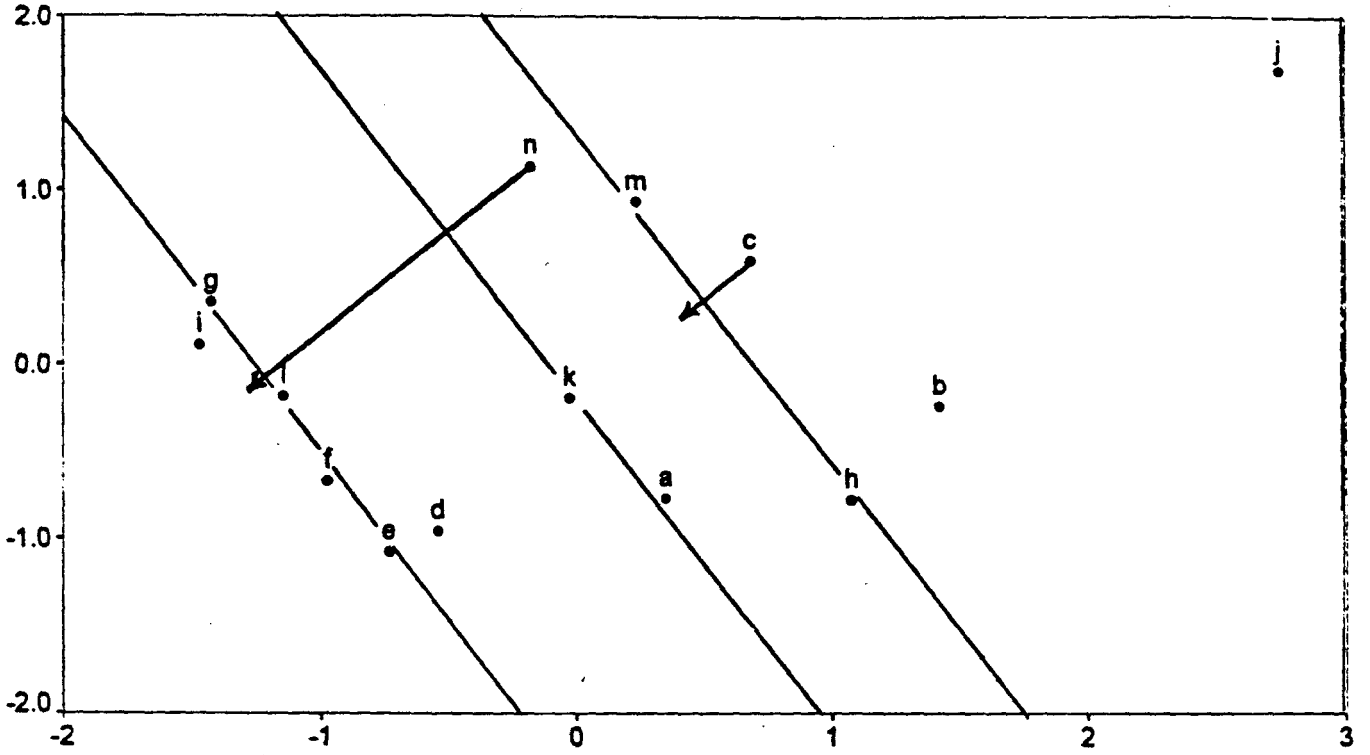


Figure 2. Work definition MDS plots for Belgium (Flanders) samples at two time periods

Germany Time 1 (Stress .184)



Germany Time 2 (Stress .204)

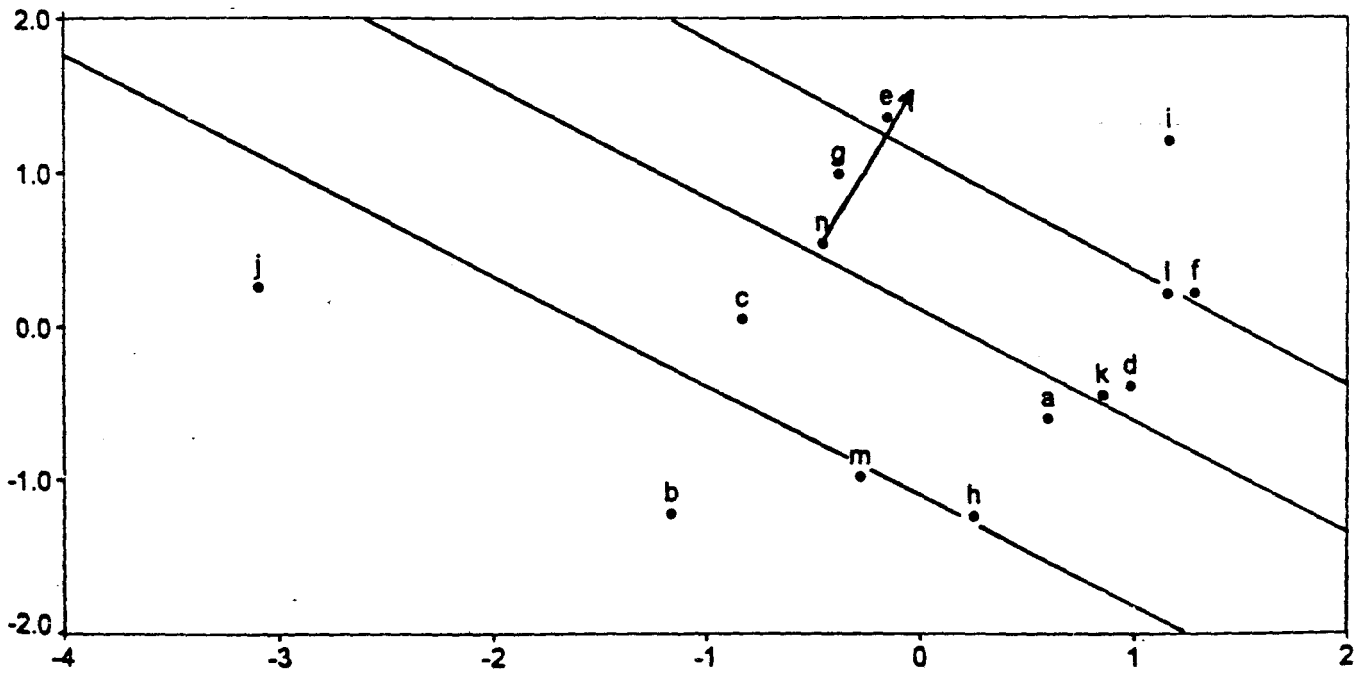
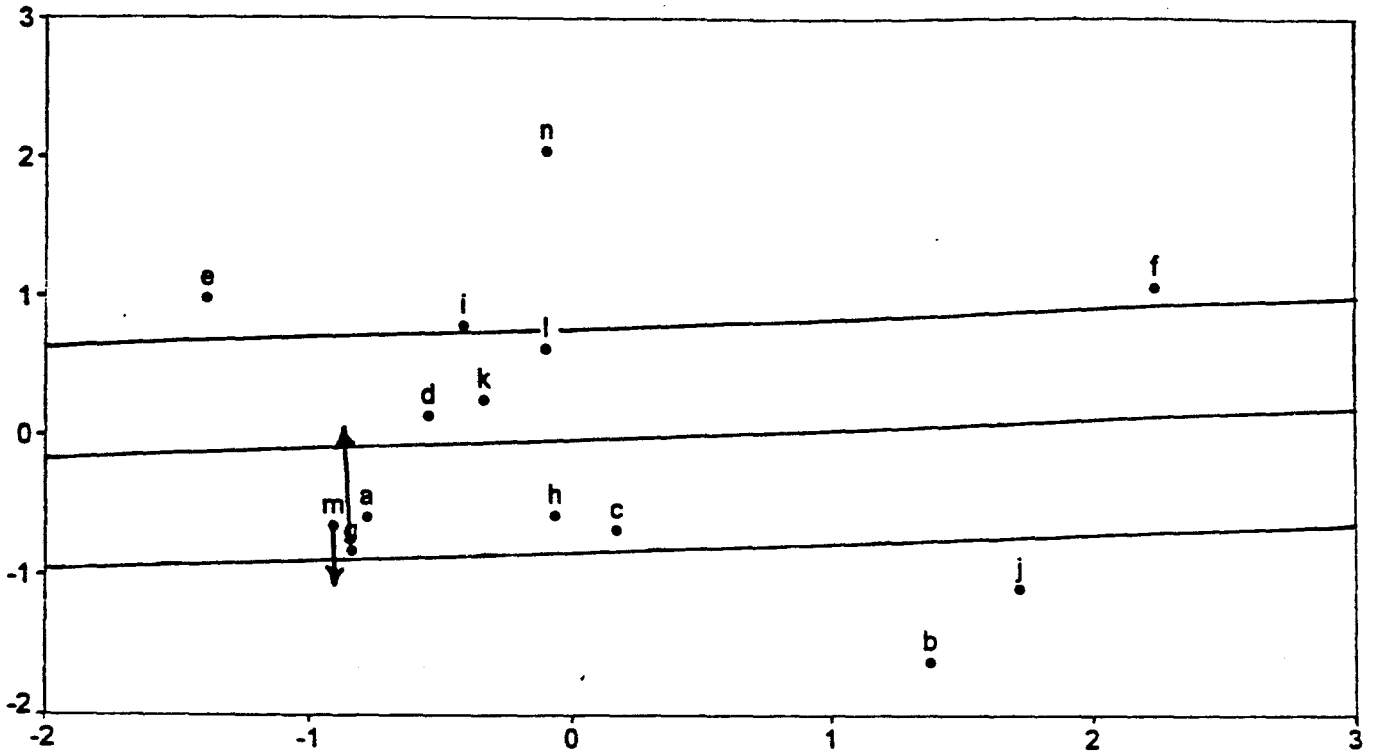


Figure 3. Work definition MDS plots for Germany (FRG) samples at two time periods

Japan Time 1 (Stress .177)



Japan Time 2 (Stress .144)

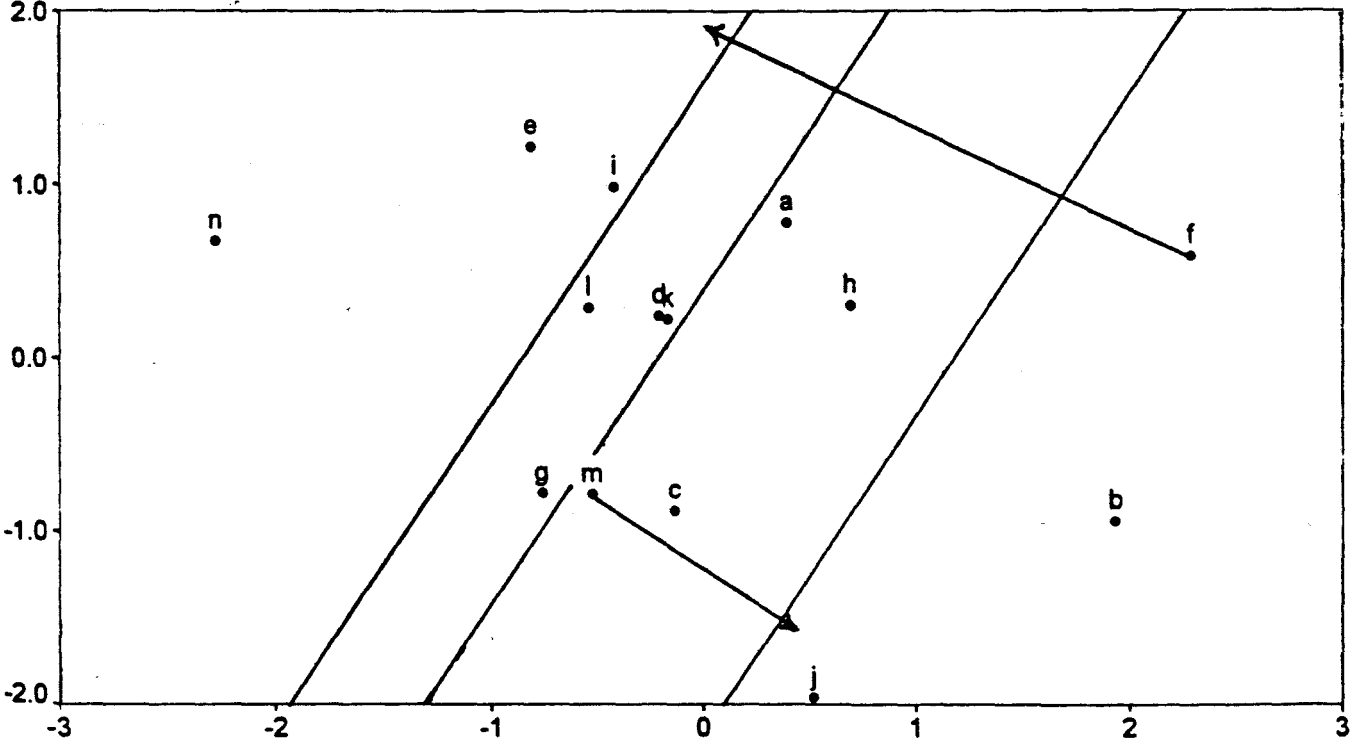
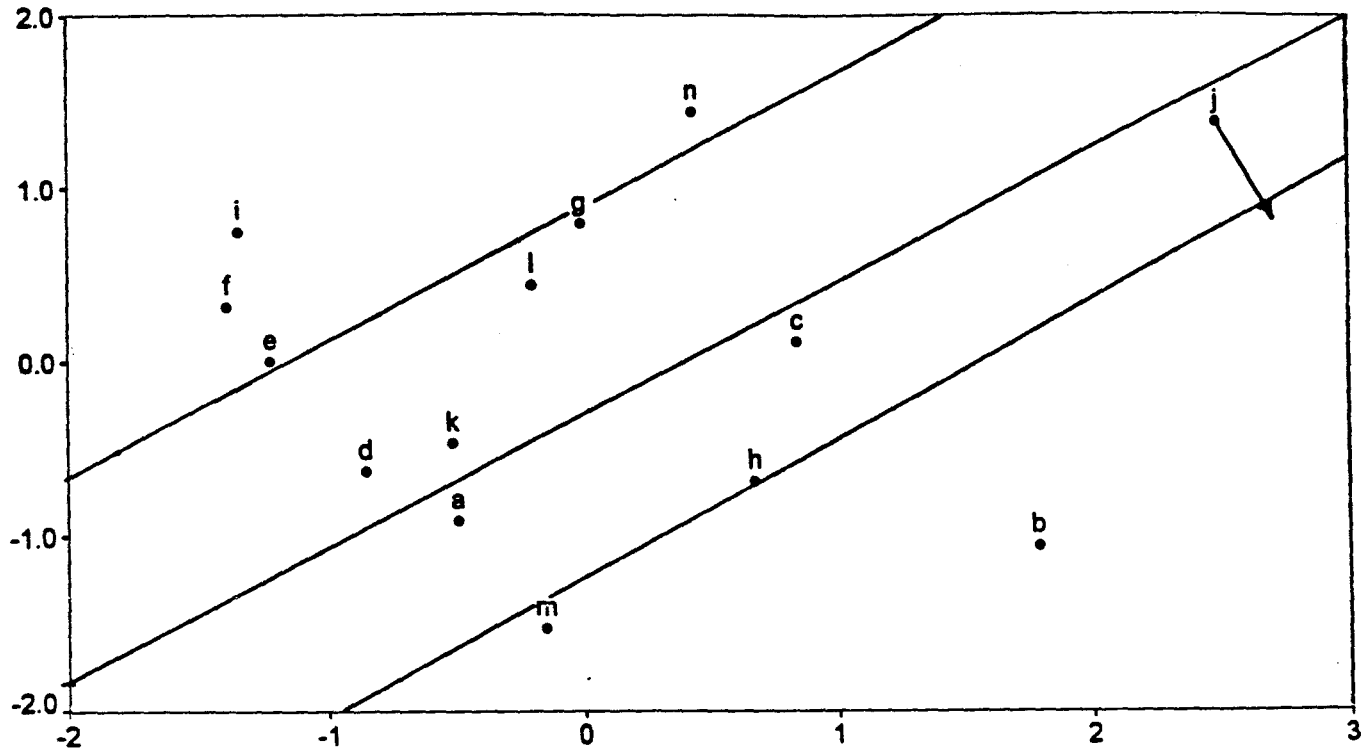


Figure 4. Work definition MDS plots for Japan samples at two time periods

East Germany (Stress .204)



Poland (Stress .158)

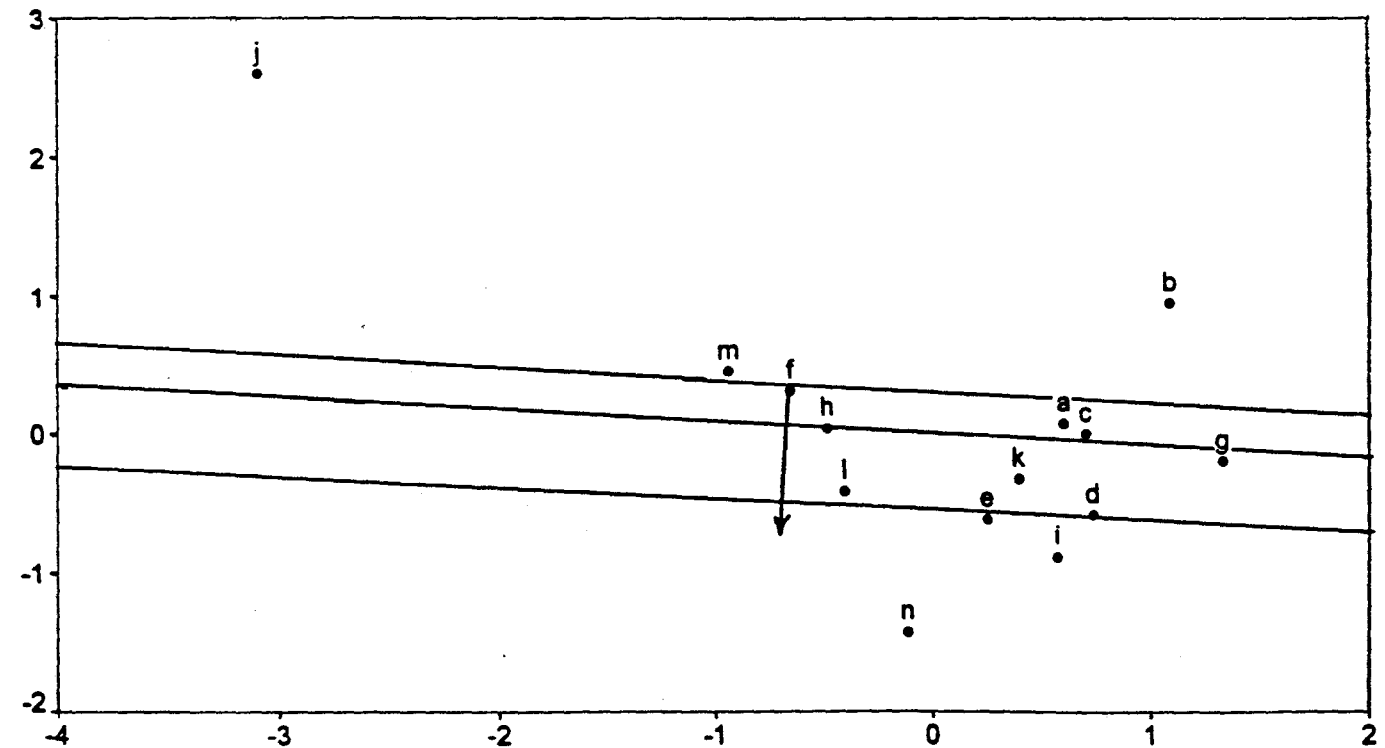
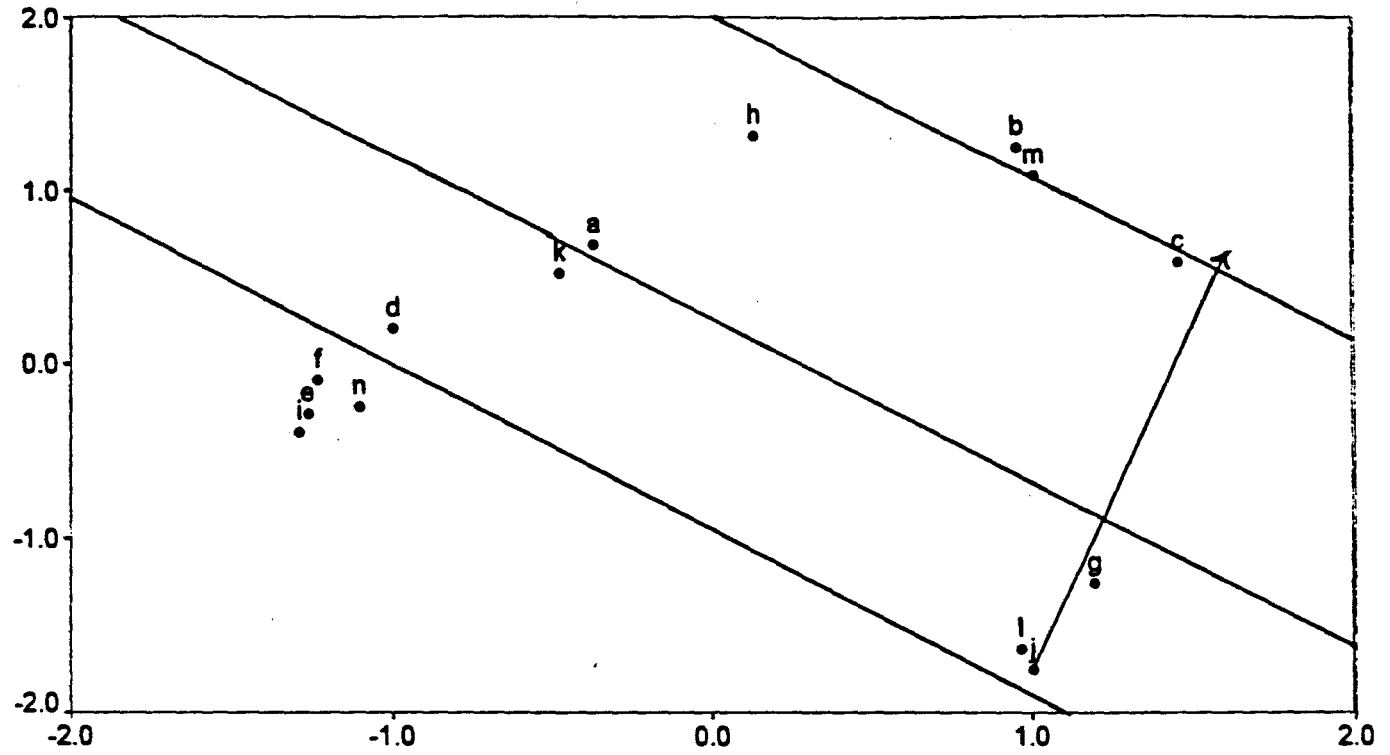


Figure 5. Work definition MDS plots for East Germany and for Poland



Slovakia (Stress .237)



Czech Republic (Stress .127)

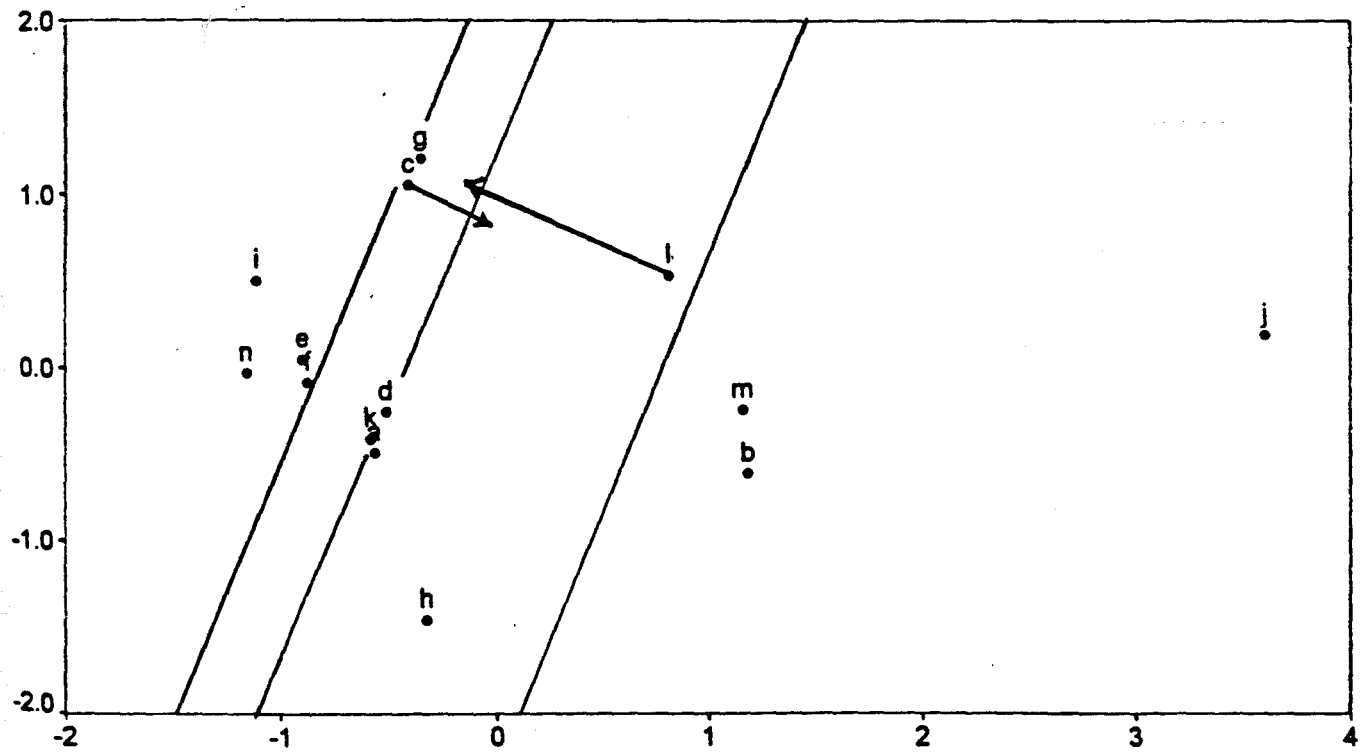
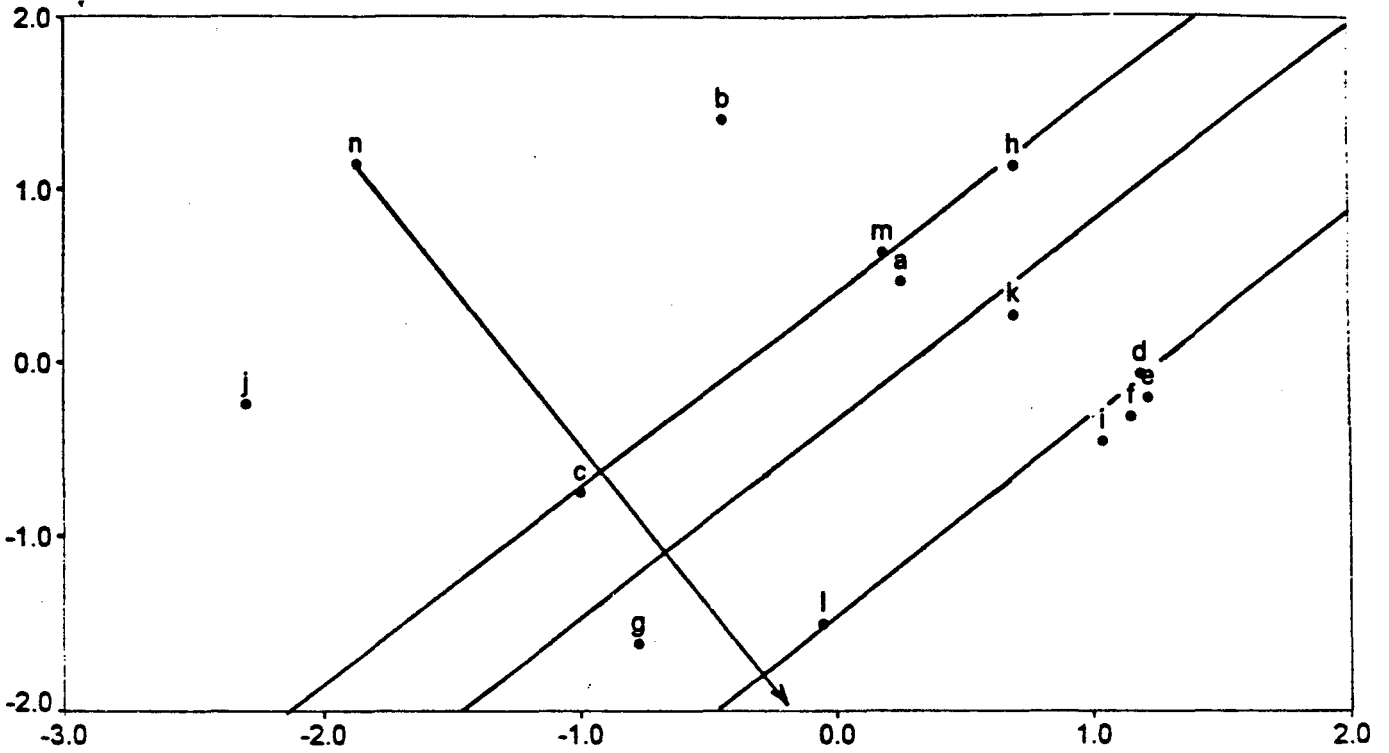


Figure 6. Work definition MDS plots for Slovakia and for the Czech Republic

Hungary (Stress .171)



Bulgaria (Stress .164)

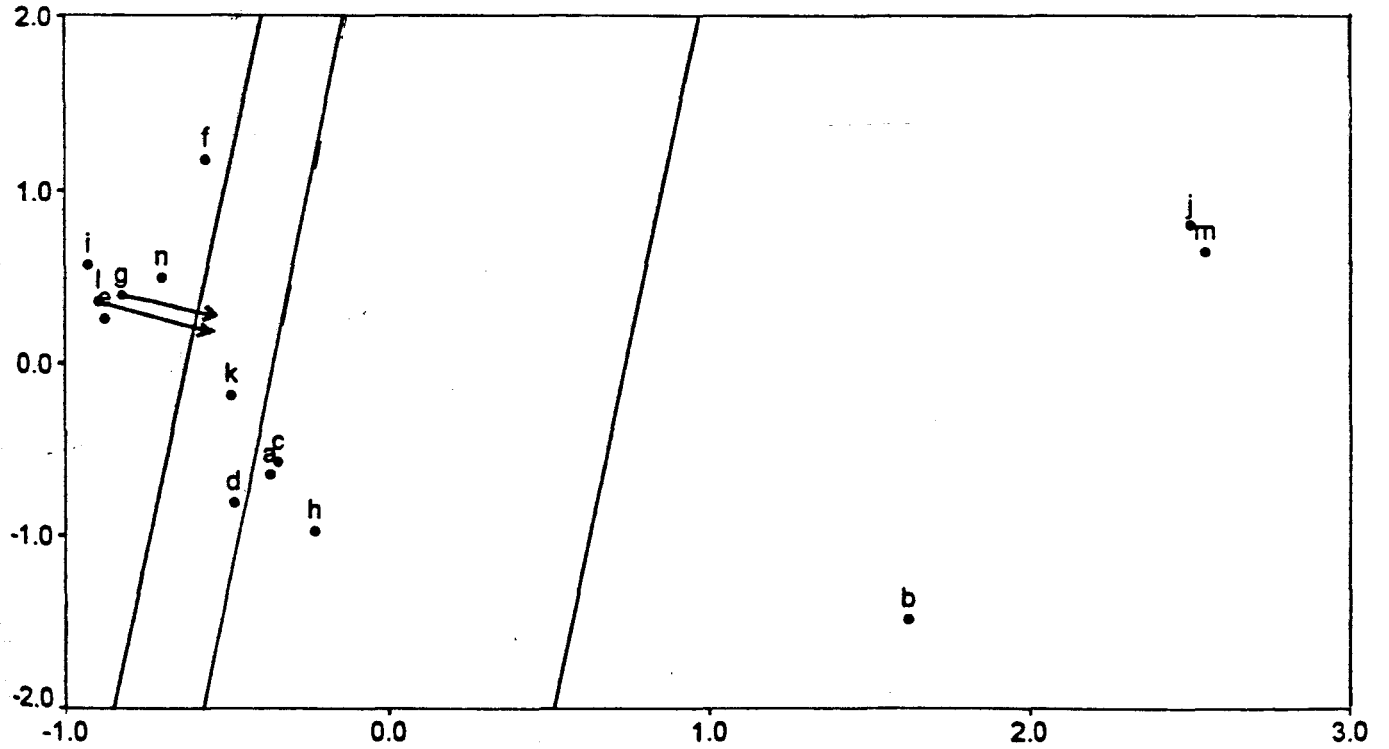


Figure 7. Work definition MDS plots for Hungary and for Bulgaria

Beijing (China) (Stress .163)

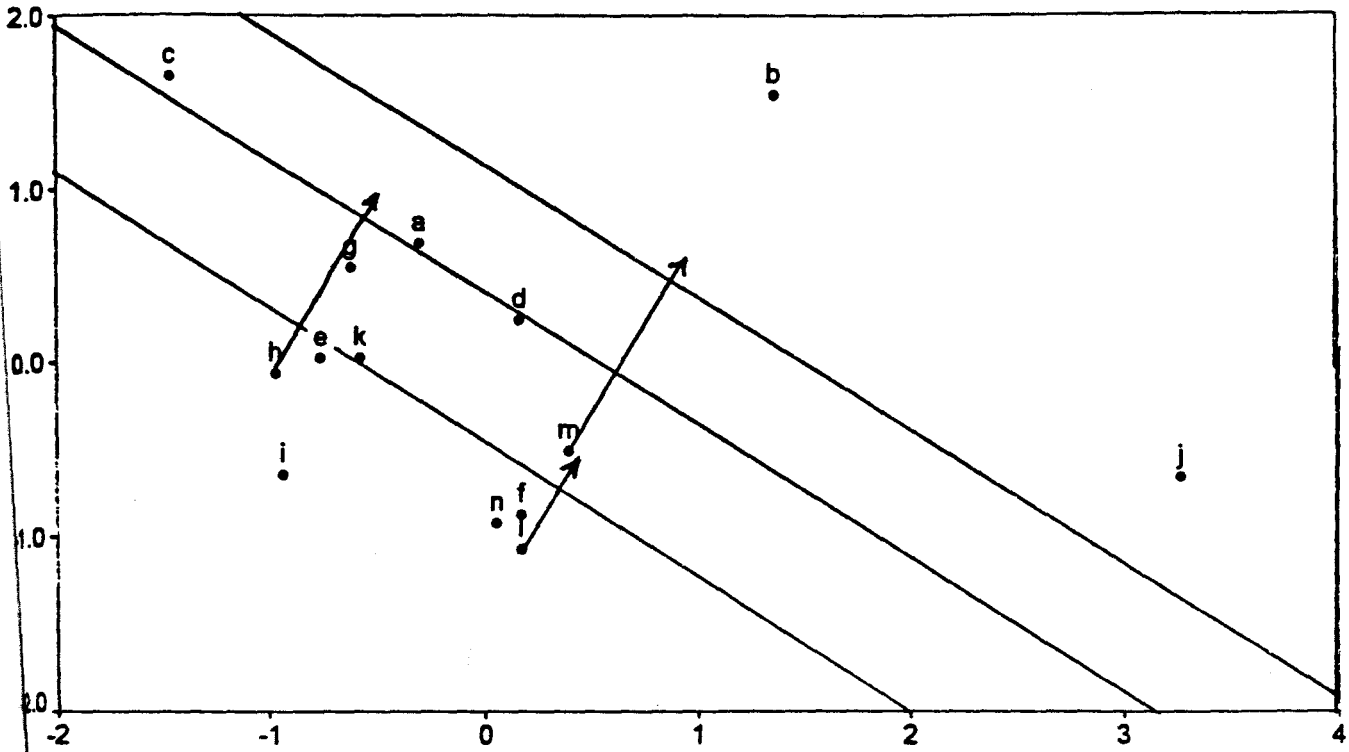


Figure 8. Work definition MDS plots for Beijing, China sample