Occupational case studies

Synthesis report and comparative analysis

Final report of WP11 – December 2007

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CIT3-CT-2005-006193

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Introduction to the report

This report is the final deliverable (D11.1) of the workpackage on occupational case studies of the WORKS project (WP11 – Qualitative research – Case studies on changes in work – Impacts on the individual and the household). In this workpackage, 30 occupational case studies were achieved in 14 countries, between June 2006 and May 2007; in total 246 in-depth individual interviews were carried out, according to common interview guidelines elaborated in May 2006, at the end of the workpackage on qualitative methods (WP6).

These occupational case studies are closely related to the organisational case studies that were carried out in a selected number of business functions, during the same time span. In the WORKS project, business functions are at the core of qualitative empirical research, as they provide a relevant framework for analysis of value chain restructuring and changes in work. In order to study changes in work at the individual level, this report focuses on individual workers within occupational groups linked to key business functions. This link is justified in Chapter I.

Six occupational groups are considered in the report: designers in the clothing industry; researchers in information and communication technology; IT professionals in software services; production workers in food or clothing; logistics workers in food or clothing; front office employees in customer relationships in public services. In each occupational group, three to seven case studies were conducted an reported in different countries, covering a variety of socio-economic and institutional contexts. Each case study relies on seven to nine in-depth individual interviews, including a biographical dimension.

In the first part of this report (Chapter I), the research design and methodology are explained and justified. The key research questions are developed, as well as the concrete methodological choices and the practical organisation of the case studies. The second part of the report (Chapters II to VII) consists of occupational monographs, concerning the six above-mentioned occupational groups. The third part of the report (Chapter VIII) is devoted to transversal comparative analysis.

A particular attention is paid to gender issues. Gender is a transversal theme in the analysis of changes in work at the individual level. The principle of gender mainstreaming, i.e. to take systematically into account the differentiated experiences of men and women in all items of data collection and analysis, is one of the basic guidelines of individual interviews. In this report, a specific section on gender is included in each monographic chapter, and targeted comparative analysis of gender aspects is drawn in the final chapter.

Within the set of deliverables of the WORKS project, this report D11.1 is a masterpiece in the empirical phase of qualitative research, together with D10.1, which is the synthesis and comparative report on organisational case studies. It has been prepared, during the first project year, by a report on methodologies for qualitative research and comparative research (Workpackage 6, deliverable D6.3), coupled to a training session for researchers involved in qualitative filed work. The theoretical foundations of the project were also elaborated during the first project year (Workpackage 3) and published as a book (Huws

U. ed., 2006). The further steps of exploitation of the considerable empirical and analytical effort realised in organisational and occupational case studies will be the thematic reports, to be finalised in the third project year (Workpackage 12).

Acknowledgements

This report must acknowledge the contributions of all researchers involved in case studies in the WORKS partnership, namely: Jörg Flecker, Ursula Holtgrewe, Anika Schönauer (Austria, FORBA); Tom De Bruyn, Monique Ramioul (Belgium, HIVA); Valérie Devos, Maïra Muchnik, Gérard Valenduc, Isabelle Vandenbussche, Patricia Vendramin (Belgium and France, FTU); Vassil Kirov, Rumiana Stoilova (Bulgaria, IS); Birgitte Gorm Hansen (Denmark, NRCWE); Pamela Meil, Wolfgang Dunkel (Germany, ISF); Bettina-Johanna Krings, Linda Nierling, Martin Bechmann (Germany, ITAS); Petros Linardos (Greece, UPSPS); Csaba Makó, Miklós Illésy, Peter Csizmadia (Hungary, ISB); Marcello Pedaci, Mariangela Piersanti (Italy, IRES); Duco Bannink, Willem Trommel, Marcel Hoogenboom (Netherlands, UT); Kirsti Anthun, Thale Kvernberg Andersen (Norway, SINTEF); Ana Vasconselos da Silva, Tobias Woll, Margarida Paulos (Portugal, IET); Per Tengblad, Pernilla Sternälv (Sweden, ATK); Simone Dahlmann, Alison Gosper, John Kirk (United Kingdom, WLRI).

Patricia Vendramin (FTU) led the scientific coordination of occupational case studies, including research design, proposal and discussion of methodological guidelines, monitoring of the implementation of case studies, follow-up of the reporting process and organisation of the final synthesis.

Thanks to all these case study authors, a highly valuable empirical material was gathered in 14 countries, highlighting both convergences and disparities about present and future occupational profiles and their challenges for workers, according to various institutional and social contexts.

Chapter I
Research design and methodology

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1. The purposes of occupational case studies

In the WORKS project, qualitative research methods are used for the empirical analysis of changes in work, because they allow for a comprehensive analysis of the organisational context, the configurations of organisations, the determinants and effects of changes and the way they are experienced by the workers. As described in the report on methodologies for qualitative research in the WORKS project (Flecker and Papouschek eds., 2006), two distinct types of case studies are implemented to achieve the aim of covering the restructuring of value chains, the changes in work organisation and the impact of these changes on individuals and their families: organisational case studies and occupational case studies. They concern the same business functions, but from two angles of analysis, the first one focusing on the organisation, and the second one focusing on the individual.

In analysing the consequences of the restructuring of value chains, organisational case studies focus on business functions representing different steps in a value chain such as: research and development, manufacturing/production functions, logistic functions or customer service. These business functions are generic in the sense that they apply across many different industries.

In addition to the case studies at organisational or network level, the research focuses on the employees working in the selected business functions and sectors, in order to assess the impact of the organisational changes and policies on the individuals and their families.

In the empirical phase of qualitative research in the WORKS project, the units of analysis are selected at the level of the ***business function***. In the WORKS glossary, a business function is defined in the following way: "The term 'business function' was developed in order to provide a unit of analysis more stable than that of the occupation or sector for analysing the development of global value chains. Business functions are defined generically in order to show the relationship of any particular business process to the overall process of producing goods and services. Typical business functions include research and development, design, production, marketing, financial processing, customer services, logistics management, human resource management, training and data processing. These are generic, in the sense that they apply across many different industries. The increasing standardisation of business processes accompanying the introduction of information and communication technologies (business process re-engineering) makes it easier to separate the performance of business functions into separate units and either relocate them geographically (in-house relocation) or outsource

them to another company or both (offshore outsourcing). Many business functions (but not all) may be described as business services." [1]

Occupational case studies focus on the employees working in the selected business functions and sectors and include their households in the analysis in order to assess the impact of the organisational changes and policies on the individuals and their families. According to the initial description of work (DoW) of the WORKS project, the issues to be investigated at the individual level mainly concern the impact of organisational change and restructuring on:

- time use, flexibility, work life balance from the perspective of the individual and his/her family;
- labour market and mobility perspective of the individual and the household, impact on perceived employability, impact of employment insecurity;
- learning and skills development;
- occupational identity;
- autonomy at work;
- working conditions, health and safety issues including stress.

The units of analysis are here the ***occupational groups*** that are connected to the business functions, included in the organisational case study research. This makes it possible to exceed the level of the organisations and to draw conclusions at the level of the occupational groups and their societal dimensions.

The selection of occupational groups was restricted because of the necessary link with the business function. However, one of the important characteristics of the quickly evolving economic restructuring is precisely the blurring of boundaries between what traditionally were 'occupations'. This means that the research may also focus on what can be called 'occupations under construction', which still lack an institutionalised corporate identity, established skills and competence trajectories, collectively negotiated working conditions, etc., but identify themselves on specific criteria, for instance as occupations according to their mastering of the technology they use.

Therefore, the final selection and distribution of occupational case studies is based on the selection of business functions and sectors that is made for the organisational case studies. Concretely, seven occupational groups were selected in five business functions (cf. table 1), covering white-collar and blue-collar workers, classical occupations and emerging occupations, high-tech and low-tech occupations. A common feature of all occupational groups is to be challenged by the knowledge-based society and global value chain restructuring. Details about the selection are explained in section 5 of this chapter.

Occupational case studies rely on ***qualitative individual interviews***, semi-structured, based on common guidelines (cf. section 5 of this chapter) and on a common training scheme for researchers, but implemented by every research partner according to his own methodological preferences. All reports on occupational case studies had to deal with the same topics and to follow the same structure, in order to allow for thematic synthesis and cross-country comparison.

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1 WORKS glossary, consultable on www.worksproject.be

Table 1: Selection of occupational groups in WORKS business functions

Business functions	*Sectors for organisational case studies*	*Occupational groups for occupational case studies*
Research and design	Clothing industry	Designers in clothing
	Information and communication technology (ICT)	Researchers in ICT
Production	Information and communication technology (ICT) – software production	IT professionals in software production
	Food industry or clothing industry	Skilled production workers in food or clothing
Logistics	Food industry or clothing industry	Skilled logistics workers in food or clothing
Customer services	Public services or services of general interest	Front office employees in customer relationships in public services
IT services	IT service provision for public organisations	IT consultants or professionals

In this report on synthesis and comparative analysis, the occupational groups 'IT professionals in software production' and 'IT consultants or professionals in IT service provision for public organisations' were regrouped into a single occupational group. Although they belong to distinguishable business functions, they are basically carrying quite similar jobs; they have the same occupational profiles and are concerned by the same changes in work, as explained in the introduction to Chapter IV.

2. The relevance of occupational groups as a research object

Many transformations are taking place in the organisation of work as corporate structures are transformed in the context of economic globalisation and rapid technological change. The restructuring of work in the global knowledge economy goes together with deep changes at the level of the individual and social groups at work. Work identities, quality of working life, trajectories, social bond at work, time use, learning processes, definition and use of skills are all issues that are under the pressure of a new socio-economic paradigm.

The focus on occupational groups is a way of capturing these multiple dimensions of the ongoing changes at the level of the individuals and the social groups at work, and of analysing how social dialogue and institutional contexts are shaping the directions and nature of the transformation of the work experience.

2.1 Recent trends in research on occupations and professions

From a sociological point of view, it is not easy to define an occupational group. Professions or occupations can have three meanings (Dubar & Tripier, 2005): the first one is declarative or expressive (the profession as vocation or business card); the second

meaning refers to the opportunity to earn a living; the third meaning refers to a group of persons doing the same activities or having the same professional status. In the WORKS project, we refer to occupational groups in an understanding closer to this third meaning. Dubar and Tripier (2005) also stress the complementarities of the subjective and objective dimensions of an occupational group.

Important changes in the labour market and in the managerial discourses have however blurred the traditional boundaries of occupations and the entry routes into occupational groups. Occupations are increasingly linked with competences, lifelong learning, and careers, in addition to the classical link between occupations and status. Identities at work are questioned by these changes.

Moreover, differences between 'sociology of professions' or 'professional groups' and 'sociology of occupations' and 'occupational groups' are partly due to translation problems between English and French, mentioned in the literature, and leading sometimes to misunderstandings: for example, there is no equivalent translation of the French word 'metier' into English (occupation is the usual but unsatisfactory translation), and the English word 'profession' has a more restricted meaning (regulated professions) than profession in French or Beruf in German. These translation difficulties also reflect fundamental differences between research traditions in the Anglo-American and French sociology, influenced by their respective institutional and social contexts: in UK, regulated professions and protected labour markets play an historically important part; in continental Europe (France, Germany, Italy), the 'metier' is closely linked to qualifications, vocational training, and labour relations.

According to Dubar & Tripier (2005), three main currents of thought can be distinguished in the sociology of professions or occupations. The first one is the functionalist model (Durkheim, Carr-Sanders, Parsons). The second one is the interactionist approach (Hughes, Becker, Strauss). The third one is a set of more recent theories, sharing a common focus on the social and historical construction of professions or occupations (Abott, Evetts, Piotet, Demailly).

In the functionalist model, occupations are defined as rather homogenous communities, whose members share identities, values, interests and role definitions. In the Anglo-American functionalism, the sociology of professions (Mc Donald, 1995) distinguishes professions and occupations and focuses on the first category, which has specific rights, is organised in autonomous and recognised associations, influences training and access to the professions; all other activities belong to the second category, occupations. In the French sociology, occupational groups generally include both 'regulated' professions and occupations, and sociologists traditionally consider a wider variety of occupational groups.

In the interactionist approach, the key words are biography and interaction. Work is considered as both an individual subjective process and a dynamic relationship with the others. According to Hughes, the interactionist approach to occupations can be defined by four basic principles:

- "Occupational groups are interaction processes, leading the members of a same activity to organise themselves, to defend their autonomy and territory, and to protect themselves from competition.

- Professional life is a biographical process, building up identities along the life cycle, from entry into active life to retirement, passing through a series of turning points.
- Biographical processes and interaction mechanisms have interdependent relations. The dynamic of an occupational group depends on biographical trajectories (careers) of its members, which are influenced by interactions among them and with their environment.
- Occupational groups look for recognition from their partners, develop an occupational rhetoric, and seek for legal protection. Some occupational groups succeed better than others, through their position in the division of labour and their capacity to make coalitions. However all are trying to get a protecting status." (Dubar & Tripier, 2005:90)

The third theoretical stream is less homogenous, but focused on the social construction of occupational groups. Demailly (2004) explains that this social construction is a transformation process of a set of individuals into both a specialised group and a collective actor. She uses three criteria to characterise an occupational group: all its members have a similar place in the technical and social division of labour, transcending the limits of organisations and territories; they share, to some extent, a subjective collective existence; they develop a specific and collective capacity of intervention in the social field. Professionalism is defined by Demailly as a set of competences of an occupational group at a moment of its process of social construction. This set of competences includes individual skills, requirements from the work situation, and forms of social recognition. There are various modes of construction of occupational groups, but they all lead to the development of a collective occupational identity. Evetts (2003) tries to reconcile the functionalist and interactionist approaches, as she establishes a distinction between 'professional professionalism', of which construction is organised and controlled by professional associations, and 'occupational professionalism', of which construction depends on employers, enterprise strategies, organisational choices and labour relations.

Abott (1988) brings a complementary insight in the construction of occupational groups in a service economy. Service occupations are characterised by customer relationships and the role of the client in the recognition of occupations. The core competence of service occupations is the sequence diagnostic – inference – response or processing. Growing service employment leads to 'semi-professions' (Sundin, 2005), in which occupational groups must negotiate the possibilities to apply their knowledge at the workplace. Boundaries of professional expertise are negotiated not only among different occupational groups, but also between such 'semi-professionals' and their clients.

Most of service occupations, which are not regulated professions, have to find their recognition through 'inter-professional competition', which is compared to an ecological selection process (Abott, 2003). An occupational group becomes a winner in this inter-professional competition when it succeeds in reducing the work done by a competitor to a partial or incomplete version of own work.

There are several reasons why the concern for studies of occupational groups is currently increasing. According to Piotet (2002), the dominant managerial discourse on competences and professionalism reflects a transition from occupations that were defined as qualifications and related to the workplace, towards occupations defined as metiers and related to individual skills and careers. She characterises this transition as a shift from a procedural concept of occupation to a patrimonial concept.

Other authors stress that the evolution of occupations and the increasing aspiration to professionalism within occupational groups is a consequence of the development of the knowledge-based economy and the learning society (Svensson, 2003; Sundin, 2005). "The interest of theory of professions could, among other things, be understood in the context of the increasing specialisation in working life, combined with the acceleration of institutionalised expertise in society. Theory of professions focuses in particular on the relations between occupational groups, theoretical knowledge and the possibilities for practitioners to exclusively apply such knowledge within their occupational practice. The workplace is a meeting place, not just for practitioners and their clients, but also for competing professional interests, power relations, and occupational identities." (Sundin, 2005)

2.2 The WORKS approach to occupations

In the design of occupational case studies, we did not consider all the debates about professions and occupations (Vendramin & Valenduc, 2007). To support the empirical work of the WORKS project, we agreed on a basic common understanding of an occupational group as the result of a community of work/activities (common tasks), whatever can be the entry routes into a job. An occupational group is understood as a job family including jobs that are related in one or more ways; ex. similarity of functions performed, knowledge and skills requirements, and/or category of work (for example, assistance, technical or administrative). An occupational group is a group of persons who are doing the same activities or having the same professional status. It is not a professional group in the English meaning of the term "profession".

An occupational group is a fuzzy, segmented and evolving set of individuals, gathering people who have the same 'name', a relative social visibility and a political legitimacy on a significant period, even if occupational profiles are subject to deep changes.

"An occupational group is neither a collection of individuals nor an administrative category (socio-professional categories). It is the result of a process that has to do with 1) social organisation, 2) the functioning of the labour market and 3) individual subjectivity (meanings of work). An occupational group is both a way of defining oneself and a social process." (Dubar, 2004:94)

Paraphrasing Demailly (2004), we consider that three items are relevant for the identification of an occupational group: similarity of position in the work sphere, regardless of specific organisation or territory; the existence of some kind of collective feeling; an ability to engage in specific and coordinated interventions in the social sphere. An occupational group is a specific group with a specialised place in the division of labour (and subsequently in business functions along the value chain) and collective dimensions and capacities.

Therefore, the WORKS approach to occupational groups makes explicit references to the interactionist approach (notably the methodological focus on biographies and careers) and to the social construction of occupational groups.

So, the units of analysis of occupational case studies are here the occupational groups that are connected to the activities included in the organisational case study research. This

makes it possible to exceed the level of the organisations included in the case studies and to draw conclusions at the level of the occupational groups and their societal dimensions.

Through the analysis of occupational groups, the researchers address the individual dimensions of changes in work. This covers many issues that are organised around a set of intertwined themes, which emerges from the state of the art of current research in the previous research stage (Huws ed., 2006). These issues will be formulated into research questions in the next section:

- Work biographies, career construction and choices
- Changes in occupational identities
- Quality of work (working conditions, health and safety, stress, time use)
- Learning and skills development
- Work life balance, including household dynamics (questions related to conciliation, family formation, children).

3. Problem setting of occupational case studies

As above-mentioned, the purpose of the study of occupational groups is to address the individual level in changes at work, through individual interviews including a biographical dimension [2]. Targeted research questions to be dealt with at the individual level are derived from the common conceptual framework developed in the first phase of the project (Huws ed., 2006) [3]. This section summarises the outcomes of this theoretical approach that are the most relevant for occupational case studies.

3.1 Work biographies, career construction and choices

The literature overview carried out for the WORKS project does not allow to take for granted that organisational careers are either disappearing or becoming anachronistic in new patterns of work organisation and restructuring, although the boundaryless concepts looks like 'in-line' with value chain restructuring. Empirical data collection has to consider both *boundaryless and organisational careers* and to investigate the various rationales behind.

Factors of differentiation of career patterns not only include individual and organisational aspects, but also the *role, policies or strategies of institutions and agents on the*

2 Sections 3 and 4 of this chapter already appeared in an article written by the same authors for a special issue of a the Bulgarian Journal "Sociological problems", published at the initiative of the Bulgarian partner of the WORKS project (Vendramin & Valenduc, 2007).

3 In this publication (Huws U., ed., 2006), the most relevant contributions to the "occupational dimension" are those of Vendramin P., Valenduc G., Flecker J., Papouschek U. (chap. 8, New career trajectories and occupational identitites); Krings B.J., Makó C., Illésy P., Csizmadia P. (chap. 6, The use of knowledge and communication); Altieri G., Oteri C., Pedaci M., Dahl-Jörgensen C., Saetermo T., Torvatn H. (chap. 9, Changes in work and quality of life); Ramioul M. (chap. 7, Organisational changes and the demand for skills). Extended bibliographical references on the research questions regarding occupational groups can be found in these contributions and are not reproduced in this chapter.

labour market. Such roles and policies are often undermined in the individual approach. The key issue is to understand how they interact with the individual choices.

Not all trajectories on the labour market are implicitly considered as 'careers', but mainly those who are 'target trajectories'. From the labour market point of view: multiplication of transitions and diversification of trajectories encompass a wide range of situations, mainly shaped by increasing flexibility of work contracts and work status. *Transitions periods* are also shaped by public policies (re-insertion of the unemployed, conversion after restructuring, re-entry on the labour market, etc.). Boundaryless trajectories also include constrained mobility or precariousness, not only 'voluntary' nomadic pathways.

Gender and *ethnic factors* are also an important concern for equal career opportunities. In order to be efficiently dealt with in empirical investigation, the subject is also targeted.

3.2 Changes in occupational identities

There are diverse components in occupational identities; two important components are: *recognition* (of knowledge, competences, experience, responsibilities) and *commitment* to work or tasks and/or to an organisation. Changes in work and the restructuring of the value chain modify these components. Restructuring modifies the parameters and contexts of individual recognition. In the restructuring of the value chain, the business functions become the area of mutual recognition. Commitment can be more important to work or tasks than to organisation. Recognition can come from peers and the clients more than from the organisation. In this case, occupational identities are less sensitive to restructuring and organisational changes. Identification is more based on work and functions than on organisations or sectors. Some authors also argue that the nature of recognition expected from work is changing, from *appreciation* to *admiration.* New organisational models favour the second type of recognition.

Occupational identities are on the hand, *individually generated* and on the other hand, *socially generated*. It is a transaction between identification desires and institutions that gives status and diverse forms of recognition. In the knowledge-based society, it is supposed that the institutions of work (organisations, training operators, labour market intermediaries) play a weaker role and that workers have more resource and desire to build their occupational identity. However, there is empirical evidence that demonstrates huge inequalities in this field, many workers are more and more dependant of institutions to access to positive occupational identities (not to retreat or blocked identities).

Flexibility/instability/reorganisation have an *ambivalent impact* on occupational identities. Some are blocked, other promoted. The effects will depend on the combination of various factors: socio-economic factors, cultural factors (strong/weak enterprise culture) and subjective factors (attitude to work). The transformation in occupational identities cannot be explained in a 'mechanic' way: all workers with a same profile will not react in the same way to restructuring.

The transformation of occupational identities expresses *the shift from community relationship to society relationship* (decrease of the fusion type, increase of the negotiation type). Society forms of occupational identities are not less compatible with collective life. Social bond, solidarity and collective consciousness in work are not disappearing but the forms and temporalities of the social bond within work are changing. They are closer to a

logic of network, organised around projects, with individual involvements rather than to the logic of community that is at the core of the trade-union institution.

Despite globalisation and international work, *occupational identities are locally constructed*. Local culture and values remain central in the construction of occupational identities. Such assumption is questioned in the perspective of globalisation and restructuring of the value chain.

Knowledge plays a dynamic role in the transformation of occupational identities. In this dynamic role, the interactions with others are crucial, both for the learning process and the recognition in a new identity. Organisations can more or less support such learning and identification processes.

Finally, a social identity is a *combination of diverse identities*. Occupational identity interacts with other identities (outside work) that constitute a self-identity. Gender identity plays a key role in this combination. The importance of the occupational identity within a social identity will vary among individuals. Some authors assume that occupational identity does not have the same central place as earlier in a social identity. The impact of restructuring and the threats on occupational identity will depend on the role played by occupational identity within a social identity.

3.3 Quality of work

The quality of working life is central not just for the well being of workers but also to promote social inclusion and drive up employment levels – thus, it is also linked to employment and social policies. In the reports on Employment in Europe the following *dimensions of quality of work* are highlighted: job security and its absence, access to training and career development, gender equality, flexibility and security, inclusion and access to the labour market, social dialogue, worker involvement, work organisation and work-life balance. Trends in work and employment – as well as in social security and public policies – are crucial for the quality of life and well-being. In an empirical qualitative investigation, quality of work can be approached through questions concerning the following topics: status in employment, potential support from public policies, work rhythms, working time, autonomy/control, well-being, potential for self-development, health and security aspects, gender 'sensitivity' of organisations.

The quality of work in all its dimensions linked to relations, conditions, times, contents, significantly influences quality of life. As demonstrated by many sources of literature changes in working modalities and times have on the one hand *a 'liberating' potential for individuals,* yet, on the other bring *risks both at the individual and collective levels.* A first risk concerns the threat to social integration or social cohesion. A second risk is the social exclusion of given targets groups of the population, in particular weaker individuals (older workers, single parent families, women going back to work, immigrants, workers dismissed from production industry, those with a low education level, people with disabilities).

Quality of work also comprises *quality of time* and presupposes that time less colonised by work gives the individual the possibility to do other activities and to achieve a new balance between work and private life, thus augmenting individual and collective well-being.

Quality of life and well-being are central to the *participation of individuals and households in society* and the levels of security they can dispose of to fulfil their needs and choose a certain lifestyle. These societal challenges are addressed in the research questions.

3.4 Learning and skills development

The restructuring of value chains involves an increasing standardisation and fragmentation of processes which allows them to be configured and reconfigured in a variety of different ways to suit the needs of a given corporation or group of corporations at any particular time. This standardisation and fragmentation cannot take place without changes in the use of human knowledge and skill in a process of commodification. The commodification process drives a continuous process of restructuring which always has a double edge. Each innovation simultaneously requires a new cohort of creative "knowledge workers" who, in the very process of developing new innovations, bring about, albeit indirectly, the routinisation of the work of others. *'Upskilling'* therefore goes hand in hand with *'downskilling'* and new forms of specialisation accompany the development of increasingly generic activities.

The impact of ICT on skills and knowledge is also an upgrading and downgrading/deskilling dichotomy. The effects of ICT on skills and knowledge must be understood in the framework of a *mutual shaping between the technological environment and the organisational context*. Another concern about the impact of ICT is that they move the border between tacit and codified knowledge. Specific questions in the research focus on the role of ICT.

A *knowledge worker* is someone who has access to, learns and is qualified to practice, a body of knowledge that is formal, complex or abstract, and who manipulates symbols and ideas. This definition raises the question about the degree of manipulation and creation of new knowledge in a lot of the jobs. It is necessary to distinguish between the increased significance of 'knowledgeability' at work and a more restricted category of knowledge workers — as those who manipulate symbols and ideas requiring substantial thinking skills. Some work's components (autonomy, control, level of responsibility, level of self-organisation) state the knowledge dimension of work.

The development of skills and competences requirements questions the *boundaries between mobilisation of knowledge and subjectivisation of work*, or the commercial utilisation of the "whole person" of the worker with their physical, cognitive, psychic and emotional potentials.

It is also widely accepted in the recent literature on *knowledge* and *social capital* that the development of *communities of practice* is a key structural precondition of social capital creation. Communities of practice help shape the actual terminology used by group members in everyday work communication. In addition, they generate and share the knowledge objects or artefacts that are used by community members. Equally as important, communities generate stories that communicate the norms and values of the community and of the organisation as a whole. These stories enable new members to take cues from more experienced personnel and allow the development of a community memory that perpetuates itself long after the original community members have departed. The interpersonal dynamics of the relationships of social capital is related to the *trust-based regulation* of human behaviour). Without a shared history of common

experiences and interactions or, in other words, without participating in the 'collective learning process' we cannot speak about trust relations based on reciprocity.

3.5 Work life balance, including household dynamics

The issue of work life balance is connected to the issue of quality of work. However, within the WORKS perspective, it was intended to focus specifically on this issue, so it is treated as a specific point to be able to include questions related to household dynamics. The household perspective covers several questions that can be connected to work; it concerns: family formation, decision to have or not to have children, care responsibilities, career choices, etc. The research questions address some relevant societal issues.

- The issue of 'family-friendly' policies at the company level: what kinds of organisations do develop family friendly initiatives or policies, what are their motivations and what are the outcomes.
- The impact of work and careers on family formation (and dissolution), and particularly the impact of work on diverse family contexts and on women's trajectories.
- The issue of increasingly blurring boundaries between work and private life, linked to the growing flexibilisation of work, and the associated risks and opportunities for individuals and society.

There is some overlapping between these five themes. Obviously, this is unavoidable in the sense that the project is targeting 'the individual dimension of changes in work'. However, the subdivision in five themes helps to concentrate on specific aspects that can be relevant for cross-national comparative analysis and for policy analysis.

4. The comparative approach

Comparative analysis is indeed a challenge in the study of the individual dimension of changes in work [4].

There are different types of theoretical frameworks that are used by researchers in cross-national comparative analysis. In the field of labour market and employment arrangements, Rubery and Grimshaw (2003) propose a classification of theoretical frameworks that is relevant to specify the kind of comparative analysis that could be done within the WORKS project. They distinguish three main theoretical frameworks and their related schools of thought: universalists, culturalists and institutionalists.

Universalists state the general relevance of common models of social and economic organisation whatever can be the social context. They consider that there is a one best way, as a best practice, and that differences between countries are not fundamental, they only reflect 'objective' economic or technological differences between societies or sectors,

4 This challenge is more in-depth discussed in the contribution of Patricia Vendramin and the contribution of Makó C., Csizmadia P. & Illéssy M. to Flecker & Papouschek ed., 2006.

or political/institutional barriers to implement the best practice. The logic of this approach is to expect some convergence in work arrangements and work organisation between countries when all objective factors reach the same level and when institutional or political barriers are removed.

In the culturalist approaches, differences in culture are used to explain differences in organisational and management forms, differences in employment policies and practices. There is however few dynamic concern to understand how cultural dimensions are build and how they evolve. A key reference in the culturalist approach is that of Hofstede (2001).

Institutionalists focus on variations within a society. In this perspective, variations in organisations among countries reflect how they are embedded in a societal system. The set of institutional arrangements and societal structures can explain the differences between and within societies. Social and institutional arrangements are critical in structuring organisations and the labour markets. In this perspective, institutions are important, societies make choices and engage themselves in particular path of development or specific national trajectories. The social and institutional arrangements have interlocking and inseparable effects that generate a specific societal logic or *societal effect*.

From the societal effect perspective, differences in professional trajectories, organisations, labour markets and employment policies are consequences of differences in societal logics and societal trajectories. Common pressures due to globalisation do not lead in a process of convergence but in changes in societal institutions: particular forms of response will reflect particular societal logic.

The societal effect approach tries to understand how institutional characteristics and arrangements affect a societal system. The societal effect approach has been involved in many debates, starting with 'industrial society', then new technologies, new organisational patterns, multinational companies and globalisation. The idea is to demonstrate that innovations (organisational, technological) are not transforming previously known arrangements completely and in a convergent way. Maurice (1989) was one of the first scholars who elaborated the societal approach. His research questions are based on the statement that "there is a striking difference between what is often claimed when a phenomenon is relatively novel and what emerges after it as become more widely widespread in different societies" (Maurice and Sorge eds., 2000:390). Within the societal approach, some researchers have also developed the dominant country theory, which states that in every era there is a dominant model/dominant country that others try to imitate.

According to Maurice, the *societal effect* approach is "a special form of the structural analysis in stressing the intimate or inseparable relations (reciprocity relations) between the actors and the system (…) The interdependency of the objects within this structuration domains and actors represents the so-called 'national coherence' varying from country to country. Therefore, the societal effect approach has such paradoxical characteristic: it intends to compare the incomparable" (Maurice and Sorge eds., 2000:390). The logic behind this type of comparative analysis is not the 'rationality' (universalist approach) or the 'national culture' (culturalist approach), but the construction of actors in their relations with a wider society. The societal effect approach has the ambition to socialise

the objects of investigation whereas others tend to de-contextualise them in order to make them comparable.

Despite some critiques and limitations, the 'societal effect' approach seems to be the most adequate theoretical background in order to carry out the comparative analysis of occupational groups in different institutional settings.

5. The selection of occupational groups in the WORKS project

5.1 Selection criteria

The business functions, which represent different steps in a global value chain, are the entry point to select occupational groups. Then, a set of criteria underpins the selection of specific occupational groups within these business functions. As the research focuses on the changes in work in the knowledge-based society, an obvious key criterion was to choose occupational groups that are effectively concerned by *changes in work* and *knowledge requirements*. Other important criteria were:

- To select *new and old occupational groups* (more or less structured). It is interesting to observe the transformation of older or more traditional occupational groups and the structuring of emergent occupational groups.
- The occupational groups have to be concerned by *knowledge changes*. It is important to look at the ways knowledge changes come across diverse occupational groups.
- The choices must also allow tackling the *gender dimension.* Occupational groups had to be diversified from the gender perspective: male, female and mixed occupational groups.
- Having a diversity in *levels of qualification* is another important criterion for the selection of occupational groups for the changes in the knowledge-based society are not an issue restricted to highly qualified workers.
- As the knowledge-based society is often associated to information and communication technologies, it was also important that the range of occupational groups cover occupations *more or less intensive in ICT*.
- To catch the different steps in a career trajectory an also the hypothesis on the differentiated attitude towards work of generations, it was also important to take into account *age diversity*.
- *Ethnic characteristics* (native, migrants) are also an important dimension that has to be part of the approach of occupational groups.

5.2 Selection of occupational groups for case studies

According to these criteria, and taking into account the required convergence with business functions selected in the organisational case studies within the project, the following seven occupational groups were selected.

Business function: research & development, design

- Occupational group: designers in the clothing industry. It concerns creative workers in the clothing industry: dress designers, product line designers, fashion designers of diverse clothes or accessories. A variety of work status (employees, free-lance, independent subcontractors, etc.) may be considered.
- Occupational group: researchers in ICT. This group refers to ICT professionals, engineers or other scientists who are working in software research (not in software development or in IT consulting services). It can concern diverse areas of software research: artificial intelligence, voice and image recognition, biometrics, human machine interfaces, grid computing, ubiquitous computing, networking software, ambient intelligence, etc. Software laboratories as well as virtual research teams may be considered.

Business function: production

- Occupational group: skilled and semi-skilled production workers: factory workers, craft workers, production technicians, process controllers, etc. It can be either in the clothing industry or in the food industry, depending on the organisational case studies conducted by the concerned research teams.
- Occupational group: production workers in software. It concerns ICT technicians or engineers in software production, development and maintenance: system analysts, developers of software applications, programmers, coding specialists, specialists of software maintenance, data base engineers, etc. This area of software production is supposed to be the most confronted to relocation or off-shoring.

Business function: logistics

- Occupational group: skilled and semi-skilled workers. It concerns storekeepers, warehousemen, buyers, supply chain supervisors, product line managers, chief line managers, involved in both virtual and material logistic work – either in the food or the clothing industry.

Business function: customer service

- Occupational group: front office employees. It concerns employees providing services to customers in public administration or in services of general interest (postal services or railways). It concerns both on line and face-to-face service provision.

Business function: IT service providers

- Occupational group: IT professionals. It concerns IT professionals working for IT service providers and IT consultants who develop, parameterise or implement software solutions and systems for public administrations and/or for services of general interest.

Table 2: Distribution of occupational case studies among the research teams

WORKS matrix of occupational groups	ATK (SE)	FORBA (AT)	FTU (BE)	FTU (FR)	HIVA (BE)	IET (PT)	IRES (IT)	IS (BG)	ISB (HU)	ISF (DE)	ITAS (DE)	SINTEF (NO)	UPSPS (GR)	UT (NL)	WLRI (UK)	NRCWE (DK)
Designers in clothing				X		X					X					
Researchers in ICT laboratories		X		X						X		X				
Production workers in software development	X							X	X		X					
Production workers in food or clothing					X	X	X					X	X			X
Skilled workers in logistics in food or clothing					X			X						X		
Front office employees in customer services in public services	X	X	X				X		X	X					X	
IT professionals in IT providers for public services			X											X	X	

5.3 Organisation of the field work and reporting process

5.3.1 Organisation of individual interviews and reporting

The interviews are semi-structured, based on common guidelines. The purpose is to cover a range of topics in all interviews but at the same time to keep a narrative dimension and to cover the work trajectory of the informants.

As the interviews intend to capture information on career trajectories, the interviews will have a biographical dimension. This means that the informants will be asked to 'tell' their career story: opportunities, choices, coping strategies, transition periods, significant events or others.

Even if the interviews will not have a pure narrative design, it remains important to keep a narrative dimension. This means that even if the interview is semi-structured, it is conducted in an open way. The main idea is to stimulate a person to tell about significant aspects, moments of his work-life and trajectory. Normally the interviewee covers several

pre-determined topics (cf. guidelines) in his narration, in his own sequence. The role of the interviewer is to stimulate, listen, and suggest the topics (Becker, 2002).

A small questionnaire will be filled in at the end of all interviews, making sure that all the key data have been collected (gender, age, ethnic origin, brief job description, family status, work status, etc). These key data questionnaires will provide some quantitative information for analysis of the sample and for documenting the comparative analysis.

A common guideline for interviews is published in the handbook for researchers (Flecker & Papouschek eds., 2006), in order to have a common approach of the occupational groups and to address all the research questions in a common way. This interview guideline is annexed to this report.

The analysis of the interviews is structured around the five themes that gather all research questions: trajectory, occupational identity, quality of work, knowledge and learning, work-life balance. Qualitative analysis is not a rewriting, it is an interpretation work that supposes rules of method (Paillé & Mucchielli, 2003). Each research team has specific experience in methods for qualitative analysis, diverse methods can be used that into account the background of each teams. Each team will produce one report per occupational case study, structured according to the five themes:

Within these five themes, gender has to be considered as a transversal dimension. The analysis aims at identifying the dynamics of changes and the interrelations with the restructuring of organisations.

5.3.2 Organisation of comparative analysis

The comparative analysis was conducted in two successive steps: the first one was prepared by each research team; the second one at the cross-national level by the workpackage coordinators.

Each team produces one report per occupational case study. In these reports, the researchers highlight conclusions and hypothesis on the contextual variables and explicative variables that can help to understand the current situation of these occupational groups in their country. This preparation of the comparative analysis can consider diverse angles: it can analyse themes within same occupational groups; it can analyse themes across all the occupational groups.

The cross-national comparison uses these conclusions and hypothesis formulated by the each research team. FTU and ITAS conduct the cross-national analysis on the basis of the national team reports.

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Chapter II
Occupational monograph – Designers in the clothing industry

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1. Description of the occupational group, main features

1.1 General trends of the sector and occupation in Europe

Background information on employment and occupations in the clothing industry can be extracted from the reports of the WORKS quantitative studies [5].

In the former Member States (EU-15) as well as in the new Member States (NMS), the textile and clothing industry steadily declined during the last decade: employment fell by 32% in EU-15 between 1996 and 2004, and by 15% in NMS between 1999 and 2004.

The occupational structure of the textile and clothing industry is dominated by the category of production workers (67% of the sectoral workforce), which has known the highest rate of job losses.

As far as statistical categories and accurate survey data could allow for an identification of the business function 'design in clothing' (Geurts & al., 2007:35-39), employment in this occupational category was stabilised from about 72000 to about 73000 workers between 1996 and 2004 (EU-15 without Sweden, Finland and the Netherlands). R&D and design account for round 4% of the sectoral employment. This trend is convergent with an increasing 'tertiarisation' of employment in the textile and clothing industry: the share of white-collar workers in sectoral employment increased from 22% to 28% between 1996 and 2004, to the detriment of blue-collar workers.

According to data from the European Labour Force Survey (Brindinelli, 2007), the changes in non-standard employment (temporary, part-time or self-employment) were not that important: between 1996 and 2004 (EU-15), the share of temporary employment in total sectoral employment increased from 8.9% to 9.3%; the share of part-time employment, from 10.7 to 12.4%; the share of self-employment, from 13.3 to 14.4%. No accurate data is available for the function R&D and design.

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5 Concerning this occupational group: mainly Geurts K., Coppin L., Ramioul M. (2007), *The transformation of work? – Tracing employment in business functions: a sectoral and occupational approach*, WORKS deliverable 9.2.1; also Brindinelli L., Rustichelli E. (2007), *The transformation of work? – Work flexibility in Europe: a sectoral and occupational description of trends in working hours, part-time work, temporary work, and self-employment*, WORKS deliverable 9.2.3.

1.2 Characterisation of the occupational group

In the value chain of dress design, the workflow is usually organised as follows, however with variations related to the type of product or the size of the enterprise [6]:

- The design director, fashion designers and merchandisers establish the concept of the collection, its price segment and marketing mix.
- The fashion designers draw a first draft design or model for one size and the technical designers (eventually in collaboration with material engineering units) work out the materials needed to create this design and the required operations.
- The technical designers and material engineers test the materials and suggest changes if needed.
- The production engineers optimise the production process of the new designed dress (time schedule, use of resources); they prepare technical drawings for manufacturers, measuring the time and the cost necessary for each manufacturing operation.
- Meanwhile, based on the information given by the different units, the pattern makers draw up a pattern. The patterns, together with instructions (about the stitching methods, materials, etc.) are given to the prototype stitchers, who make a first prototype.
- The prototype stitchers communicate mismatches in the pattern and instructions to the relevant units (fashion designers, technical designers, production engineers). The prototype is tested by volunteers (people from outside and inside the company) and if needed, the different aspects of the design will be modified based on the feedback from both the prototype stitching and testing.

This is a continuous interactive process, which ends up when the design is finalised. It is important to stress that a new model is based on the combined knowledge of the fashion designers, technical designers, pattern makers and prototype stitchers.

Within this business function 'design in clothing', which is one of the business functions included in the WORKS organisational case studies, the occupational case studies are focused on **creative workers, i.e. fashion designers and, to a lesser extent, technical designers**, who represent the first two steps of the above description of the design segment of the value chain.

According to the UK Association of Graduate Careers Advisory Services (AGCAS), the range of tasks of fashion designers depends on the market each designer is producing for, but core responsibilities include (Halloran, 2007):

- creating/visualising an idea and making a sketch by hand or using computer aided design (CAD);
- analysing trends in fabrics, colours and shapes;

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6 About organisational aspects of design function, see section 1 of: Tom De Bruyn and Monique Ramioul (2007), *Wonderwear. Organisational case study on design in the clothing industry*, WORKS working document, HIVA-KUL , Leuven.

- keeping up to date with emerging fashion trends;
- planning and developing ranges;
- working with others in the design team, such as buyers and forecasters, to develop a product to meet the brief;
- liaising closely with sales, buying and production teams to ensure the item complements other products;
- developing a pattern that is then cut and sewn into sample garments;
- sourcing, selecting and buying fabrics;
- adapting existing designs for mass production;
- supervising the making up of sample garments;
- overseeing production;
- negotiating with customers and suppliers;
- managing marketing, finances and other business activities if working on a self-employed basis.

According to the size of the company and the forms of division of labour, experienced designers or contracting free-lance designers may focus more on the design aspect, with model makers and pattern cutters preparing the prototypes and samples. In smaller companies, designers often must follow up the value chain further to the organisation of production (Halloran, 2007; US Bureau of Labour Statistics, 2007).

1.3 Characterisation of the case studies and interviewees

This chapter is based on three occupational case studies, from France, Germany and Portugal. The authors of the case study reports are Maïra Muchnik (France, FTU), Linda Nierling, Bettina-Johanna Krings and Martin Bechmann (Germany, ITAS), Ana Vasconselos da Silva, Tobias Woll and Margarida Paulos (Portugal, IET).

The case studies represent a heterogeneous group in terms of organisational working contexts and work contents. The Portuguese case study includes not only fashion designers, but also technical designers whose job basically consists in developing new fabrics. The interviewed Portuguese fashion designers work in small organisations, having created their own atelier or working in a 'haute couture' atelier. On the other hand, the French and German case studies only deal with fashion designers. In the German case, they work for family-owned, medium-sized businesses (two firms) while in France they work in three organisations: luxury fashion (big international firm), a clothing group part of the main chain stores of specialised distribution existing today on the French market, and like in German case, in a medium-size family enterprise.

In order to get a significant sample of the occupational group, several interviews were carried out in other companies than those included in the organisational case studies of the business function 'design in clothing'. About half of interviewees do not belong to the firms concerned by organisational case studies.

Table 3: Sample of the comparative analysis of the occupational group 'designers in clothing'

Number	*Country*	*Sector*	*Type of positions*	*Number of interviews and analysed firms*
1	France	Clothing industry	Fashion designers	7 interviews in 3 firms
2	Germany	Clothing industry	Fashion designers	6 interviews in 2 firms
3	Portugal	Clothing industry and R&D in clothing	Fashion and technical designers	9 interviews in 4 firms

The sample of interviewees is composed of 22 persons: 17 women and 5 men. The age of interviewees runs from 27 to 53. The average age is about 37. The age distribution is rather unbalanced among countries: German interviewees are older (all over 40), while Portuguese interviewees are younger. Less than the of interviewees are married or live with a partner (only 45 %). One half of the respondents have children who are still at home or dependent, and the other half has no children.

The training background is divided between fashion design degrees (two thirds of the sample), other university degrees and specialised technical degrees.

All German interviewees are fashion designers, except for one who is sales director. All French interviewees are designers. In Portugal, four interviewees work in technical design, four in fashion design and one in design management. The mobility on the labour market is rather important: almost half of the sample has known more than two successive employers before their current job.

2. Work biographies and career trajectories

2.1 Career trajectories

The educational background of dress designers mainly consists of higher education degrees, either at universities or in specialised public or private high schools. Some interviewees started with other degrees in higher education, but completed their background by complementary degrees or vocational training in fashion design. Initial degrees were often followed by a period of practical training in companies, or as assistant of well-known designers. Technical designers come from specific technical training schemes in high schools. So, it is a highly qualified and specialised occupational group.

The career trajectories of technical designers and fashion designers are quite different. Technical designers have typically organisational careers, sometimes after some other short work experience elsewhere in the textile and clothing sector. In Portugal, the development of technological centres for the textile and clothing industry created opportunities for the development of new areas of design, based on textile material innovation; it gave way to new employment and career possibilities.

Trajectories of fashion designers are much more different and diversified. In the three case studies, the work biographies of fashion designers are characterised by rather frequent changes between status of self-employed and employee and between employers, mainly at the beginning of the career, but also later on. Some interviewees started as free-

lancers and later got a position as employee; other interviewees accumulated professional experience and built up professional networks as employees, and continued as free-lancer or self-employed, or created their own brand. The image of the occupation is often characterised by insecure employment conditions and frequent changes. However, the empirical results show that older designers stay over years in the same companies, whether as employees or freelancers. The turnover of designers depends on the type of enterprise they are working for: haute couture, ready-to-wear, or high street fashion.

Freelance contracts are increasing in the clothing sector, but they are often experienced as nearly fixed contracts; sometimes, there is a long-term commitment of the principal contractor. In fact, several companies use the freelance status as a disguised wage system. The company gets tax advantages and reduced labour costs. For the freelance designer, it does not mean necessarily more precariousness, but more often more autonomy in time management and a feeling of freedom towards the contracting company: they are part of it, without belonging to it. However, a freelance worker does not take advantage of the benefits linked to the company personnel (training, bonus) or to the employee status (maternity leaves, social protection).

The freelance status is controversially experienced by the interviewees, as told by a French designer: "*In a way, you have more precariousness than being a salaried, but at the same time I feel that I have a bit more freedom because I am less linked to the company than before, when I was salaried*" (quoted by Muchnik, 2007). A Portuguese designer, formerly employed in a company in Paris, is working now as self-employed, partly as freelancer for the same company: "*I know the business better than them and I sell them the ideas they are searching for, without giving them the really good ones, those I save for my own clients*" (quoted by Vasconcelos da Silva & al., 2007). When the freelance status is linked to frequent changes, the appraisal is more negative: "*To change every two years is very exhausting, because normally you need a certain time to arrive in a company. I say always, the best is to have two seasons, one summer season and one winter season, if you have experienced those, then you know better the internal processes"*(German designer, quoted by Nierling & al., 2007).

Changes of employer (or of principal contractor for free-lance designers) or changes of positions are considered quite normal. They can be explained by three categories of factors: individual creativity; career progression; consequences of restructuring.

- Individual creativity: several French interviewees observed that the implicit rule is to work no more than three or four years for the same trademark. As said one of them: "*to produce new things, maybe you need different personalities*" (quoted in Muchnik, 2007). So, mostly for luxury fashion or non-standardised fashion, one of the reasons for frequent changes would be related to the artistic side of the profession, establishing a direct relation between one person and one style. However, several French interviewees have worked or are working for more than fifteen years for the same company… and the above quotation of a German designer remembers that changes of positions are exhausting.
- Career progression: changing company is also the better way to get a carrier progression, from assistant designer to designer, chief designer, head of design department. As such positions are rather rare and, as recruitment is based on accumulated experience, designers have to move where they are available. Career progression can take other forms than hierarchical careers: for example, leaving a

company to create his own business, as experienced by several Portuguese interviewees and wished by a French interviewee.
- Consequences of restructuring: professional mobility can be constrained by job losses due to restructuring. The case studies mention examples of a designer fired out because the company was sold as a licence to a Chinese society, or a freelance contract terminated because of the discontinuation of the fashion division in a luxury company.

Looking through the 22 individual career trajectories described in the case studies, five career profiles can be drawn: the artistic profile; the individual fulfilment profile; the progressive career; the entrepreneurial career; the fragmented career.

- The ***artistic profile***: the designer has a passionate vocation for creative design, wants to work only with 'interesting' people and is not motivated by following guidelines. The occupational identity is summarised in the 'portfolio' (the book gathering one's best personal creations), which is also the skills passport and the CV. Nomadic careers are frequent in the artistic profile, and they are accepted as a necessity to achieve artistic goals. As says a French designer, quoted by Muchnik 2007, "*normally, I follow my heart*".
- The ***individual fulfilment profile***: the designer tries to find the optimal combination between the creative motivation, the need for employment security, and the work life balance, notably the location of work, the personal management of time pressure, and the family obligations. Several individual examples, in the three studied countries, show that the occupation of fashion designer can provide a successful combination of motivation, security and work life balance. There are however several opposite individual cases, for whom the career choice was made at the detriment of other choices, notably the family formation (cf. section 6).
- The ***progressive career***: the designer follows the step-by-step progression as described in the formal career descriptions of fashion designers (Halloran, 2007). Even if they require changes of employers, such careers can provide rather secure and stable employment conditions. The sample of interviewees only contains few examples of progressive careers, but they are quite representative of this 'formal' profile. As analysed in the German case study, "the insecure working conditions, increased speeding up processes and the high flexibility of the branch stand in deep contrast to the personal needs of the designers. (…) Secure working conditions seem to be even more important than the work on exciting projects if they are strongly related with insecure working conditions" (Nierling & al., 2007:4).
  Technical careers are a variant of the progressive career, but more focused on progression into more complex innovative or problem solving activities, than organisational responsibilities; they were only observed in the Portuguese case.
- The ***entrepreneurial profile***: the purpose of the designer is to create his own atelier or his own brand, after gaining experience from working as an employee or a freelancer for several companies. "Their knowledge based on their experience in companies allowed them to know how to move as independent workers, and with an international knowledge they could settle anywhere they would like. They decided it was the moment to open their own atelier: knowledge; available money; contacts; clients" (Vasconcelos da Silva & al., 2007:5).
- The ***fragmented career***: this career is a mix of voluntary and constrained choices, and of successful and unsuccessful job experiences. The succession of status and/or employers

is not only the result of personal choices. Fragmented careers often include renunciations: to more interesting jobs, to preferred work locations, to family formation.

2.2 Changes and driving forces

Organisational settings strongly influence the career trajectories of designers. The case studies provide several examples of organisational restructuring, which strongly influence those trajectories.

The German case study highlights the strategic orientation of some clothing firms towards 'vertical integration' of business, i.e. coordination and control of the whole value chain, from design to production, distribution and sales, with a continuous feedback from sales to design of collections and models. Well-known models of vertical integration are, for example, Zara or H&M (DTI, 2004). One of the French companies also seeks for fluid feedback from distribution to design, although it uses a different outsourcing model for its production. The key impact on designers is the acceleration of the renewal process of collections and models. Designers are increasingly working under continuous time pressure, whilst traditionally their creativity and work rhythm were determined by two annual collections. This 'speed-up process' will be analysed furthermore, as its main impacts concern quality of working life rather than careers. Anyway, companies tend to use more flexible design workforce, preferring freelance contracts to employment contracts.

Some interviewed designers, in the three countries, are reluctant to this trend, which is considered as a threat to their creativity. They have to choose between staying in their organisation, accepting less 'interesting' design tasks, or leaving for more motivating, but riskier jobs (the artistic career trajectory). Organisational and personal factors interfere in these choices.

Another change, mainly illustrated by the Portuguese and German reports, relies on innovation in materials (new fabrics, new colouring processes, new properties of materials), which open the range of possibilities for designers. This trend positively influences the career of technical designers, but also opens opportunities for fashion designers who want to create their own atelier or their own brand in new 'niches' of the market (cf. the entrepreneurial career path in the preceding section).

2.3 Institutional arrangements

The case study reports mention very few institutional arrangements related to career trajectories. As not unexpected, the occupation, career and wages of fashion designer are not regulated by any collective agreement. The use of 'fixed freelancers' is also a way of bypassing social regulations, but as freelancers are not complaining, there is no conflict and therefore no jurisprudence.

According to the German report, the high qualification structure of this occupational group "reflects a structural development in the German clothing sector. Since the 1990s the development of new technologies and the use of knowledge became a very important factor in the German clothing sector. At present, technical innovations, the use of new materials, the effective communication and coordination between different departments

and last but not least fast fashion trends guarantee the competitiveness of the sector. As a consequence, employees with a profound educational background are employed in the sector in order to maintain the high level of the sector." (Nierling & al., 2007, p. 2).

The Portuguese case study mentions that institutional settings played a significant part in the set up of textile technological centres, thanks to national and European subventions. This institutional support fostered the career of technical designers and opened them wider opportunities.

3. Changes in occupational identities

3.1 Characterisation of the occupational identity

In the three case studies, respondents describe a strong inclination to creative and artistic aspects of the designer occupation, not only in fashion design but also in technical design, although in this case, the creative dimension is more focused on technological innovation than to aesthetic aspects.

Work has a strong individual meaning for fashion designers, highly identified with the creative work they develop; they get high pleasure from drawing sketches, imagining new styles and models, playing with colours and materials, etc. Some quotations from French fashion designers: *"For me, fashion is a continuation of myself"; "When you're a designer, that gets you in the guts"; "It is a job you must love because we spill our guts out"* (quoted in Muchnik, 2007). As analysed in the German case study, "the designers describe that they have a close relationship to the products and pieces they created. The pieces are regarded as an expression of their own creative space and cause recognition and disappointment (…) Therefore, the realisation of own ideas in the firm has a high relevance for the designers." (Nierling & al., 2007:8).

The job is an essential part of the individual life concept and the occupation has a central meaning within this concept.

Designers also tell that the image of the profession was improved during the past years: "*It is well seen now to be a designer. A few years ago the designers were seen as freaks. No one understood what we did, but now fashion is so important and media pass such a good image of design that everyone see us as cool people. For example, the way we dress doesn't shock people as it did before.*" (quoted in Vasconselos da Silva & al., 2007).

The balance between collective work and lonely work is an important issue in the occupational identity of designers.

Technical design is mainly a teamwork and the creative activity requires cooperation among designers: *"Here we must share our ideas and sometimes the final result it is not exactly how I had imagined but now, after so many years, I think it is better because we learn with the styles of each other and this is something not very common in designers, to share work, usually it is a lonely process of creation, and we end up learning just with us"*(quoted by Vasconselos da Silva & al., 2007).

In fashion design, the pure creative process is mainly lonely work, but integration in a team and recognition by colleagues and managers are important collective dimensions.

Lonely creative work depends on moods and inspiration: "*Sometimes I can be all day looking at a piece of paper and nothing comes out and suddenly comes all at the same time, just because I saw something that gave me one idea or I hear a sound and imagine something that gives me ideas"* (quoted by Vasconselos da Silva & al., 2007). While the lonely dimension is related to the creative nature of work, the collective dimension depends on organisational contexts.

In luxury fashion, the team spirit is important for both stimulation and recognition of designers, whatever could be their employee or freelance status, and artistic directors may have a charismatic role in the team. Some French interviewees describe their integration in a team as a 'rite of passage': coming into a network of interpersonal relationships, understanding the brand spirit, understanding the organisational settings.

In high street fashion, the collective dimension is linked to the need for dialogue with collection managers, model makers, marketing managers, product managers; even if the creative activity is lonely, the range of tasks requires an integration in an organisational process.

In luxury fashion, decisions about styles and models are mainly made on artistic criteria and in relation to the image of the brand.

In high street fashion or ready-to-wear, in which 'vertical integration' is much more frequent, decisions about fashion collections are made altogether with purchasing, marketing and production planning departments. "While in luxury fashion designers are the driving force for the product, which clearly depends on their creative proposals, they have to adapt to a pre-existing style in distribution-oriented firms" (Muchnik, 2007:11).

As already mentioned about the entrepreneurial career profile, even the designers who want to set up their own atelier or their own brand recognise the benefits of having built their professional experience within organisations, and to have learnt to deal with organisational opportunities and constraints.

In none of the studied countries, interviewed designers are concerned by trade union representation or trade union activities. The low interest in unions or workers councils can be interpreted as a consequence of the individualised conception of work meaning. The labour contracts and collective agreements negotiated for the clothing sector are not considered as attractive by the interviewed designers. Fashion designers consider themselves as 'soloists' and are not interested in workers' unions, even if their employment conditions and working conditions are sometimes rather bad. The Portuguese and French reports note that, in case of conflict, designers prefer to defend their professional interest directly to the employers; two French interviewees individually assigned a former employer to the Court, one of them for illegal dismissal and another one for anticipated breach of a freelance contract.

3.2 Changes in occupational identity and relation with restructuring

Three main changes can be identified: the increasing cost-oriented constraints; the widening of tasks, notably due to coordinated work with other functions along the value chain; and the growing use of information and communication technologies (ICT).

- Although market factors are not new in the designers' work – their products must anyway be sold – their work becomes ***increasingly sensitive to cost-oriented***

constraints and to continuous feedback from consumers preferences. The success or performance of designers is measured by sales figures of their products. *"We look at figures every day; a designer who doesn't make her/his number won't stay"* said a French designer (quoted by Muchnik, 2007). Interviewees diversely appreciate this growing market pressure. Some of them consider the necessity to adapt their creativity to the cost-based demands and market feedback as a concession to make in order to continue their career. This reduction of creativity may raise inner conflicts between the economic necessity and the expression of their own creativity, and lead to professional dissatisfaction. This attitude of 'concession to market pressure' is mainly found among those German and French designers who have rather secure professional positions. Other opinions are much more critical, considering that something is going wrong in the evolution of fashion design. *"I think that the work of the designers is becoming more and more difficult because we have to take prices into account also. While before, it was the happiness. (…) It becomes too industrial and not creative at all". "It was like the dream, and now, it is more the reality, (…) it is a job very applied to the market"* (French designers quoted by Muchnik, 2007). Such critical opinions often lead to the wish to change employer or to move to a freelance position. Other interviewees are more combative, they fight with the marketing or sales departments to impose their own ideas, and they are happy when they succeed: "*And it's fun, if you see at the end that the pieces, for which we from the design department have fought for, that they were sold nevertheless, although the sales did not believe in them"* (German designer quoted by Nierling & al., 2007).

- The increasing concern for integrated value chain management leads the designers to ***work more closely with other departments*** in their company: with the marketing department, where strategic decisions are taken; with the technical department, to discuss about the use and development of new materials; with the sales department, in order to get the sales figures of their products. These coordination and communication tasks next to the development of collections become increasingly important and require a lot of time. *"We have the sensation to do meetings all the time, and it's quite tiring because we don't have the feeling to dedicate our time to the first basis of design work that is creating models, drawing, doing researches"* (a French designer, quoted by Muchnik, 2007). The relative importance of these communication and coordination tasks however depends on the extent to which designers are integrated in the workflow, or working as self-employed.

  Several interviewees also mention that new knowledge is required from the designers, because they have extended working fields: the designers today have to know more about new materials, physical and chemical properties of new fabrics, new sewing or assembling technologies, special treatments for certain fabrics, etc. These new knowledge requirements concern salaried as well as freelance designers.

  This trend in widening tasks and skills is common to fashion designers and technical designers. It is also likely to concern other occupations in the next steps of the workflow, such as model makers, pattern cutters or prototype stitchers (De Bruyn & Ramioul, 2007).

- The ***increasing use of information and communication technologies*** (ICT) also influences the occupational identity of designers. Two categories of ICT tools must be distinguished: generic software and communication tools; specific tools for designers

(computer aided design, image processing, drawing software). Information and communication tools, such as Internet-based applications, do not raise problems for designers; ICT allow them to access extended professional information and to manage the increasing internationalisation of their activities. Technical designers particularly highlight that information acquisition and management is an important component of their activity. Other generic tools, such as ERP software, raise critical comments from designers. They have to integrate their drawings in the data bases of the system, to encode a lot of data about their models, and they consider ii as secretarial work that is added to their creative work.

The use of design software is controversially evaluated by the designers. A resistance to use ICT tools was mainly observed among those who have the most artistic career profile, and who work since a long time in their occupation. They stress the pleasure they find in drawing and are reluctant to use drawing software and image processing software like Photoshop, Illustrator or whatever. They also fear that design software would reduce their creativity or lead to increasing standardisation and to a smaller variety of patterns. "*Well, it's nothing individual anymore. There are pockets, which are part of a modular construction system, so and you have to keep with the modular construction system. You have always the same shape and, … and that's it, what we designers do very very reluctantly*"(German designer, quoted by Nierling & al., 2007).

Other designers try to find a compromise; they still draw sketches by hand and digitalise them afterwards, expecting further developments of ICT in the future. Still other designers enjoy the new ICT opportunities: "*It is very efficient, even if I like to cut out by hand, to do collages etc, but there is huge difference! They do in fifteen minutes what I do in four hours. But anyway, I don't control at all the computer tool.* "(French designer, quoted by Muchnik, 2007). Both German and French reports mention that the intensive use of design software is more frequent among young assistants than among experienced designers.

4. Learning and skills development

4.1 Changes in skills requirements

In general, this occupational group is based on a high qualification level (university and high school degrees) and workers have a long practical work experience.

The main changes in skills requirements were already highlighted in the preceding section on changes in occupational identity:

- Coordination and communication skills, required by closer relationships with marketing, sales and technical departments.
- Extended knowledge requirements concerning new materials, new production methods, new constraints (environmental regulation, consumer protection)
- Use of generic ICT tools for workflow management, customer relationship management, access to information and knowledge, data capture, etc.

- Use of 'professional' ICT tools (CAD, image processing, drawing software) in the design work itself.

Besides these changes, interviewees also stress increasing requirements of linguistic skills, in order to manage international contacts and to optimise their travels to fairs and exhibitions. More generally, strategic skills are now expected from designers. "To be a fashion or textile designer is not only to know how to draw clothes but much more to know how to interpret signs of change in societies". (Vasconcelos da Silva & al., 2007:11).

4.2 Management of training and learning

Few training opportunities are offered to the design workers in the clothing industry. The artistic dimension of the occupation reinforces the feeling that basic design skills are a talent, which cannot be acquired by formal training but learnt 'on the job'. However, several interviewees complain about the lack of training in the new skills requirements, notably management skills, ICT skills and linguistic skills.

Technical designers seem to be an exception, at least in Portugal, where they are offered a range of training opportunities in technical matters and specialised software. Those working in the technological centre of the clothing industry negotiate a yearly training plan with their employer, and the courses are paid by the company.

The management of learning and training of fashion designers is based exclusively on their will and financial possibility, because nobody supports their training (neither public authorities nor companies). They assume training has a professional investment, and only take it with the certainty that they will get profits from their training efforts. They however criticise that the firms offer almost no training opportunities and they wish to get better training and learning opportunities.

5. Quality of work

5.1 Changes in working conditions

The job satisfaction of designers is generally high. "According to the self-perception of the designers, they are highly satisfied with their work. They identify themselves with their work and generally enjoy the creative and autonomous working tasks very much." (Nierling & al., 2007:16). The main problems mentioned in the occupational case studies are the increasing time pressure, entailing a growing workload, and the balance between autonomy and control.

Several interviewees describe tensions between the autonomous work organisation of the creative part of the design tasks, and the control mechanisms imposed by the firms or the constraints coming from the workflow: coordination with the cost and implementation requirements of the production department, compatibility with the guidelines of the marketing department, measurement of success through sales figures, etc. However, "these restrictions do not have a major impact on the quality of work. The designers deal

with these circumstances and regard them as part of their job, as one designer described the co-ordination and negotiation with other departments: *'even that is fun'"* (Nierling & al., 2007:12).

The most critical aspect, underlined by both salaried and freelance designers, and by both fashion and technical designers, is time management, due to growing time pressure. Time pressure comes from tighter deadlines, more tasks to do within a shorter time, accelerated renewal of collections, constant feedback from the market. *"Everyone speaks about time, but the truth is that it remains the same, our ambitions are different and that is the problem. We have so many collections in one single year that some are left behind or don't even come out. We must be good, but more important we must get to the clients on time. I can have a great idea but others do the same that I do and big brands decide on minutes with the information they have. So if mine isn't there it will not be considered after, and I lost time. So time is a big issue and this dimension is out of our control"* (Portuguese designer, quoted by Vasconcelos da Silva & al., 2007).

A specific manifestation of the growing time pressure is the change in business travels, to fairs, exhibitions or for contacts with clients. While they often included some leisure or cultural or 'informal' activities in the past, now they are more intensive and more formal, with shorter time and budget, without leisure, and always keeping in contact with the company.

As regards working time, various kinds of formal arrangements are observed in the concerned companies: fixed or flexible work schedule, compensation of extra hours by free time or holidays, or project-based work without formal time schedule. Anyway, almost all interviewees are working longer than the formal work schedules. Designers are very dedicated to their work and often don't count hours. They can work 10 to 12 hours a day during collection renewal periods, and even work during weekends or the evening, if they have to comply with a deadline.

The situation seems different for freelance designers who have more autonomy in their working time management. Several interviewees mention that their choice for freelance was partly made in order to escape to the time pressure they had to sustain as salaried. They do not work less, but have much more autonomy in their individual time management.

5.2 Relations between changing working conditions and restructuring

Two key restructurings in the clothing sector concern on the one hand the production process, with the growth of clothes manufactured in Eastern Europe and in Asia, and the distribution process, with an accelerated replacement of products in the shops to attract clients and foster consumption. Both have significant consequences on designers' working conditions.

The work process with Asian production requires an acute anticipation and the time is shorter to do creative work, because of longer transport (more and more by boat, cheaper). The acceleration process also concerns the producers who choose Eastern Europe, for reasons of quality, flexibility, small series, shorter delivery time and geographical closeness. Several firms combine production in Asia, Eastern Europe and

North Africa, for different product segments. Vertically integrated companies, such as Zara or H&M (DTI, 2004), are now setting up the speed standards for the other firms in the sector. Anyway, whatever are the locational choices made by the firms, the speeding-up process and the increasing time pressure are common current trends.

According to the interviewees, time pressure leads to an impoverishment of creativity for designers. Moreover checking and improving stages of design are shorter and shorter, and sometimes simply removed, leading to more stress for design workers who have to be more self-assured. It can also lead to dissatisfaction related to a loss of control on results of own work, particularly because the results of work play a crucial role for the self-fulfilment and are essential for the expression of the own subjectivity.

The accelerated replacement of clothes in the shops is a quite recent trend, introduced round 5 to 7 years ago. Instead of the classic rhythm of two collections a year, there is a continuous renewal of models. Designers stress that while they had before more calm periods between two annual collections, when they could do unusual tasks, these periods have now disappeared. According to a French designer: *"We have less time to work in depth on products. We have to be faster and more reactive"* (quoted by Muchnik, 2007).

6. Work life balance

6.1 Existence and access to family friendly settings

In the three concerned countries, there are no family friendly policies for the occupational group of dress designers or attempts to introduce family friendly measures in the firms. However we wonder if the work demands put on the designers would allow them to take advantage of such measures, if the firms offered them. "Generally, the designers have a very high workload and a high work pressure with long working hours and travel activities. Currently, the respondents are strongly oriented on their jobs and realise either the single breadwinner model or they do not have children. Furthermore none of the respondents expressed interest in family friendly measures, because they have already organised their life according to the current working conditions." (Nierling & al., 2007:16)

Having and growing children is most often seen as a problem for women designers.

In Germany, "due to the high workload (…) especially for women, it seems nearly not possible to reconcile professional demands with family life. Hence, the female designers of the sample either do not have children or do not work in their occupation any longer after having families" (Nieling & al., 2007:7).

In France, four interviewees had children; three of them still married and one was single breadwinner but received the help from her parents. The younger French designer interviewed said that: *"All designers I met had between 25 and 35 years old and very few had children; I would say that within the 10 to 15 with whom I had tighter relations, only one had a baby (…). Indeed, it's not easy to get a job as a designer. Everybody wants to keep his job and unfortunately it's not convenient to have a baby at this moment. In any case, I wouldn't even think about it now because of that".* (quoted by Muchnik, 2007)

In Portugal, interviewed women consider that the challenge to women lays in the balance between private life and professional demands. For example, a young single mother receives help from her parents too, however, she thinks: *"Although I tried to conciliate my daughter's needs and my career, I have always had to choose between my daughter and my career, so I have never been able to be excellent on both"* (quoted by Vasconcelos da Silva & al., 2007). Family network is essential for Portuguese women designers with children; but a couple of designers says work rhythm did not allow them to have more than one child. As for the French case, younger ones believe that they may get married or live with a partner but to have a child is not a close possibility. In order to progress as a designer, they believe that they will not have time to raise children or they will have to give up their career.

6.2 Difficulties, opportunities and changing boundaries of the work life balance

Work life balance is a difficult issue for this occupational group. Designers have blurring boundaries between work life and private life.

It is remarkable that nearly all respondents in the German case and two in the French case have spatially flexible work and life concepts. Nearly half of the German respondents and two French designers commute between two places of residence. During the week they live near the firm and in the weekend they drive back to their home place. On the one hand, this setting can make the relationship between work and life easier, because both spheres are spatially separated. On the other hand, during the week there is nearly no separation between both spheres, because the designers are working the whole day. Furthermore, the constant commuting between two places is reported to be exhausting.

7. Gender

7.1 Career profiles and trajectories

The occupation of dress designer is mainly feminine (about 75% of women, according to Halloran, 2007). The interviews however reveal some indicators of gender segmentation within the occupation.

In France, luxury firms employ more men while distribution-oriented firms employ more women. According to a French male designer, there is a division in luxury fashion between masculine creative directors who only work with men (among which a high proportion of gays), and feminine ones who only work with women. On the other hand, in distribution-oriented companies (high street fashion), a majority of designers are women (ratio 1/6), and traditionally, women clothes are designed by women.

In Germany, a high proportion of designers are female; design studies are mainly followed by women (proportion of women over 90%). The studied design teams were mixed, however the proportion of women was higher.

In Portugal, traditionally a man working in fashion was not well seen by his family and friends; however, the image of designers is changing positively. Men play an important part in the textile design (an area traditionally more related to women) because of the recent orientation of textile design towards technical design and other technological areas (materials, processes, etc.).

Although mainly feminine, the occupational group of dress designers present several features of traditional male biographies. "The occupation constitutes a high normative ideal for the employees and plays an important role for the individual life course. This takes place in two ways, normatively as well as organisationally. The realisation of the working tasks requires long working hours of the individual employees. Consequently, usually female designers adapt to the traditional male model and lay a strong focus on work in their life, while it is not possible to arrange a feminine work biography with the given working conditions that would include care work as well." (Nierling & al., 2007:14)

7.2 Skills requirements and development

The sample of interviewees does not reveal gender segregation as regards the skills profiles, except that men are often more present in technical design. The major difference concerns access to training – although designers complain that they all have few access to training. Training is merely organised in addition to the working hours and rise the workload, which is not favourable to women with family constraints.

7.3 Working conditions

Objective working conditions are similar for men and women. The main difference relies in the differentiated impact of these working conditions on work life balance for men and women.

Part-time work or flexible working time arrangements, as a way to seek for conciliation between work and family life, are not widespread in this occupational group. "The high workload of the branch does not allow for part-time work or flexible working time arrangements. Furthermore, the rhythm of the sector determines the working time. These basic conditions have mainly an influence on the women in the sample. Professional and familial requirements are very difficult to reconcile with each other. (…) A combined model is not possible due to the present working conditions. The female designers of our sample either do not have children or changed roles in the traditional breadwinner model." (Nierling & al., 2007:14)

7.4 Work life balance

The relationship between work and family has to be differentiated between women and men. In Germany, "the role distribution for paid work and family work is still traditionally organised according to the male breadwinner concept" (Nierling & al., 2007:7). In the German sample, three out of the female designers do not have children and

do not plan to have children, whilst the two male designers of the sample both have children.

The same occurs in Portuguese society, where there is a conservative conception of family, but more in the North of Portugal than in Lisbon. It is generally easier for man to balance work life and private life.

7.5 Overall gender issues

The overall constraints – time pressure, acceleration of collections renewal, impacts on designers of the worldwide organisation of the workflow, increasing role of information and communication technology – apply to both men and women, but however with differentiated effects on the work life balance. Particularly, the issue of motherhood (to be a mother or deciding not to be) is an important aspect on the life of women designers that biases their professional development.

Whether women are suffering or not under these working conditions could not be analysed within the sample. "In order to deepen the analysis of gender conflicts further research would be necessary. The evaluation of individually balanced living and working concepts needs a cautious analysis. Questions regarding the social integration in female and male working and living conditions, the role of family life or the role of the occupation for the meaning of life can only be answered sufficiently by a deeper analysis. In order to reflect these highly subjective aspects adequately, the research frame should be widened. This would allow understanding better the whole personality and the relatedness of the individually chosen and balanced living and working concepts. The results show that analytical approaches should be taken into account, which reflect on psychological aspects and integrate additional data collection in the personal sphere. Those would be important preconditions to reflect the personal conflicts of a work and life balance in a profound way." (Nierling & al., 2007:17-18).

In a more general way, the fashion milieu is a good observation post of socially constructed representations on men and women, deserving a more in-depth fieldwork and analysis.

8. Conclusions and trends

The comparative analysis of this occupational group in three European countries (France, Germany and Portugal), as well in different segments of dress design (luxury fashion, ready-to-wear, high street fashion), highlights some common trends in the structural changes in work and the way they are experienced by individual workers.

1. Designers have a ***strong occupational identification as creative worker***s, either fashion creation or technical creation. Their recognition by the firms and by peers (other designers) depends on their creative capacity. The creation process is mainly solely work, although integration in teams and recognition by others are considered as very important.

2. In the life course of designers, ***work has a high subjective importance***. Self-fulfilment, personal investment in work, expression of subjectivity, talent and creativity are part of the normative image of the occupation. Even if economic pressure becomes increasingly important, designers try to maintain a high priority on creativity, although making concessions to market constraints, at the detriment of their workload.

3. Careers of designers are characterised by an ***individualised responsibility for their own trajectory***: career choices, mobility, training, time management. The organisation context is important, but mainly as both stimulation and recognition of their individual performance. Career trajectories may however be different and five career models were distinguished. They only differ from the points of view of managing the work life balance and handling the perceived or experimented job (in)security. Nevertheless, job insecurity does not mean career insecurity.

4. In the skills mix of designers, ***new 'non-design' competences*** get a growing weight: communication skills, cooperation requirements with other occupations in the value chain, negotiation capacity with marketing or sales professionals, understanding of technical or industrial requirements. An extended knowledge is now expected from designers.

5. Worldwide restructuring of the clothing industry fosters an ***increasing time pressure*** for designers, through two important consequences: the need for integration of their creative work in a more formalised and internationalised workflow (mainly due to the production in Asia), including shorter deadlines and rigid time spans; the acceleration of the renewal of fashion collections much more than twice a year, which entails a continuous pressure on design.

6. Although the interviewed designers enjoy very much their work and work is an central part of their life, their ***work life balance appears problematic*** and is often made of renunciations: renunciation to family formation, renunciation to more stimulating but insecure jobs in order to keep security, renunciation to leisure time. Work life balance is the most critical aspect of the gender issue.

7. The ***use of ICT tools is increasingly widespread, but controversially appreciated***. Although a broader access to information and knowledge though ICT opens new professional opportunities, the use of specialised design software is often perceived as not satisfying, or even threatening, to the artistic dimension of the profession. Some signs of a generational divide were suspected, but not really confirmed; there are however no sign of a gender divide.

8. Few ***institutional settings*** are currently relevant for designers, neither in the area of career management nor training opportunities. They however regret this situation and should take advantage, for example, of more structured training supply, if the time pressure would allow it.

As far as future trends could be derived from the sample of interviews, the main concerns of dress designers for their future are, on the one hand, the increasing workload due to the priority given by the companies to cost reduction all along the value chain and continuous feedback from the market; on the other hand, the risk of growing standardisation of both models and design methods, driven by market reorientations and supported by software tools.

Both trends are perceived as threats to creativity: less time to create and innovate, more constraints from market feedback, more time-consuming negotiations and compromises with marketing, production and distribution. Any threat to creativity is perceived as a threat to the core of the occupation.

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Chapter III
Occupational monograph – R&D workers in information and communication technology

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1. Description of the occupational group, main features

The following report on the occupational group 'R&D workers in information and communication technology' compares the results of four occupational case studies from different European countries that were conducted in the frame of the WORKS project. These case studies are from Austria, France, Germany and Norway and have been developed in order to analyse significant changes due to restructuring processes of global value chains (Huws, 2006).

The methodological approach of these occupational case studies is based on both the qualitative analysis as widely used method in social sciences as well as on the theoretical approach of the occupational groups as research object. Concerning the theoretical approach, two questions have to be answered: How an occupational group is defined and how relevant are individual dimensions of changes in work for this occupational group (Vendramin & Valenduc, 2007: 1). In the framework of the WORKS project, these questions basically refer strongly to the organisational case studies, which have strengthened the importance of restructuring processes on the organisational scale.

According to qualitative research, the results should be regarded as exemplary and not representative within the European scale. The report should give a deeper insight how global changes influence occupational identities as well as working conditions and career developments on an individual level. Obviously the comparative analysis of these different national work realities of R&D workers in the IT branch does not claim to give a comprehensive comparison between countries or sectors. As Vendramin & Valenduc point out, the definition of 'occupational group' implies three items which are relevant for the identification of an occupational group: similarity of position in the work sphere, regardless of specific organisation or territory; the existence of some kind of collective feeling (Vendramin & Valenduc, 2007: 3).

In order to catch a comprehensive picture of the R&D workers in the IT-sector as an occupational group, the following report aims to apply these distinctions. Nevertheless the question remains whether this group can be analysed homogeneously over national barriers or not. This question will be worked out along specific topics.

1.1 General trends of the sector and occupation in Europe

Through the introduction of the worldwide web at the beginning of the 1990s, the information and communication technologies have gained importance especially in terms of new working and production pattern. From a technological perspective, dramatic technological changes have taken place in the last twenty years. The technical performance of modern information and communication technologies has increased significantly. A standardisation of microprocessors, communication intersections, system components and user software has taken place, which allows for the compatibility of various technical subsystems forming a larger platform that can be used by everybody. Furthermore, together with the digitalisation of information it has become possible to combine text, voice, video, data and/or graphics within a multimedia communication system. And due to processes of de-materialisation and miniaturisation through this technology, global production and distribution processes have changed profoundly (Schienstock et al., 2001).

These changes had and still have a profound influence on the development of different labour markets as well as working profiles.

The structural development of the IT sector was analysed in the quantitative pillar of the WORKS project. Here the sector was defined by 'computer and related activities' (Birindelli et al., 2007:129). The increasing importance of the information and communication technologies is clearly reflected empirically by the employment development in the IT sector within European countries. According to the quantitative report, "employment in the IT sector has soared between 1996 and 2004. The number of jobs in the sector increased by 106 *per cent*; the corresponding number of jobs created is 1.19 million. This caused the share in total employment to double from 0.7 *per cent* to 1.4 *per cent*. From the graphs below, we can see a recent stabilisation in employment in the IT sector in most counties. The exponential growth in employment in IT thus is mostly a matter of the last decade of the past century, rather than of the past couple of years" (Birindelli et al., 2007:130).

Between the European countries there are differences in respect to the employment rate in the IT sector. In the New Member States the average of employment in the IT sector is much lower than in EU-15. The only countries with IT employment above 20 000 are the Czech Republic and Hungary; according to the report mentioned above, the share of the IT sector in total employment is 1.0 *per cent* (Birindelli et al., 2007:132).

Regarding occupational groups of the sector there have been identified 'computer professionals as well as 'computer associated' in the sector whereas the 'computer professionals' represents the most important group on a European scale: 32.9 *per cent* of the employed in the sector are counted in the occupational category (Birindelli et al., 2007:134).

The IT sector is a predominantly white-collar sector: 95.7 *per cent* of all employed in the sector are white-collar workers (Birindelli et al., 2007: 134). The core activities of the IT sector i.e. software development and R&D activities are clearly dominated by male employers. This consideration is also reflected by the case studies of R&D workers as well as the software developers, which have been analysed separately.

1.2 Characterisation of the occupational group

Going back to the historical development of occupational groups in the 'IT-sector', the 'computerisation' started after the second war "with the extension of mainframe computers into banks, universities, process-controlled manufacturing industries and government bodies…" (Huws & Dahlmann, 2007: 4). As Huws & Dahlmann point out from the very beginning the occupational group of R&D workers were on the 'top of the hierarchy' with regard to qualification and recognition. In contrast to senior IT managers 'the high-flying computer scientists' (Huws & Dahlmann, 2007:4) were a relatively small work force directly concerned with the research and development of new computer processes and applications.

Due to the introduction of information and communication systems into production and distribution processes, the creating of an enabling infrastructure involving the processing of information, the need for software development as well as further technical systems has arisen significantly. Whereas R&D workers were widely located in the working culture of research, this picture has slightly been changed. The borders between researchers and software developers become more and more fluent. In OECD reports as well as in national reports, usually the description of information economy implies on the one hand the rough difference between IT specialists and IT users. On the other hand the IT-specialists are described as 'hardware, software, services' what means that R&D within this branch is hardly described as a statistical category. Usually IT specialist means R&D worker as well as software developer (Dostal, 2000).

Characterising the occupational group of R&D workers lies between the two poles research and market. Whether the occupational identity relies more on research issues or on market demands depends strongly on the working environment. Mostly huge companies are running specific research departments, which are separated from software development where the objectives focus very much on application of software and costumer services. As the sample shows in the last years there can be considered a shift from 'pure' research based on its specific working culture towards market-oriented research and development. Whether this shift changes the occupational identity depends on the change of content of work, the change of working conditions as well as the change of working trajectories. Only with two case studies one may formulate one hypothesis: the more research aspects are covered by market oriented demands the less the occupational identity which at least shapes the characteristic of this occupational group.

1.3 Characterisation of the case studies

The sample of the occupational group 'R&D workers in the IT sector' consists of four occupational case studies of different national contexts. The case studies are based on 7–10 qualitative interviews each with R&D workers of both sexes with different ages and in very few cases with different ethnical backgrounds. Most of the case studies refer to one single firm whereas other case studies are reflecting the experiences of more firms. As it was one of the central characteristics of the sample, all organisations faced a phase of restructuring in the last five years. The R&D workers of the IT sector here are represented by one Scandinavian country (Norway), two case studies from Central Europe (Austria and Germany) and one case study from Southern Europe (France).

Interestingly all occupational groups of the sample try to bridge the gap between "academia and the market" (Holtgrewe, 2007), which creates a specific professional culture. Although the case studies cover different institutional and national settings, similarities of working conditions as well as of working routines cannot be neglected. However the analysis cannot be considered as a comprehensive international comparison in a narrow sense but aims to detect trends and developments related to country differences.

In the following the case studies will be shortly presented (see also Table 4):

- **Austria**: The Austrian case study describes the occupational identity of R&D in research labs within a larger organisation. Interviews have been conducted in two research labs, which were selected by the criterion of having private sector customers and collaborations. The IT labs have been established as separate units in 2003 and have been fully integrated into the mother organisation in 2005. Thus the restructuring process consists here in the establishment of a new intermediary between the academic (university) and industrial institutions (firms) which has a distinct profile of rapid technology transfer.

- **France**: The French case study has been conducted in a huge French company which passed a privatisation process during the 1990s and which grew up to one of the biggest communication corporations worldwide. In 2005, the company bought out 80% from a Spanish big mobile operator and nowadays the firm has seven principal subsidiaries. Finally the company got into serious debt, which is still an important topic today. The company implies six research centres of 400 to 600 employees, addressing different markets, technologies and services.

- **Germany**: The German case study is based on interviews of two different firms: one small company developing visualisation solutions to companies to support cooperative processes in the firm. The development away from the university towards company implementation has changed the orientation of the career profiles of the employees away from researchers towards applied researchers and developers of standardised solutions. One interview has been chosen as a comparative case to the former occupational pattern. The interviewee worked in a large telecommunication company that he voluntarily left when the company has to face bankruptcy. He started working as a consultant (freelancer) in the original department of the multinational.

- **Norway**: The Norwegian case study is based on interview partners from three companies: the first company is a R&D unit which has been founded as a little company in 1997. But in 2004 the company was 'integrated' into an international organisation. The R&D unit is divided into five different teams. The management of the organisation is headquartered in the US.

  The second company has a similar history as the first company described above. Since 2005 it is a research unit of a US company whereas the management also is located in the US. The unit implies between 10-20 R&D workers.

  The third company is a governmental funded organisation, which consists of one parent organisation and four subsidiaries. It supplies network and network activities

especially for universities and research institutions. Today the organisation has 71 permanent R&D workers, plus a considerable number of students and professionals.

Table 4: Sample of the comparative analysis of the occupational group 'R&D workers'

Number	*Country*	*Sector*	*Type of work*	*Number of interviews and analysed firms*
1	Austria	IT sector	Research labs in various areas of computer science	10 interviews in 1 firm
2	France	IT sector	Academic research and development-oriented research	8 interviews in 1 firm
3	Germany	IT sector	Development–oriented research	7 interviews in 2 firms
4	Norway	IT sector	Development-oriented research	9 interviews in 3 firms

2. Work biographies

2.1 Career trajectories

Generally one may state that the career trajectories in all case studies are quite similar. Through the closed relationship to academic research the R&D workers in all four countries are holding academic/engineer degrees or even PhD mostly in math, computer sciences or natural sciences. Only a very few interviewees have academic formation in social sciences. In contrast to software development where the economic boom in the late 1990s early 2000 there was a noticeable diversity in the background of the employees and the job opportunities declined significantly (Meil, 2007).

This is not the case on the R&D level in the case studies. However, some of the R&D workers have been hired directly from the university, often trough students' placements and diploma theses, as it is documented in the Norwegian case. Also in the Austrian case the academic formation is closely connected to career trajectories, "where the labs themselves offer opportunities for diploma and PhD theses and allow work on them during working time if they can be fitted into projects" (Holtgrewe, 2007:4). In the French case study at least one interviewee entered into the firm doing a PhD, whereas the other interviewees are holding engineer degrees.

In all four case studies the research activities of the occupational group is reflected by the high level of formal qualification on the one side. On the other side mostly junior researchers have the possibilities of academic trajectories offered by the companies. Because of the relatively low income as well as the student's atmosphere in the research units they describe their perspectives as quite open.

Respecting career trajectories two aspects seem significant in all four case studies: first the high level of formal qualification (academic/engineering level of the IT workers) which very often has been developed within the companies. As Meil points out, the qualification needed is not necessarily based on computer sciences and thus other disciplines are also represented in all national case studies. Engineering disciplines, natural sciences but also social sciences are represented in the sample. This consideration focuses very much on the increasing demands in the professional field of this occupational group (see sect. 4).

Secondly, in many individual trajectories the changeover from university to company (and vice versa because of career trajectories) seems much more connected and fluent. The integration into working life and the strategic planning of the career paths are part of the educational paths in the case of most of the case study reports.

2.2 Changes and driving forces

Although the restructuring processes in all four national case studies imply strong economic and organisational changes on the company level, the need for research and development of IT knowledge still remain a strategic objective of the companies. Except for one case, none of the R&D workers lost their working place.

Nevertheless, the changes and driving forces according to restructuring processes are widely imbedded into the biographical experiences of the interviewees. This statement seems true for three case studies. Only in the French case the relocation of the managerial structure had led to consequences for the professional path of most of the R&D workers. Here the need for mobility became evident in the professional performance of the employees. Due to the geographic relocation of functions (management, control, research etc.), the R&D workers had to accept new working conditions on the level of geographic mobility as well as on new functional tasks.[7] "Gérard has still aspirations, and is directly confronted with the new rules requiring mobility for managing functions to have a carrier evaluation. All interesting and innovative projects will be done in Paris from now on, but living in Bretagne with his life and his two children, he is not ready, as several colleagues are doing, to work 2 or 3 days a week in the capital city. So he perceives restructuring as a threat for his carrier" (Muchnik, 2007:10).

Due to organisational changes, three aspects can be identified which have been considered as crucial on a long term scale for this occupational group:

- There is an increase of *market-orientation.*
  This aspect has been described in all case studies. Through the restructuring of global value chains, the internationalisation of markets as well as the economic pressure on the markets has increased. This seems true in all case studies and is nicely expressed in the following citation of the Austrian case study: "On the other hand, the Lab's position closer to the market and their process of discovering relevant markets and application fields apparently creates some different career paths and options. Liaising with costumers, market research and project administration require some skills that are different from a technical or academic specialisation" (Holtgrewe, 2007: 6).

- The establishment of *new career paths*:
  The distinction between technical and managerial career paths has been made implicitly in the Norwegian case study. But as the citation above show it also became a

7 In academic literature particularly, Huws points out that relocation of work may imply different forms of changes which may have wider implications for the white-collar work than geographical shifts (Huws 2003).

noticeable aspect in the Austrian case. Nevertheless in the French and Norwegian case the possibility for different and new career options are strengthened. On the basis of restructuring processes and economic growth both companies have offered to its R&D workers new professional opportunities (i.e. possibility to work in the US for a while, possibilities of a managerial career). This point has to be considered as one additional criterion which very often seems connected with the market-oriented demands.

- The increase of *speeding up processes*.
  The increase of speeding up processes also is strongly connected with the market-oriented demands and has special relevance for the working culture of this occupational group. As described in the following chapters the introspection of this occupational group still seems much closer to the working culture of researchers. From the perspective of the IT-researcher time pressure seems not productive for the working processes as it is documented in the following citation from the French case: "They are more interested in projects (…) aiming to bring products and services in the term of one year or even less. For now it is still admitted and accepted that we have to preserve a 'secret garden' of more upstream research activities not directly driven by the demands of marketing" (Muchnik, 2007: 9).

Although the content of work still remains unchanged for many R&D workers, changes of the organisational framework do matter for this occupational group. As described in chapter 2.1, the working profile has been widened respectively towards a market orientation on two levels. Thus the integration of new disciplines as well as new career paths has influence on the occupational profile (organisational level). But also on the level of contents the increasing market orientation had effects on the working profile (see particularly organisational case studies of the WORKS project).

2.3 Institutional arrangements

One crucial difference according to institutional arrangements between the four European case studies seems to exist between the Norwegian case and the other case studies. With regard to the possibility of long term planning as well as the integration of a family-oriented occupation the Norwegian institutional arrangement offers both stability and flexibility to the R&D workers in different firms. In terms of career development "all respondents reply that it is possible for them to build a satisfying career within the company they are now working for" (Anthun, 2007:7).

The feeling of security and confidence of the IT workers not only to the company but also to the institutional framework cannot be stated in the other three case studies. Although the institutional arrangements are quite different, stable and secure working conditions seem more dependent on the individual performance of the R&D worker. In the Austrian case the institutional arrangements are based on "the design of tertiary education and the policies and the funding of science and innovation" (Holtgrewe, 2007:7). In the concrete case of the analysed R&D workers the Austrian labour market regulation offers a specific category of quasi-freelancers. That means that the R&D workers are supposed to work more independently than employees but are not entirely independent. These specific contracts covers their "working time rather then delivery of a

product or service, tax law threats them like independent professionals, and they are exempt from unemployment insurance, holiday entitlement, sickness pay, supplementary grants and employment protection" (Holtgrewe, 2007:7). Most of the R&D workers are in a transition periods between university and labour markets. The students basically are interested in acquiring practical skills and competencies which is not provided by the universities.

The German case study emphasizes the low level of union participation among highly skilled white collar workers particularly in the IT sector. However, all employees questioned were very positive about works councils. Except of one employee, the other R&D workers are working in permanent employment contracts. As it is usual in highly skilled professionals, the 'blurring character' of working time depends rather on the results of work than on a formal structure. Due to institutional framework, the individual interest of the R&D workers "seemed to be more geared to using a collective organisation to protect individual interests and rights, and feeling that institutionalised and regulated forms of representation were in a better position to do this" (Meil, 2007:7).

Very similar to the German case seems the French case where R&D workers also are involved in employment contracts whereas the professional status and the professional careers are based very much on individual performance (annual evaluations). "A trade unionist observed that with the increased flexibility, related to mobility and new technologies (laptops, mobile phone, internet secured access to the Company network, etc.) limits between working time and private time are blurring" (Muchnik, 2007:15).

Without having in-depth information about institutional arrangements and policies, the difference between the Norwegian institutional framework and the other case studies seems significant. As it is reflected in the case study, the *Scandinavian welfare model*[8] still emphasizes the governmental pillar. According to Esping-Andersen "it has actively 'de-familialised' welfare responsibilities with two aims in mind: one to strengthen families (by unburdening them of obligations) and, two, to strive for greater individual independence. It has also actively 'de-commodified citizens' welfare needs, thus seeking for minimise the degree to which individuals welfare depends on their fortunes in the market" (Esping-Andersen, 2002:13).

In contrast the *Continental welfare model* - which is represented by the other three cases (particularly Germany and France) - follows the insurance tradition which has usually introduced employment guarantees and regulations. The long-term viability of a social insurance dominated systems, however, is increasingly questioned because it offers inadequate security for those with a tenuous connection to the labour market, such as women and for workers for irregular careers (Esping-Andersen, 2002: 16). Although R&D workers can be considered as an occupational group with high chances on the labour markets, in the following the gender analysis will focus on the 'vulnerability' of this model which refers very much to employment stagnation and to inactivity rates. Thus family planning is paradoxically a major cause of low fertility in Continental welfare states particularly in several sectors of high skilled work.

8 Having in mind the famous work of Esping-Andersen of identifying different welfare systems and its characteristics at the beginning of 1990s, the following differentiation refers to actual publications of him, where he also refers on three types of welfare systems: the Scandinavian Welfare Model, the Liberal Model and the Continental Welfare Model in Europe (Esping-Andersen, 2002).

3. Changes in occupational identities

3.1 Characterisation of the occupational identity

Basically, the occupation of the R&D workers is characterised by a specific working style which "involves sitting at a computer and writing and editing software" (Meil 2007:9). Highly relevant in all case studies seems the fact that R&D departments are cost centers; "hence their existence relies on their reputation as an innovative expert community within the company" (Anthun, 2007:9).

Research and industrial software development define the two poles where the identity of this occupational group has been developed. Keeping in mind a scale between a strong research culture towards market oriented software development, the four case studies can be located on this scale:

The most developed researcher's identity has been identified in the German case study. The work climate is described as being very academic by an autonomous working style, "one could call it individualised and to a certain extend isolated" (Meil, 2007: 9). There is less identification with the company as such. The identification comes from having done a good job finding solutions to tricky problems. There is less competition between older and younger employees in the firm, the work climate seems cooperative.

More located on the researcher's side seems the Austrian case where the student's atmosphere, the age of the R&D workers as well as the open career paths still remind of the culture of researchers. Basically the Austrian R&D workers are not determined to pursue an academic career but "enjoy interesting work, good collaborative working relations for the time being" (Holtgrewe, 2007: 9). High intrinsic motivations as well as a sense of belonging to the firms, however, coincide with a certain short-term orientation. This contradiction also has been described as a topic of tension as well as a personal challenge by the R&D workers.

The role of knowledge-based workers and IT experts in society shape very much the occupational identity in Norway. The R&D workers belong to a professional group with high demands for entry. As soon as they have entered it seems easy to get a well paid job, to get quite a lot of acknowledgement from colleagues and to start building a career with responsibility and international profile. „Being part of a community of experts is therefore important both at individual and at group level" (Anthun, 2007:9).

The French study should be located at the industrial side particularly after restructuring processes. Privatisation and spatial reorganisation changed identification of workers not only to the company but also to the content of work. This is nicely presented in the report with the following quotation by Stèphanie, a R&D worker: "I fear that R&D become like a software and computer services company, what would be a very strong amputation of R&D" (Muchnik, 2007:12).

The four examples show a scale between 'research and industry' where it seems difficult to define a single occupational identity. Although the activities and the technical demands seem similar, the occupational identity also depends on the organisational framework, the

working conditions and the societal reputation. The case studies show, however, the more the R&D work is based on market-oriented demands the more the occupational identity is connected with the company's culture. Especially in the following chapter this hypothesis will be concreted.

3.2 Relations between changes in occupational identities and organisational restructuring

As described above the French R&D workers have passed significantly changes with regard to its occupational identities. The main changes are based on the loss of autonomy (particularly of laboratory directors), the change from technical to managerial skills as well as the need for mobility (particularly in the presented company).

Loss of autonomy as well as the change from technical to managerial skills seems also to be important driving factors for a change in occupational identity in the other countries.

In the German and Norwegian case studies the R&D workers occupy a space between university research and offering economic solutions to companies. In both cases changes are not regarded as losses or as somehow threatening for the R&D workers. Changes have been integrated into the workflows with a certain facility. In the Norwegian case study the occupational group has been dominated by a relatively homogenous, young and male group of Norwegian engineers with a degree from a Norwegian university in former times. According to Anthun this had probably an influence in the occupational group. Today the situation has changed and the occupational group is getting more diversified "when it comes to age, gender and ethnicity" (Anthun, 2007:10).

The growing diversity therefore is not only represented by different people but also by the growing specialisation in the industry and on the markets. This growing differentiation between functions, content of work and strategic objectives of the firms has created a complex picture of the occupational group. Therefore "new relations are established and new groups are formed that cut across organisational boundaries" (Anthun, 2007:10ff).

This development is also described in the German case study on the level of content of work. Through the orientation on customer needs, the demand for technical application increasingly dominates the occupation of R&D workers. Mail points out that for those who have high levels of academic credentials, "the change away from research toward industrial practise is not as that easy" (Meil, 2007:10). Very often it defines a shift from one occupational identity to another. This process has to be performed individually and the different experiences in the case study show that both the work actively with costumers but also the abstract development of software has its meanings and offer challenges of its own.

In the Austrian case study the occupation also is described as a complex one. „Scientific expertise is defined in fairly generalist terms by both computer scientists and geo-informatics people, and senior researchers define their careers in project terms rather than academic stations as well" (Holtgrewe, 2007:11). Besides this characterisation, changes of the occupation group are carefully considered in the increasing orientation towards sales and customer liaison functions (particularly on the level of project leader). How these

additional functions have been integrated into the workflow, also depends on the individual performance.

With regard to the IT sector, Holtgrewe is strengthening critically the aspect flexibility when analysing the occupational identity. "If there is 'an' occupational identity for this group, its defining feature is its fluidity. This can imply a far-reaching plasticity and short-termism that corrodes people's long-term perspectives and capacities for planning and developing" (Holtgrewe, 2007:11).

In sum the four cases show that there can be witnessed a shift from more scientific-based work to industrial application, which has to do with restructuring processes and organisational changes within the companies. Research and development of software therefore has to be more connected and approved in the concrete application as well as on market demands. Through the stronger orientation towards market applications, managerial as well as social skills became more important within this occupational group.

The case studies, however, also show that adaptation processes are not necessarily perceived as losses *and* threats by the R&D workers. In contrary, in many cases there can be seen a diversification of social groups as well as of work contents. These diversifications have led to a more complex picture of this occupational field. The complexity is based on internal and external changes of the company. Its effects - how they are perceived by the R&D workers - rely on normative principles whether the R&D workers have to adapt individually on these changes or they are supported cooperatively by the companies as well as by the institutional setting of each country.

4. Learning and skills development

4.1 Changes in skills requirements

Not surprising for this occupational group learning and skills development is an integral part of the work. This consideration has been approved in all four case studies whereas the realisation of skills requirements differs between the countries.

Still connected to research culture, the Austrian case describes that training on the job consists in the "participation in academic conferences, trade fairs or technical workshops, organizing such events and so on all overlap" (Holtgrewe, 2007:15).

Although in the descriptions above the German case focus very much on research as academic activities, the changes in skill requirements derive mostly from the shift toward working with and for commercial companies. Here "operating in a competitive environment. For one, since the software solutions have to be sold, the employees have to become salesmen" (Meil, 2007: 12). This does not mean that they primarily have to act on managerial tasks. The technical side of skill requirements seems decisive, so the R&D workers have to visit computer shows, give demos and get in contact to costumers in order to do business with them. This technical knowledge has initially to be learned when entering the companies. Moreover there is an intensive learning period when carrying out the software tasks as well as specifying the working fields.

The 'double' functions of R&D workers appear also in the French case study. The following quotation in the case focuses significantly on the changes in skills requirements: "The Director of DCQ (Directorate Competence and Quality) notes a sort of 'schizophrenia': keep competences necessary to traditional systems because we still need them, evolving at the same time very quickly towards new professions, new technologies and new services (…). Our researchers must be able to translate their technical ideas in business ideas" (Muchnik, 2007:16).

This quotation shows that there is not only a shift towards new competencies but the changes in new skills require additional competencies. Technical knowledge here seems the precondition of this occupational group but more and more there is a need to develop managerial skills on different levels. In the French case this requirements have been evaluated critically even by an employee in a leading position and he points out that the current skills need concern all emerging markets and technologies.

Much more 'relaxed' the Norwegian case study deals with this topic. In more general terms the 'normal' procedure of skills requirements seems the efforts of the individual R&D workers to update their knowledge and skills. Usually this has been done by "the knowledge transfer from older to younger developers and a company culture that focus on learning by doing" (Anthun, 2007: 14). Anthun is strengthened very much the fact that processes of learning in the Norway are embedded into interactions between individuals and externally with users and costumers. Learning and skill requirements are considered as organisational tasks that means that the organisation makes it possible for individuals to attend courses and conferences, but the employees have to arrange an individual learning strategy.

Learning by the more experienced colleagues not only implies technical skills but also i.e. the improvement of one's English language skills. But there are different models in skill requirements. However, H&R policies in the presented companies are based on different strategies involving the R&D workers into the decision of skills and learning development.

With regard to the changes of skills requirements, the increasing needs for social and managerial skills in the IT sector has been analysed widely in academic literature (see sect. 1). Different developments can be considered along the four case studies. The dynamic tendency of knowledge-based work and the combination of external and internal flexibility modes have led to different perceptions of skill requirements. This development has been delegated fully to the employees' own efforts where the new requirements are perceived as 'ambivalent' (French case). On the other hand, as organisations also "can be urged to form partnerships and alliances to get access to knowledge and skills, this can provide new learning opportunities because employees get access to networks of experts and new information and knowledge" (Norwegian case) (Ramioul, 2007:18).

The other cases seem in between the two poles. The crucial point seem how the organisations deal with changes and how they offer access to learning processes respectively towards new demands of knowledge and skills. Whether the employees are trained in formally organised courses or whether they have to achieve by their own seems a matter of economic resources, which have to be offered by the single company.

4.2 Management of learning and training processes

As a high skilled occupational group, R&D workers are used to dealing with computers, software and generally have little problem with learning by doing in technical fields. Trough the shift from research to market orientation other skills like communication and managerial skills also became important.

As it described above there is a wide range within the organisations dealing with learning and training processes. As one model, the organisation of training processes seems not systematically offered by the companies. It seems, however, that the necessity for training on the job is strengthened normatively by the organisations. But as a quotation shows: "They [suggestions for further training] are always positively registered, but nothing happens, because our budgets are tight, no time, no money, that's why" (Meil, 2007: 13). In the German case the high individuality of the research culture probably focus on the lack of organised training courses. Here training on the job has been managed by the employees as part of their working performance.

The French case showed that on the basis of biannual evaluation with the managers the need for learning and skill processes has raised continuously. In order to foster professionalisation in the company there has been established a specific skills management for all R&D centres. Here the objective was to discuss the problems and the needs of the R&D workers and let have them access to targeted training courses for business evolution (Muchnik, 2007:17).

In the Norwegian case study particularly to the team leaders in one organisation have been offered attending courses in a specific software development methodology. In other organisations learning and training processes are organised differently. Generally the R&D workers have to organise their own procedures of training. "They need to take responsibilities for their own tasks, manage their own working schedules and make sure to deliver on time." (Anthun, 2007:14). Also here the necessity of life-long-learning on this occupational group is part of the self-conception of the R&D-workers. According to the report the management of learning strategies implies a wide range i.e. English language, software skills and managerial skills. The training strategies mainly are embedded into the companies' culture and the general rule seems the knowledge transfer from the older to the younger R&D workers.

Similar to the Norwegian case, in the Austrian case learning opportunities also extend well over employees' specialisation. "Training in programming languages, certifications by Microsoft or Sun, a wide range of applications, general and management skills are all available and encouraged. There is a wide range of courses on offer, but also researchers take their own initiative" (Holtgrewe, 2007:16).

Especially 'project management' is offered on the one hand in particular courses which are supposed to give project leaders a shared working style and a perspective on project management. On the other hand – as Holtgrewe remarks – travels to conferences and training courses are funded by projects budgets which often sets some limitations. The following quotation shows that the employees have to put a lot of effort into their learning opportunities (Holtgrewe, 2007: 16): "*Then we sometimes agree that this [conference or training] may take place during working time and we also pay the conference fee, but there has to be some investment of one's own as well, not to count the time you spend on the train. I don't know if I should say that, if that is legal, but otherwise I'd feel I have a problem*" (Lab director).

With regard to the technological development and new market demands there is widely spread acceptance of the necessity of continuous learning both on the side of the organisational management and on the side of the R&D workers. Whether this conviction is transformed into organisational strategies or simply delegated to the individual performance differs from country to country. One may agree on the consideration that basically the employees have to manage further training strategies by their own with or even without organisational support.

5. Quality of work

5.1 Changes in working conditions

The Norwegian as well as the French case studies explicitly provide topics about changes of working conditions after restructuring processes. As described above the managerial headquarter of at least two companies in Norway are now in the US. This geographical shift has led to changes of working time for some of the R&D workers in the sample. They are often asked to work late hours, especially if there are telephone conferences with colleagues from the US. On some occasions these phone calls also can be done from home. Also, travel activities have increased which often are appreciated particularly by younger R&D workers. "She enjoys sharing conferences and knowledge with people working in the same technical field" (Anthun, 2007:12).

The Norwegian case study also reports about an increase about the workload average particularly when the research unit was a start-up company. Now the workload level has reached the Norwegian level of regulations which significantly seem lower than the US regulation on working conditions.

Geographical shifts also are the main topic of changes in the French case study. Through dispersed working teams as well as the concentration of the management in the capital, the need for temporal flexibility has increased significantly for the R&D workers. "A trade unionist observed that with this increased flexibility, related to mobility and new technologies (laptops, mobile phones, internet access etc.), limits between working time and private time are blurring. More and more employees, even if they leave workplace earlier, work at home in the evening, in the week-end or keep in touch during their holidays"(Muchnik, 2007:15). Whether R&D worker are not able or not willing to work in such a flexible way, the case study shows that they have to accept breaks of their professional careers. As described in the part about career trajectories, requirements of mobility are perceived as a threat for career development and beyond, for the own identity at work. This aspect influences the perception of quality of work and it seems that the need for mobility and flexibility rarely can be combined with family planning or work-life balance.

The Austrian case study focuses very much on an increase of the workload with regard of quality of work. "Projects are closer to the market than in purely academic research, and project cycles are deliberately kept shorter than in purely academic research, and project cycles kept shorter through techniques of rapid prototyping" (Holtgrewe, 2007: 12). Similar to the French case there also can be considered an increasing need for

flexibility. Working time can be extended ad-hoc and there is a generalised norm for R&D workers to be flexible on several levels. However, the company stores-up some extra-flexibility: the works council reports that 30% of the researchers have so-called 'all-inclusive' contracts in which any overtime is paid for with a lump sum above the collective agreement's level of pay (Holtgrewe, 2007:13). In sum the Austrian case study describes a high quality of work. The working atmosphere seems enjoyable and valued by the researchers.

The research culture is widely strengthened in the German case where the R&D workers appreciate very much their self responsibility and freedom at work. The recognition therefore is not coming from typical hierarchical forms of career development but from the creativity of work as well as the successful introduction of technical innovations etc. Restructuring processes have little influence on the perception of quality of work (Meil, 2007). The management of working time is based on trust-flexitime which seems typically for working structure in the field of research in Germany.

Basically the subjective dimension on changes on quality of work have to be analysed more intensively according to different topics (time, density of work load, individual expectations etc.). In general there is little information about the 'life-part' in the case studies, i. e. concrete strategies of work-life balance in daily life, non-work activities as well as personal expectations. The focus of research is very much on the adaptation to the working processes (see sect. 7).

In some cases the increasing work load as well as temporal density at work is perceived as losses of quality of work. But still institutional/organisational pattern (Norway, Austria) as well as the typical research-oriented working culture (Germany) weaken negative effects of losses. Thus the occupation still is received as creative and interesting work environment with a high level of quality of work. The adaptation process on changing work contents also is developed by the integration of younger professionals who adapt more easily on new working demands than older professionals do.

Except in the French case the restructuring processes and the need for mobility has led to losses in the biographical development of the career of R&D workers. But here as well the need for flexibility has also provided advantages for the younger R&D workers. In contrary employees with family or other restraints felt extremely restricted by these chances.

5.2 Relations between these changes and the restructuring processes

According to the definition of quality of work in the reports on Employment in Europe, Vendramin & Valenduc describe the dimension of quality of work as job security, access to training and career development, gender equality, flexibility and security, inclusion and access to labour market, social dialogue, worker involvement, work organisation and work-life balance (Vendramin & Valenduc 2007).

Comparing these aspects with the four case studies, flexibility (temporal and functional flexibility) and career development seem the main topics when analysing quality of work.

In most cases it was difficult methodologically to relate restructuring processes with the change of quality of work. As Meil strengthened "there has been little change in actual working conditions as a result of restructuring" (Meil, 2007:11). Looking at formal

working conditions the situation has rarely changed in all four countries. Except in the French case and the Norwegian case there are formulated some relations between restructuring processes and quality of work. The need of mobility and the increasing need of flexibility have partly produced the perception of losses by some R&D workers. In the Norwegian case the institutional framework offers the continuity of work-life-balance which seems important for the individual perception quality of work. This seems not the case in the French case.

6. Work life balance

6.1 Existence and access to family-friendly settings for this OG

In all four cases, work-life-balance as a topic of evaluation means the possibility of combining work with family needs. Therefore time framing of work is the thematic emphasis when reflecting work-life balance within this occupational group. Institutionally family-friendly policies have only been reported from Norway. "In Norway it is expected that men share more of the work and responsibilities at home. Even if this is not the situation in all Norwegian families, it is truer for the younger, more educated generations of work force. […] In Norway statistics show that three of four women give birth to children take 52 paternity leave, while men only use their earmarked for weeks to stay at home with the new born children" (Anthun, 2007:15ff.). The quotation shows a critique of the imbalance between men and women respectively work-life balance also in Norway. From a gender perspective this will be discussed in the following sections.

The baby boom as well as the realisation of family-friendly policies and its consequences on the working level in Norway are clearing contrast to the other case studies. In none of them family-friendly policies are described neither in the company nor on an institutional level. As Holtgrewe points out "working time arrangements in the Labs seem to be more informal" (Holtgrewe, 2007:17), time schedules therefore seem the key for combining family needs with work. In the Austrian case the mother company in its HR concept strengthened work-life balance as an integral part of the company's culture. Therefore part-time work is available, also in leadership positions, flexible working time arrangements and telework are options for the employees.

Amazingly in the German case study the working culture of this occupational group represents the attitude that a regular week and space for free-time should be reached. Although the research working culture in general is based on blurring boundaries between work and non-work time, this cannot be stated for the R&D workers. "Also the importance of family and free-time was stressed by all respondents. Although the two women software developers did not have children, and therefore it is difficult to judge how that would be dealt with, the men with children did report that there was understanding among their colleagues that they had family responsibilities and needed more regular working rhythms" (Meil, 2007:14).

Because many respondents in the German case study have made experiences with rationalisation, closure and bankruptcies, in general they have now a more "pragmatic

approach to work" (Meil, 2007: 4) whereas the new (and younger) employees partly are over motivated and are working overtime.

Thinking about work-life balance the case studies focus very much on the harmonisation of family needs, which is strongly connected with gender related issues. Differences of age also play a role in the individual attitude towards work-life balance how it is described in Austria and Germany. Family planning and family needs as well as work experiences therefore appear as two important topics in order to create work-life balance. The high self-performance, which has to be developed within the work profiles, also play a role in creating and defining strategies of work-life balance. Here in general a high self esteem and self-confidence can be considered as important characteristics in high skilled working groups.

6.2 Difficulties, opportunities and changing boundaries of the work life balance

Because of the high commitment of R&D workers with the content of their work the "orientation of these workers potentially makes achieving a work-life balance much easier to realise than for workers who are trying to climb corporate ladder" (Meil, 2007: 15).

Taking this quotation as hypothesis for the difficulties and opportunities of work-life balance, the restructuring processes (globalisation, market-orientation, new hierarchies in the company) in some cases have created more 'difficulties'. Whether these difficulties are increasing or decreasing or how work-life balance is perceived depends on the subjective attitude of the R&D workers. Particularly changes of organisational working structures have also led to different working profile, which is appreciated by younger (and often female) R&D workers. New working profiles, a changing orientation of the software and the necessity to sell the software successfully on the markets have influenced the occupational profile as well as the work contents.

One interesting aspect of some R&D worker's work-life balance is weekend commuting how it is described in the Austrian case study. Here the orientation on the job in one partnership has led to long-distance relationship that can be considered as hindering factor for family but also professional needs. Because of the strong job orientation there seem less time for other activities particularly if there are children or other engagements like sports etc.

Trends in work and employment are crucial for the quality of life. Basically the case studies do not draw a picture changing boundaries of work-life balance. On the contrary, it seems that the high qualification of R& D workers is related to their active integration into working life as well as its potential for self-development. If family needs have been raised the commitment towards work is decreasing. In this case changing boundaries take place between work and non-work.

7. Gender

7.1 Career profiles and trajectories

R&D work as traditionally technology-based work has been a male dominant occupational group in many countries. This is still reflected in the sample where women still are underrepresented in all four case studies. In the Norwegian case study i.e. statistics show that there are few women taking a degree in software engineering. In 2000 only 16, 2 *per cent* of those applying for the highest engineering degree in Norway were women (Anthun, 2007:8). Even when organisations like to hire particularly women it is difficult to find competent female R&D researchers. Although the companies like to attract women for this occupation, the study reports that for a woman "it has been a struggle to obtain equal pay for men and women in the same position. When she started working as a manager she earned 80 per cent of what a male manager did – for the same type of job" (Anthun, 2007:8). In the other reports there is no information about unequal pay between the sexes in same organisations.

Only the Austrian case study reports about the wage gap between IT development in the science sector and the IT industry. Mostly for men this gap is an incentive to leave the research units expecting to maintain the function of breadwinners whereas for women, the interest for work, flexible working times etc. may be more incentive to stay on (Holtgrewe, 2007:8).

Because of the shift from research towards market orientation as well as towards global organisations, more and more women are working in the field of transdisciplinary skills and competences. "Women tend to enter jobs with IT research Labs trough other paths: Geo-informatics and geography have more women graduates, and consequently Lab2's specialisation in that field leads to more women researchers" (Holtgrewe, 2007:7ff.).

From the perspective of career profiles the entry into the occupation seems not 'gendered'. The formal qualification as well as skill requirements are defined by the job profile and have to be offered by both men and women.

From a gender-based perspective the question already has arisen in many studies how computer sciences as an academic discipline should be change in order to attract more female students (team oriented work, implementation of social skills, high level of abstraction etc.) (Winker, 2002). As the case studies show the introduction of 'social and communicative aspects already led to an increase of the female proportion in this occupational group.

7.2 Skills requirements and development

On the basis of the four case studies skill requirements and development seem not particularly 'gendered'. Holtgrewe strengthened changes in skill requirements with the need for people with more general and business skills which have created marketing positions into the company (see sect. 4.1). Through these non-technical activities more women entered into the IT sector, respectively into the R&D field. "On the other hand, both the increasing importance of general skills in sales and marketing and the location of

IT research in the contextualised areas of computer science such as geoinformatics, human computer interaction etc. opens the field up for people holding degrees in geography, psychology, linguistics etc. who are more likely to be women" (Holtgrewe, 2007:17).

As one result one may state that the diversification of this occupational group has led to a higher proportion of female employees who have to develop their professional development under the same organisational conditions as described above. (see sect. 4.2). But furthermore there are no statements about skills requirements from a gender perspective in the other three case study reports.

7.3 Working conditions

Basically there is little information about working conditions from a gender perspective in the four case studies. Because "we are dealing with a sector which is heavily male dominated" (Anthun, 2007:13), the question arises much more how women have adapted to this working culture in the last decade. Having this question in mind the case studies offer some evidence which also is reflected in literature (Holtgrewe, 2006, Krings, 2006).

- Diversification of the job profile from technical biased profile towards communication and administrative skills;
- Through the young age of (female) employees the adaptation processes with regard to skill requirement and working conditions appears 'equal' between men and women. Not until family planning becomes an important aspect in the work-life balance of both sexes, the biographical differences within career development appear as 'gendered' on different levels;
- The intrinsic motivation of work has led to the attitude on both – men and women side – that the job is the dominant constitutive element of biographical planning. This attitude also is typical particularly in high skilled professional groups in most European countries.
- Through restructuring and internal re-organisation the demand for flexibility and mobility for the individuals is increasing. These demands mainly are expressed by temporal changes as well as losses in career development. Temporal pressure is more perceived by female R&D workers, mostly because they have to harmonise these changes with family needs (Hochschild, 2006). Losses with career development are mainly expressed by male employees who are more focused in their role within the breadwinner model. Comparing these impressions with the information in the sample, this division is slightly indicated i.e. the higher proportion of part-time work in Norway or some statements of losses in job development in France. In order to strengthen this hypothesis further research would be needed.

7.4 Work / family relations and balance

Surprisingly, the four case studies also offer very little information with regard to work and family relation. As one reason Holtgrewe describes in the Austrian case that "the young age of this group of IT researchers and their flexible working times limit the gendered division of labour we would expect otherwise" (Holtgrewe, 2007:19).

The other reason can be analysed in the little difference of working conditions between male and female R&D workers. According to the temporal dimension Meil concludes for the German case study "since all of the respondents work about 40 hours a week and do similar tasks, there were not gender differences in the approach to working conditions" (Meil, 2007:12).

Having a look on the biographical information in the samples the main caretakers are women whether they are working as R&D experts in the sample or whether they are caring the children of the male R&D workers in the sample. Nevertheless there is no qualitative-based information about the family relations and attitude from a gender perspective respectively this relationship.

7.5 Overall gender questions

The evaluation of the gender-related questions as well its results strengthens the focus of the research. Therefore the perspective is on the relationship between *structure* and *agency (*Kvande, 2003) that mean that the gender approach focus on structural factors in the reproduction of gender differences emphasize formal and informal organisational practices, work processes, personnel policy or organisational structure.

Hence the reference points are the concrete formal working conditions how they are described in the case studies. In order to develop gender-based differences the conclusions answered on the main question whether women (and men) are able to cover these organisational structure or not. As a result they cover the tasks as well as male R&D workers do. These results offer a comprehensive picture about the formal working conditions of R&D workers but indeed offer less information about the gender perspective.

Therefore the overall questions remain: "How do structures fit into the doing gender perspective? Has gender become a fluid category, shifting from situation to situation? […] …I think it is important to focus on agency and how actors may influence and sometimes challenge the structures through practices, but at the same time pinpoint the limitations structures present" (Kvande, 2003:33).

The structural focus strengthens very much the adaptation processes of both men and women in the working processes but less on the daily construction and also deconstruction of gender how it occurs within material and ideological constraints that clearly set limits on possibilities. Although this aspect seems important on the level of comparative analysis, the qualitative dimension of these topics has not developed in the case studies.

Therefore power, conflicts, negotiations in organisations as well as in management has usually been central elements in gender-related descriptions. From a gender perspective it becomes clear that the conflicts within organisations also include what men and women are allowed to do, how they are allowed to behave and how they be ranked and valued. This refers mainly to the management which is mainly described as "gender neutral perspective which means that the importance of gender is made invisible" (Kvande, 2003: 38, Aulenbacher et al., 2006).

Also the symbolic and social order of the working culture of R&D workers can raise many questions which, however, should imply a clear defined reference point of analysis. It seems that the bias of the research focused very much the organisational restructuring

processes and less on the social, cultural and symbolic analysis of the gender perspective in organisations.

8. Conclusions and trends

The comparative analysis of four European countries shows significantly trends and tendencies concerning this occupational group. The focus on organisational changes and changes on the individual working level has led to the following considerations:

1. A shift from **research to market** which is more or less developed within the sample. But it remains as an important topic which has led to changes on the level of work profile, on the level of organisation as well as on the level of self-conception.

2. Through the shift towards market demands the **profile of R&D workers has been diversified**. Technical skills still are the precondition for this profession but managerial as well as communication skills have gained importance. This development had an effect on the female proportion in this occupational group.

3. **Institutional and organisational pattern do matter** in the case of changes. Particularly the comparison with the *Norwegian* case with its orientation towards issues of social protection as well as towards work-family balance attenuates the effects of individual threats and losses.

4. The **high identification with the content of work** (intrinsic function) within the occupational group as well as the societal reputation still can be considered as a central moment of adaptation processes. This comes together with organisational pattern (self responsibility, high level of freedom, result-oriented work, self-organisation of work) which in general is appreciated by the R&D workers.

5. The gender-issue is developed along the 'organisational approach' with the result that **basically there is no inequality** between the sexes in terms of entry, formal qualification and career trajectories of the occupation. In contrary, through the diversification there are more job possibilities for female R&D workers.

Although there are a lot of differences within the sample, trends and tendencies have been identified.

Coming from the theoretical approach of the 'occupational group' the comparative analysis in terms of similarity of position in the work sphere, regardless of specific organisation or territory, the existence of some kind of collective feeling (see Introduction) should be answered carefully. The construction of a well-defined occupational group of R&D workers over national borders can not be considered definite in the sample. Furthermore, the more the occupation will be diversified the more the occupational group also will develop its own functional profile. Here the hypothesis is that through the shift from academia to markets the identification with the occupation is weakened whereas the identification with the organisation is increasing. In order to substantiate this hypothesis further qualitative research would be needed.

With regard to the gender issue, the orientation on organisational changes and less on changes in work-life balance has led to few results respecting the different focus of gender research. Also here more qualitative-oriented research would be needed in order to anticipate the social and cultural effects of global restructuring processes.

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Chapter IV
Occupational monograph – IT professionals in software services

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This chapter on software professionals regroups two occupational groups in the original WORKS matrix of occupational case studies: 'production workers in software development' (four case studies) and 'IT professionals in IT providers for public services' (three case studies).

Original WORKS matrix of occupational groups	ATK (SE)	FORBA (AT)	FTU (BE)	FTU (FR)	HIVA (BE)	IET (PT)	IRES (IT)	IS (BG)	ISB (HU)	ISF (DE)	ITAS (DE)	SINTEF (NO)	UPSPS (GR)	UT (NL)	WLRI (UK)	NRCWE (DK)
Designers in clothing				X		X					X					
Researchers in IT laboratories		X		X						X		X				
Production workers in software development	X							X	X		X					
Production workers in food or clothing					X	X	X					X	X			X
Skilled workers in logistics in food or clothing					X			X					X	X		
Front office employees in customer services in public services	X	X	X				X		X	X					X	
IT professionals in IT providers for public services			X											X	X	

The main reason for regrouping both groups is that the occupations are basically quite similar: software design and development, whatever can be the clients. Moreover, the second group gathered the same occupations as the first one, but spread into three very

heterogeneous cases of IT provision for public services, in such a way that the specificity of this business function was practically lost and not manageable as a separate occupational group. The merger of the two groups leads to a wider and more balanced sample of interviewees. Nevertheless, when relevant, the report will highlight how and why software professionals working in IT service provision for the public sector might have specific career trajectories, identities at work, skills profile, working conditions or work life balance.

1. Main features of the occupational group

1.1 General trends of the sector and occupation in Europe

Two statistical categories can be used to assess the evolution of employment of IT professionals: sectoral employment data concerning IT services; occupational employment data concerning computing professionals. Both come from the European Labour Force Survey and are analysed in the reports of the WORKS quantitative studies [9].

IT services correspond to a well identifiable 2-digits NACE code (NACE 72), covering IT consulting, software development, outsourced data processing, data bases and data warehouses, maintenance of IT systems and networks; all case studies concern companies included in these categories.

IT services have known a considerable employment growth during the period 1996-2004, although a slight slowdown was observed in the years immediately following the burst of the 'Internet bulb' in 2001. In the former Member States (EU-15), the number of jobs in NACE 72 increased by 106%, and round 1.2 million jobs were created. The share of IT services in total employment grew from 0.7% to 1.4%. In the new Member States (NMS), the evolution was also positive on the period 1999-2004 (+48%), but IT services represent a lower share in total employment (0.9%). The sector is composed at 96% of white-collar workers.

When sectoral employment data are cross-tabulated with occupational categories (ISCO 213, computer professionals, and ISCO 312, computer associated professionals), the results reveal that these 'core occupations' represent more than 55% of the sectoral workforce.

According to data from the European Labour Force Survey (Brindinelli, 2007), the changes in non-standard employment (temporary or self-employment) were not that important: between 1996 and 2004 (EU-15), the share of temporary employment in total sectoral employment increased from 7.9% to 8.4%; the share of self-employment, from 15.7 to 16.5%. Part-time employment is very low (6%) and, at that level, data are not accurate.

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9 Concerning this occupational group: mainly Geurts K., Coppin L., Ramioul M. (2007), *The transformation of work? – Tracing employment in business functions: a sectoral and occupational approach*, WORKS deliverable 9.2.1; also Brindinelli L., Rustichelli E. (2007), *The transformation of work? – Work flexibility in Europe: a sectoral and occupational description of trends in working hours, part-time work, temporary work, and self-employment*, WORKS deliverable 9.2.3.

1.2 Characterisation of the occupational group

1.2.1 How to define ICT occupations?

In the framework of a previous European project [10], we developed a typology of professions in information and communication technologies (ICT), based on various institutional and scientific sources. Any typology of ICT professions or occupations is confronted with four main challenges, summarised in Table 1.

Table 5: Challenges and solutions in the definition of ICT occupations

Challenges	Solutions
Boundaries become blurred between ICT professionals and ICT users, due to increasing ICT knowledge among skilled users and increasing user orientation of IT specialists. New emerging occupations are characterised by a mix of ICT knowledge and business domain knowledge.	ICT professionals are those for whom ICT knowledge and skills are more important than business domain knowledge. Occupations where ICT knowledge is predominant are 'ICT professions'. Occupations where business domain knowledge is predominant can be named 'ICT-enabled occupations'.
ICT is both an industrial sector and a transversal business function in all industries and services.	ICT professionals can work either in the ICT sector or in ICT departments of ICT-using industries and services.
ICT occupations cover a range of tasks: design and architecture of information and communication systems; development and implementation of hardware, software and network solutions; customisation and parameterisation of software applications; maintenance of systems and user support (hep desk). In some cases, there is a division of labour and a hierarchy between these tasks; in other cases (for example SMEs), ICT professionals have to do all, from design to support.	ICT professions must include design, development and implementation, customisation and parameterisation, maintenance and support, and not only the highest-level skills. There are various forms of division of labour among occupations. This is a matter of occupational structure, not a matter of definition of the professions. This comprehensive definition of ICT professions is necessary to understand the evolution of job contents along the career, as well as the conversion opportunities through lifelong learning.
In ICT occupations, there are not only ICT graduates, but also a lot of workers with diversified educational background.	ICT occupations rely on both initial ICT degrees, complementary ICT degrees and ICT skills acquired and certified by the lifelong learning system.

Source: summarised from Valenduc & al. (WWW-ICT), 2004, pp. 9-12.

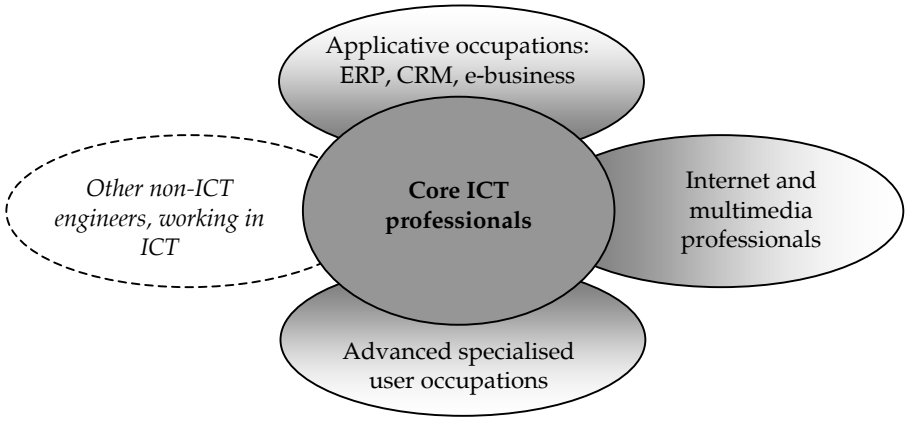
According to these criteria, a 'mapping' of ICT professions was set up, distinguishing:

- *Core professions*: ICT specialists in the areas of networks; software and services; products and systems.
- *Internet and multimedia professionals*: ICT specialists combining graphic, artistic or publishing skills, involved in design, implementation and maintenance of on-line or multimedia products and services.

10 WWW-ICT (Widening Women's Work in Information and Communication Technology), IST programme (FP5): www.ftu-namur.org/www-ict.

- *Applicative occupations*: ICT specialists combining applied business skills, for instance in enterprise resource planning (ERP), customer relationship management (CRM), electronic commerce.
- *Advanced or specialised user occupations*: information brokers, e-learning designers, professionals in bioinformatics, virtual librarians, etc.

Figure 1: Mapping the ICT professions



Source: Valenduc & al. (WWW-ICT), 2004, p. 12.

As expected in the planning of occupational case studies, almost all interviewees belong to the core group of ICT professions, more precisely to software professionals (although some Dutch interviewees might be at the boarder with Internet & multimedia professionals). They all work in companies of the ICT sector (including few telecommunication companies). They cover the whole range of tasks from management and design to software maintenance and support, and all kinds of graduation and educational paths.

1.2.2 Restructuring and occupations

Although the interviewees belong to the same core group of ICT occupations, the case studies cover a wide range of restructuring situations and processes:

- Integration in worldwide value chains of software production (either as subsidiaries or subcontractors in a global outsourcing process): the Bulgarian, Hungarian and Swedish case studies.
- Mergers at the international level: the Swedish case study and partly the German one.
- External growth of local companies towards an internationalisation process: partly the German case study and, to some extent, the Belgian one.
- Specialised multi-client subcontracting: the Dutch case study and partly the Bulgarian case study.
- Long-term outsourcing contracts between public administration and private service providers: the UK and Belgian case studies.

For more details on the various types of restructuring and their organisational impacts, please refer to the synthesis of organisational case studies.

1.3 Characterisation of the case studies and interviewees

All together, this chapter covers seven country case studies and relies on 57 individual interviews (7 to 10 per country). Several case studies include not only workers from the companies in which organisational case studies were carried out, but also workers from other companies in similar restructuring situations.

The authors of the seven occupational case studies are: Isabelle Vandenbussche (Belgium, FTU); Rumiana Stoilova (Bulgaria, IS); Bettina-Johanna Krings, Linda Nierling and Martin Bechmann (Germany, ITAS); Csaba Makó, Miklós Illésy and Peter Csizmadia (Hungary, ISB); Duco Bannink, Willem Trommel and Marcel Hoogenboom (Netherlands, UT); Per Tengblad and Pernilla Sternälv (Sweden, ATK); Simone Dahlmann (United Kingdom, WLRI).

In Belgium, Hungary and Sweden, all interviewees belong to the same company; in UK, they belong to two companies, but in very similar restructuring situations. In the other three case studies, they work in several companies involved in software service provision for both local and global clients.

In Belgium, the case study concerns a local company, providing software services (system design, software integration and parameterisation) for both public administration (2/3 of its market) and private clients. It is involved in a long-term outsourcing contract between the Walloon administration and a consortium of private IT providers. All interviewees are analysts or project managers and work mainly as consultants or software developers / integrators.

In Bulgaria, the case study covers various companies operating as subcontractors of worldwide software vendors or integrators. The interviewees are software specialists (senior and junior developers) employed in software development and production, including software quality insurance. Software quality control is a key tasks in an international division of labour of IT services.

In Germany, the case study concerns software developers and engineers in four different companies, in the areas of business software and applied software for specific industries (pharmacy, traffic management). These companies are concerned by restructuring due to internationalisation and mergers.

In Hungary, the case study concerns the Hungarian subsidiary of a multinational IT company, mainly developing software solutions for mobile communication service providers. Interviewees are project leaders or developers.

In the Netherlands, all interviewees work in different companies, involved in various forms of IT service provision (development, security, IT support, system management, consultancy), including service provision for municipal administrations and utilities. Outsourcing and subcontracting are the common restructuring forms.

In Sweden, the case study concerns a global company, resulting from a merger between a Swedish and an US company, including off-shoring of some tasks to India and Philippines. All interviewees work for development, production and implementation of business systems. All interviewees have university degrees.

In the UK, the case study concerns the outsourcing of IT services for local administrations to two private companies (long-term outsourcing), with transfer of personnel from city councils to IT companies. Interviewees have various IT tasks: consulting, system design, system management, analysis, software maintenance and development. Transfer of personnel linked to outsourcing is the key feature.

The next table summarises the distribution of companies and interviewees.

Table 6: Sample of the comparative analysis of the occupational group 'IT professionals in software services'

Number	*Country*	*Sector*	*Type of positions*	*Number of interviews and analysed firms*
1	Belgium	IT services for the public sector	Software development and consulting	7 interviews in 1 firm
2	Bulgaria	Software services	Software development and production	10 interviews in 5 firms
3	Germany	Software services	Software development and production	7 interviews in 4 firms
4	Hungary	Software services	Software development and production	8 interviews in 1 firm
5	Netherlands	IT services for the public sector	Software design, development and maintenance	8 interviews in 6 firms
6	Sweden	Software services	Software development and production	9 interviews in 1 firm
7	UK	IT services for the public sector	Software development and maintenance	8 interviews in 2 firms

The sample of interviewees is composed of 57 persons, 42 men and 15 women (26% women). The percentage of women is slightly higher than the average share of women among ICT professionals in Europe (18% in the statistical category ISCO213), but in two countries, there was no woman among the interviewees (Germany, Hungary).

The age of interviewees runs from 25 to 62. The average age is 38.8 years and the median age is 36 years. The age distribution into quartiles is the following: a quarter of the interviewees are younger than 31; the second quarter between 31 and 36; the third quarter between 36 and 48; the last quarter over 48. Women are younger (only 3 women above the median age of 36). The age distribution is rather unbalanced among countries: in the UK all interviewees are above the median age of 36, while in Bulgaria the oldest interviewee is 37. Some caution will be required in the interpretation of age issues, which might be linked to country-specific situations.

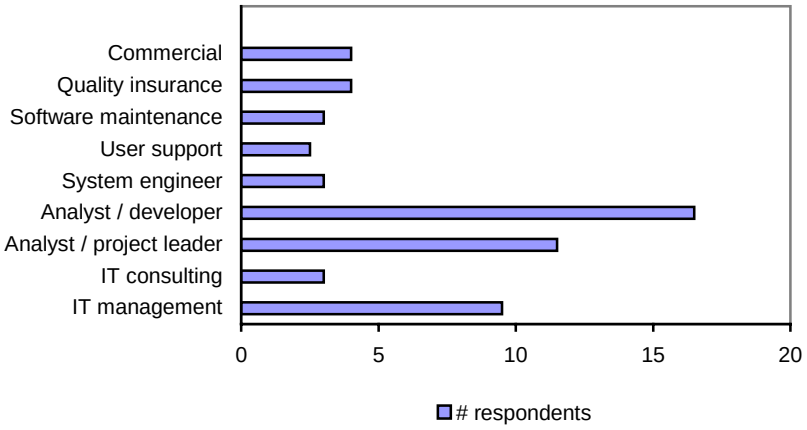
A majority of respondents are married or live with a partner (76%). One half of the respondents (49%) have children who are still at home or dependent, whilst 11% have now independent children; 40% have no children.

The training background reflects the variety of educational paths of ICT professionals: 42% of respondents are directly graduated in ICT from higher education; 21% have another university or high school degree, completed by a diploma of higher education in ICT; 19% have an university or high school degree outside ICT and acquired their ICT skills through vocational training, vendors' certificates or company training; 10% are self-taught in ICT.

As mentioned before, all interviewees belong to the 'core professions' in the mapping of ICT professions. Their distribution among occupational categories is summarised in the next figure (Figure 2). Half of respondents are 'analysts', either as analyst developer (closer to software development) or as project leader (closer to software consulting). There is no difference between the respondents from the case studies initially classified under 'production workers in software development' and those under 'IT professionals in IT service providers for the public sector' – one of the reasons why we merged the two groups.

The mobility on the labour market is generally lower than expected in this particular segment of the labour market. Half of interviewees have not known more than two successive employers, and the average number of successive employers is 2.4 for the whole sample. Only three interviewees have experienced long periods of detachment at clients' premises (body-shopping). However, 14% of interviewees have experienced a period of unemployment or involuntary career interruption; 12% have been free-lancers or self-employed at a moment in their career.

Figure 2: distribution of interviewees into categories of occupations



2. Work biographies

2.1 Career trajectories

2.1.1 From education to employment

In most of the cases, a university or high school degree is nowadays a prerequisite for entering a career as IT professional in software services. Among the interviewees, there are few self-taught employees and only among the oldest. However, as mentioned in the quantitative overview of the sample, there is a wide variety of higher education diplomas opening the door to IT: not only degrees in informatics, but also other degrees in natural sciences, economy or human sciences, completed by a specialisation in IT, vocational training certificates or corporate training.

In several cases, the path from university to employment is very direct. In the Swedish, German and Bulgarian cases, several interviewees had already worked as trainees or students (for their master thesis) in the companies they are working for now. In other cases (Hungary, Netherlands), recruitment puts more emphasis on some previous work experience than on the diploma, mainly when managerial skills are required together with technical skills. The Hungarian case study explains that employers are not satisfied anymore with the quality of university training; new entrants must participate in a checking programme, including courses and mentoring.

Most of the interviewees choose to seek for a job in IT services immediately after their graduation, for two main reasons: they thought that this sector had a good economical potential and that the companies offered several advantages related to wages, job security and career perspectives. In UK, those who went to IT departments of municipal administrations wanted to combine the advantages of working in IT and having the stability of the public sector. Nevertheless, other interviewees did not start their professional career in IT and entered an IT job after other jobs, which did not bring them enough job satisfaction.

2.1.2 Organisational versus boundaryless careers

The sample of interviewees allows for fine-tuning the dual model of organisational careers versus boundaryless careers, as explained and discussed in the WORKS book on conceptual framework [11]. Following and extending proposals suggested in the Bulgarian and Hungarian case studies, we can distinguish several types of careers among the concerned IT professionals.

11 These models are developed and discussed in the contribution of Valenduc, Vendramin, Flecker and Papouschek (Chapter 8 "New career trajectories and occupational identities") in Huws U. (ed.), 2006, pp. 122-130.

Organisational careers – hierarchical version

The Belgian, Bulgarian, German and Hungarian reports mention several individual accounts of a 'classical' career progression for IT professionals: programmer, analyst, project leader, team manager, area manager, and further into managerial tasks. This kind of career is the classical model of big software companies; when reaching upper levels, international mobility may be required. After mergers, the bigger size of merged companies can allow for a more developed organisational chart, offering more career opportunities, but often at the detriment of the 'small is beautiful' work atmosphere.

As the career proceeds, more 'soft skills' (communication, team management, financial management, foreign languages, etc.) must be added to IT skills, which have nevertheless to be continuously updated. Increasing responsibilities are the main thread of this career model.

This kind of career is less likely to be developed in small companies, where flat hierarchies are very frequent.

Organisational careers – technical version

Another version of the organisational career, named here 'technical', is encountered in the Bulgarian, Hungarian, Swedish and (partly) Dutch case studies. Career progression does not lead step by step to an inversion of the mix of technical and managerial tasks, but it leads into more complex and challenging technical tasks. The employee moves to higher levels of expertise and gets higher responsibilities in the management of specialised teams or technical task forces. The commitment to the company is linked to the expectation of a continuing challenging job, from the technological point of view.

This is a knowledge-based organisational career, probably similar to organisational careers in R&D. Increasing expertise is the main thread of this career model.

Organisational careers – institutional version

A third version of the organisational career is determined by institutional settings; examples can be found in the British and (partly) German case studies. In the UK case, despite a huge restructuring relying on outsourcing and transfer of personnel, the interviewees mobilise all their resources to continue in the private company the organisational career that they started in public administration: they negotiate transfers of benefits, they identify themselves with the client (city councils) rather than with the company. Even the managers support this behaviour, through 'absent management'. Nevertheless, employees are disappointed because they regret the 'lost paradise'. They try to preserve their organisational career through ad-hoc institutional settings. The commitment to the organisation is substituted by a commitment to the client. In the German case, the observed work biographies correspond to the typical German model of stable, long-term and standardised employment. Nevertheless, experiences of dismissals after mergers and restructuring have led to a deep break of confidence towards the managers of the companies (Krings & al., 2007).

In both cases, institutional settings preserve the feeling to stay in an organisational career in spite of restructuring.

Boundaryless or 'nomadic' careers

Interesting examples of boundaryless careers can mainly be found in the Bulgarian and Dutch case studies, but they cannot be considered as representative of IT careers in these countries. These individual trajectories include reorientations, return to training, career break, migrations, periods of unemployment, periods as free-lancer, attempts to create one's own company. The word 'nomadic' is more adapted to these trajectories than the boundaryless model, which includes not only zigzag trajectories, but also particular relationships with knowledge building and social networks.

There are rather few examples of such nomadic careers in the sample, and only in the case studies covering several enterprises (Bulgaria, Netherlands). It is not clear to what extent they are linked to a particular restructuring. They are rather linked to the coincidence of personal events with contingent difficulties on the labour market, due to the continuous restructuring of the ICT sector.

Intermediate model of constrained mobility (nomadic transition)

A few interviewees, in several countries (Belgium, Bulgaria, Netherlands), report individual experiences of constrained mobility, due to plant closure, company bankruptcy, collective dismissal after restructuring, etc. They were pushed into professional mobility. Their knowledge and skills portfolio was the critical factor to help them to find a new job, sometimes after some unsuccessful attempts. Their purpose was however not to stay in a nomadic career, but to find another suitable organisational career. At the moment of the interview, most of them had found an anchor in an organisational career

It is better to talk about 'nomadic transition' or 'transitional nomadic career', than boundaryless career. However, during this transition, they experienced several key features of a boundaryless career: weak links to companies and strong emphasis on autonomy and empowerment, importance of social capital and networks of relationships, focus on competences.

2.1.3 The rationale behind organisational or boundaryless careers

Organisational careers can be attractive for two different reasons, which cannot always be combined: on the one hand, the guarantee of an interesting, motivating and evolving job; on the other hand, the guarantee of job security.

Several interviewees in several countries (Belgium, Bulgaria, Germany, Sweden) report that the job content (technical or relational interest, motivation, learning, continuous evolution) is an important factor in their career decisions. Companies try to capture the loyalty of their employees by promising them this perspective. Sometimes it works, sometimes not.

In all the cases, the guarantee of job security is weakened by restructuring. "It is not anymore a job for life", said several interviewees, either expressing their disappointment (UK) or considering it as an incentive (Sweden) or a constraint (Belgium, Bulgaria) for their individual evolution. Restructuring leads to a break of confidence concerning the future guarantee of job security (Germany).

Boundaryless careers are built upon individual work motivation, innovative and dynamic behaviour, need for individual autonomy, and trust in one's learning capacity. Belonging to an organisation is not well valued, except if an organisation can meet these wishes, at least for a period of time. When the organisation does not match anymore the individual objectives, it is time to change employer (Bulgarian examples of boundaryless careers, Stoilova, 2007).

The challenge of skills development plays an important part in career choices or career progression. As said in the Dutch report, "the extent to which employees can come up to such changing skills requirements determines their career profile" (Bannink & al., 2007). The Dutch report highlights the growing importance of non-IT skills (often named transversal or generic or soft skills) in the selection criteria for recruitment and in the possibilities of career development within the companies.

2.1.4 Wages and careers

The role of wages in career orientation is not so developed in the case studies. The general structure of wages is a fixed salary complemented by various benefits or bonus, either linked to project results, or to the financial wealth of the company, or as pick-and-mix ('cafeteria') extra-wage packages. There is a strong individualisation of the attribution of benefits and bonus, and even in some cases of the fixed salary.

The Belgian and Swedish case studies describe a similar problem raised by mergers: the transition from an informal to a formal system of wage setting. In the informal system, wage setting is built on personal relations between manager and employee, while the formal system is based on criteria that leave less room for individual negotiations. The positive side is that the system might be fairer and less dependent on the managers' good will and the employees' negotiation capabilities. The negative effect is that there is less space for taking account of individuality and competencies that are not formally expressed, and that a manager can appreciate but not a system.

The Belgian report suggests that wage progression and extra-wage advantages play a more important part in the decisions of staying or leaving a company, than the wage level itself. Several Belgian interviewees describe their career choice as an optimisation of the triple mix of job interest, remuneration and work location – like a cost-benefit analysis of these three variables (Vandenbussche, 2007).

The Bulgarian case study contains the most controversial appraisals about wages and careers. In the software industry, employers calculate the average wages as intermediate wages between hardware industry and computer trade, but some employers are ready to pay much more for specific high-level skills. Salaries also depend on competition between foreign companies entering the Bulgarian labour market and trying to attract the most skilled people. Therefore, the salaries are quite unstable. Most of interviewees have the feeling to be under-paid. Getting higher or more stable salaries might be an incentive for career mobility (Stoilova, 2007).

In the Swedish case study, employees do not complain about the wage level, but about the few wage increases, even more after merger and restructuring. But wages do not seem to play a role in their career decisions, until now – but they are mostly young (Tengblad & al., 2007).

The UK report discusses the impact of terms and conditions of personnel transfer on the career perspectives. Employees had to opt either for keeping similar terms and conditions as in municipal administrations, or to move to those of the private IT providers. Most of them preferred to keep what they considered as advantages of the public status, but they practically lost the possibility to continue a career within the administration within functions outside IT (Dahlmann, 2007).

2.2 Changes and driving forces

The key words in restructuring are outsourcing (in the broad meaning of externalisation), mergers and international division of labour.

Several case study reports highlight an indirect effect of the trend in outsourcing software services from the ICT-using companies (in both public and private sectors) to the ICT sector: this trend exert a growing pressure on the skills required throughout the career, reinforcing the importance of non-IT skills from the beginning and along the career path. Software employees are increasingly confronted with the clients, they have to match users needs and to dialogue with users, beyond their technical tasks. The 'purely technical' tasks are subject to off-shoring. The German report suggests that the impact of restructuring is more important on the skills and the skills structure, and at the second-order on the careers, as a spin-off effect of skills requirements on the careers (Krings & al., 2007).

Mergers can have opposite effects on the careers of those who remain in the merged entities. On the one hand, mergers can open more opportunities for more diversified organisational careers. Careers are often more formalised in bigger companies, although career progression may be linked to locational mobility. On the other hand, mergers entail the disappearing of several features linked to the small size of companies: corporate spirit, relationships within a small group, informal career paths. These features are often appreciated by IT professionals; they often consider leaving the company to find a better work atmosphere elsewhere.

The international division of labour also influences career paths. The Hungarian case study explains the hierarchical relationships between a headquarter in Germany, a first-order subsidiary in Austria, a second-order subsidiary in Hungary and a range of subcontractors in other Eastern countries. Restructuring can move operational management functions towards decentralisation, and strategic management functions towards centralisation.

Any kind of restructuring also reduces job security, or at least the perception of job security. The UK case explains how career choices are influenced by the way each individual balances his willingness to stay in the organisation, to take advantage of the negotiated guarantees, or to leave the organisation because of disappointment. However, the opinion of several Belgian, Dutch and Swedish interviewees is that, even if IT is not anymore a job for life, it still offers good career opportunities for those who manage uncertainty.

2.3 Influence of institutional or contextual factors

The degree of formalisation of career trajectories varies considerably from one case to another. Only the German case study refers to 'standard career models' for IT professionals (Krings & al., 2007). And only the UK case study mentions a high level of unionisation, probably because most of interviewees were transferred from public administration (Dahlmann, 2007). All reports concerning mergers underline a reinforcement of formalisation (of skills structure, work organisation, career trajectories) in merged companies, in comparison with more informal career management in smaller business units.

The software sector is not very sensitive to collective regulations concerning careers and wages (collective agreements, negotiated collective salary scales, etc.). Also at the company level, wage policies often appear very vague.

A positive contextual factor, mentioned by the German and Swedish studies, is the institutionalisation of traineeship for IT students of universities and high schools, which opens them the doors of companies.

The Hungarian and Bulgarian case studies highlight another kind of institutional and contextual factor: the economic transition from the former bureaucratic State system to an open market economy and the European integration. Different steps of this transition, including periods of huge economic crisis, strongly influenced the labour market in general, and particularly the labour market of skilled professionals.

The Hungarian report also underlines the role of wage differentials among the new Member States and between them and the neighbour countries outside EU (such as Ukraine), which causes wage instability and career mobility.

3. Changes in occupational identity

3.1 Characterisation of the occupational identity

3.1.1 Identity and technology

As reported in many studies, IT professionals show up a strong occupational identity, based on their particular relation to technology: they are those who are able to master IT. This Promethean identity has however to be tempered by several recent evolutions of the job content:

- The new skills mix, combining IT skills and 'soft' skills with an increasing weight of communication or management skills, changes both the image and the identity of the developer. Although always alive, the social representation of the 'IT nerd' does not anymore reflect so much the reality of the occupation of analyst developer. This trend is mainly underlined in the Belgian, Dutch and German reports, but is present in all reports.

- The relation to technology itself is changing. The 'complex problem solving' orientation becomes more important than the fascination for technological pioneering. Technology is increasingly perceived as a solution. The more complex the problem is, the more powerful the solution must be. The occupational identity relies on the capacity to design and implement efficient solutions. The Hungarian and Swedish reports give examples of this changing aspect of the IT dimension of the occupational identity.
- Learning is another component of the occupational identity: learning by doing, keeping up technological and methodological knowledge, self-learning. The learning dimension reinforces 'individually generated occupational identities', as said in the Bulgarian report. Private certifications, often resulting from an individual decision to acquire them by e-learning or self-training, give a recognition to individually generated occupational identities. At the opposite, IT professionals feel they are loosing their identity when they are in work situations where they cannot continue learning (some UK interviewees, quoted by Dahlmann, 2007).
- Finally, some types of work status (free-lancer, self-employed expert), and the fact that several employees work as quasi self-employed, also contribute to individually generated occupational identities.

Only the British case study seems atypical, due to the particular type of restructuring (transfer of personnel). Interviewees keep a strong occupational identity linked to their former employer (municipal administration), who is now their customer. They manifest a weak identification to their profession and their company, and a strong identification with their customer. The Dutch case study also relates that some interviewees feel 'in between' two organisations (provider and customer), but in this case their identification to the profession rather than to organisations was reinforced (Bannink, 2007).

3.1.2 Social dimensions of the occupational identity

All case studies underline the importance of three social components of the occupational identity: the quality of group relationships; the forms of recognition; the corporate culture or corporate spirit. As explained in 3.2, these social components are much more altered by restructuring than the technological component of occupational identity.

- The quality of human relationships at work is highly valued among the interviewees, under different forms: informal climate of small groups, cooperative work atmosphere within the project teams, interest for team-building events, enjoying interpersonal relationships, etc. Project teams are the privileged unit for human relationships and solidarity. Good quality of interpersonal relationships appears as a condition for efficient work, an argument for staying in the company, and a condition for skills development (learning by doing in teams). Many interviewees, in all countries, link the quality of human relationships with the small size ('human size') of the company or the work unit. Company life is 'sub-group life', as said in the Belgian case study (interviewee quoted by Vandenbussche, 2007).
- The forms of recognition by the managers and among colleagues rely on a combination of formal and informal elements of recognition. Informal recognition is considered as very important. It relies on mutual appreciation within the project teams, cooperation

within the projects, recognition by the clients, involvement in 'communities of practices'. The Hungarian and Swedish case studies explain that mutual recognition is also based on expertise: those who are able to solve complex problems or to manage a difficult project gain respect from the others, and gain also 'natural' authority as leaders. Formal recognition only relies on an evaluation interview with one's immediate manager or with a director, after which eventual salary bonus or benefits are decided. Informal recognition is more linked to the identity, while formal recognition to the career.

- As a consequence of both previous items, many interviewees attribute a great importance to the 'company spirit', to which they identify themselves. Those who plan to leave a company are often pushed by a disappointment due to deterioration of this corporate spirit. And those who decide to stay longer in a company often mention the corporate spirit as a key retention factor.

3.2 Changes in occupational identity and relation with restructuring

Changes in the occupational identity of IT professionals must be attributes as much to the general evolution of the profession as to restructuring events.

The growing weight of non-IT skills has already been mentioned as a key element in the evolution of occupational identity. However, IT-skills themselves are also concerned by global restructuring trends, such as standardisation and international division of labour – rather than by particular restructuring events.

Mainly the German and Hungarian case studies deal with the consequences of growing standardisation of knowledge and methods in software development. Standardisation transforms pieces of tacit knowledge into codified knowledge. Standardisation also concerns the relationships with customers and the quality criteria of the service relation (SLA standards – Service Level Agreement). Standardisation fosters the international division of labour: outsourcing or off-shoring of specific development tasks are made easier by standardisation of software development methodologies and tools. Many interviewees perceive standardisation as a threat for their own expertise. Expertise becomes easily transferred or shared, and specialists become more interchangeable. As a result, standardisation can weaken the technological dimension of the occupational identity. Nevertheless, the Swedish case study suggests that standardisation – and consequently off-shoring – may also open new windows of opportunities in both advanced technological fields and quality of services to customers, that cannot be off-shored in the short or medium term.

Communities of practices are mentioned by the Hungarian case study as a means to keep up a strong occupational identity despite standardisation and internationalisation. Communities of practices share a common knowledge base, a set of common methodological tools, forums and FAQs, e-learning tools. They contribute to structuring a worldwide and virtual professional life. Belonging to a community of practice is a way to maintain and develop one's occupational identity (Makó & al., 2007).

Some communities of practices, for example in the area of open source software, also build up a 'brotherhood feeling' among software developers. Open source software communities (Linux) are a way to rediscover the pioneer attitude that was a basic feature of the occupational identity of software developers. Other kind of professional

communities, such as the association of QA engineers and the networks of former university students mentioned in the Bulgarian report, suggest that community building might be an answer to the increasing internationalisation and standardisation of the profession.

Nevertheless, internationalisation can also raise knowledge conflicts and knowledge retention. For instance, when software maintenance is outsourced to another country than software development, knowledge transfer becomes an issue of power relations. Those who carry out software maintenance feel undermined if they have no access to development knowledge, while those carrying out development feel threatened if they share their knowledge. The technological dimension of the occupational identity becomes more fragile.

Mergers are a form of restructuring that particularly affects the social components of the occupational identity. Contacts, communication, relationships, general atmosphere are frequently quoted by the interviewees as very different before and after the merger. The 'small is beautiful' spirit is often lost and regretted. Employees try to keep alive the former groups of relationships. The Belgian company, which was specialised in software integration, was however not so good at personnel integration.

After mergers, the balance of informal and formal recognition also changes, because bigger companies often implement more formalised procedures of evaluation.

The corporate spirit is also weakened by mergers, and sometimes transformed into several 'sub-group spirits'. For example, the Belgian and Swedish case studies quote interviewees telling about "they and us", "the old and the new", as different occupational groups within a merged company, not sharing the same values.

Again, the UK case of transfer of personnel describes a specific type of perturbation of occupational identity. Transferred IT-professionals are squeezed between their corporate culture of municipal administration and their integration in a software company; their occupational identity appears blurred. They maintain a strong identification with their customer and their former way of working, and they feel loosing a former collective identity. According to some interviewees, this perturbed identity is a problem considering their future career developments (Dahlmann, 2007).

4. Learning and skills development

4.1 Changes in skills requirements

As already mentioned, all case studies highlight an evolution of skills requirements towards a mix of IT skills and non-IT skills. What does it mean more precisely? The material gathered in the case studies leads to the distinction of several components of the evolving skills of software professionals.

- *Technological and methodological skills*. Software professionals must continuously update their knowledge and competences in a rapidly changing technological environment. Methodologies of functional analysis and software development are a critical point in

several cases (Belgium, Germany, Hungary, Sweden), as well as quality control and insurance (Bulgaria, Sweden).

- *Project management skills*. These skills are increasingly important as the careers proceeds to higher responsibilities. Project management includes technical skills (specification and planning), economic skills (budget control) and human skills (team management). Purely technical tasks (code writing) are being increasingly off-shored, and project management becomes more important, even for those who are not namely project managers.
- *Customer-oriented communication skills*. These skills include several aspects: the ability to communicate with customers, to understand their needs or problems, to dialogue with them all along the project, and to train them as users; the ability to translate complex customer requirements into software specifications; a good knowledge of the business domain of the customer. This latter point seems particularly important for those working with public customers (Belgian and Dutch cases), who need to know not only the specific procedures but also the specific organisational culture of public services. Language skills (not only English, which is the standard professional language) are mentioned as critically important when working in multinational companies (German and Hungarian cases) or in bilingual countries (Belgium).
- *Social interactive skills*. These skills are sometimes named soft skills, in opposition to hard technical skills. Social interactive skills include assertiveness, ability to work in teams, integration in the corporate work atmosphere, participation to team-building events. The British report contains a short list of expected social interactive skills in one of the studied companies: "self-starter; enthusiast; strong teamwork ethics; focus on results and can-do approach; interpersonal skills; ability to take ownership; ability to follow things through" (Dahlmann, 2007).

Without undermining the importance of technological skills, there is an overall trend in giving more weight to project management skills, customer communication skills and social interactive skills, both in recruitment criteria and in career development.

4.2 Management of training and learning

4.2.1 Patterns of skills development and organisation of training

Two patterns of skills development coexist in all case studies: informal learning and formalised training.

Informal learning relies on individual initiatives and learning by doing. The project teams are an important unit for informal learning, as they often combine different fields of expertise and different seniority. Self-training often relies on e-learning. Self-training requires a good level of learning autonomy; it is time consuming and often carried out outside the working hours; workers having family responsibilities may be disadvantaged.

Formal learning consists of attendance to seminars, courses, training sessions, either inside or outside the company. Except few cases, formalised learning is not organised at a collective level in software companies. The training budget is assessed as insufficient by most of interviewees. They talk about difficulties to access external training, lack of budget, lack of planning, discrepancies between the official generous discourse of the

company and its miserly and discretionary practices (Belgian, Dutch and Swedish cases). Some case studies (again Belgium and Netherlands) relate the gaps in formal training to the lack of formalised human resource management. The German software developers appear to be in a better position than the others as regards access to formal training.

Some new learning patterns are in-between informal and formal patterns. Communities of practices (Bulgarian, Hungarian and Swedish cases) play an important part in sharing knowledge and learning tools. Open e-learning platforms are set-up by some companies for their workers, at an international scale. In Sweden, the studied company runs its own training centre, for both customers and employees, and also for marketing purposes; employees can individually take part in training activities, but on a voluntary base.

Private certifications are another issue. Some employers encourage their employees to follow the training modules and to get vendors' certifications (Oracle, Cisco, Java, Microsoft, etc.). They pay for that, but the employee has to do it individually, during his free time. Getting a certificate is however valuated at the moment of the yearly appraisal.

Skills development and training are characterised by a strong individualisation process. Each employee is left rather alone in facing his own employability. The British and Dutch case studies mention the existence of 'personal development plans', which are individually negotiated between an employee and his direct manager during the yearly appraisal process. Nevertheless, such personal plans are not always applied, by lack of budget or because cancellation by an upper manager.

Several interviewees are not satisfied by their training opportunities, particularly by the discrepancy between the need for continuous learning and the few training opportunities. This complaint is common to all case studies.

The opportunities to access formal training depend on two factors: the size of the company and the size of the customer. Bigger companies have (in general) more structured – or less unstructured – capacities to organise training inside or outside the company. When working for big customers, who outsource or subcontract big projects to the software companies, the training opportunities also seem to be better (Belgian and Bulgarian cases).

4.2.2 Skills and restructuring

Several case studies do not attribute the evolution of skills to particular experiences of restructuring, but to general trends in the evolution of the software business: standardisation, internationalisation and customer orientation.

Customer orientation is identified as the main driver for increasing the weight of non-technological skills. The new international division of labour undermines the importance of very specialised programming skills and enhances skills linked to translation and communication between software providers and their customers.

Standardisation of software development transforms the technological components of the skills: less importance of coding and programming (which are frequently off-shored), more importance of software integration, customisation of packages, end-user programming, and above all project management at the international level.

Internationalisation increases the need for cross-boarder cooperation, participation to multinational and multilingual project teams, development of virtual communities, etc.

Other case studies, however, link the evolution of skills to particular forms of outsourcing: the British case study and, to a lesser extent, the Dutch case study. In the UK case, some employees feel deskilled after their transfer from municipalities to a software provider, because of a higher level of standardisation of their work; they also feel uncomfortable with new required skills, such as quality insurance or testing software modules developed by others. In the Netherlands, the same trends are appreciated differently; standardisation is also perceived as a direct consequence of outsourcing, but the skills requirements in project management and translation of customers' needs are appraised more positively.

Finally, case studies give two interesting examples of opposite effects of similar restructuring.

The Bulgarian report tells the story of a local company, sold as a subsidiary to a bigger US company; under the American leading, there was no training policy, just a principle: learning by doing (which sometimes means learning by mistakes). After few years the company was sold to a Finish multinational group, and the training policy turned: seminars, e-learning platform, programme of vendors' certification (Stoilova, 2007).

The UK case study compares two companies involved in similar outsourcing processes from municipalities to IT providers. In the first one, outsourcing entailed a gap in learning and training: unequal access, dissatisfaction, cancellation of programmes; in the second case, the employer tried to manage a "good training-based transition", based on personal development plans, training portal, and e-learning packages (Dahlmann, 2007).

These examples show to what extent learning and training are linked to the organisational culture – or even to the absence of an organisational culture.

5. Quality of work

5.1 Changes in overall working conditions

Interviewees are generally satisfied with their working conditions, despite an increasing workload attributed to internationalisation of markets and worldwide competitiveness. They however consider their workload as sustainable, and moreover unavoidable in occupations based on project work and submitted to deadlines and quality standards.

Autonomy is one of the most appreciated features: autonomy in organisation and planning of tasks, autonomy in working time management, autonomy in learning. The case study in the Netherlands however highlights that a growing work pressure reduces the autonomy in tasks organisation, but increases the autonomy in working time arrangements (Bannink, 2007).

Autonomy is however limited by the need for coordination, particularly the need for synchronisation in global companies, either with the headquarters abroad or with off-shored subcontractors.

The German case study mentions that the satisfaction concerning the quality of working life becomes reduced by increasing employment insecurity, after mergers or restructuring. Employment insecurity also reduces the degree of confidence in the managers (Krings & al., 2007).

Other sources of dissatisfaction are the lack of clear management: loose management (in the UK case, managers are mostly absent from the offices and external consultants are used for organisational management) or lack of coherent human resource management (Belgian case).

Finally, the satisfaction of detached workers (those working for long periods as agency at customers' premises) is lower than the others. They feel isolated, too depending of working conditions at the customer premises, and excluded from the good atmosphere of the teamwork; they have however a lower workload and are not submitted to peaks and deadlines in project work.

5.2 Relations between changing working conditions and restructuring

5.2.1 Flexibility of working time

Working time is generally flexible. The work schedule consists of a basic core schedule, for example 9:00 to 15:00, completed by flexitime before and/or after, according to the workload and to individual needs. Longer working hours in case of work overload can be compensated by days off or shorter working days, when possible according to the needs of the company. Working time arrangements are individually negotiated. Overtime is very frequent in several countries (Belgium, Bulgaria, Hungary, Netherlands, UK), sometimes paid (Hungary), otherwise unpaid. Regular week-end work is seen by the Hungarian company as a competitive advantage as regards the German and Austrian headquarters, where week-end work is only allowed by social legislation in exceptional cases. According to the case study results in the Netherlands, software professionals are considered as 'quasi self-employed', both from the point of view of their autonomy and their working time; however, such as in Germany and Sweden, overtime is not fostered by the employers.

Most of interviewees have no problem to make individual arrangements in case of unforeseen personal or family event, as all companies consider working time on the basis of a 'work done' principle.

Synchronisation, rather than flexible hours, is mentioned as a problem, mainly in the Bulgarian and Swedish case studies. As a consequence of global off-shoring and/or location of the headquarters in the US, the workflow is increasingly organised as a continuous 24h flow. The Swedish report explains how the need for coordination with Asia in the early morning and US in the late afternoon practically extends the working hours or, at least, the need for availability of employees. The Bulgarian case study highlights a controversial appraisal of these constraints, which are a problem for those who have family duties, mainly the women.

In the companies involved in customer support, synchronisation is related to the customer (British and Dutch cases). Help desk or software maintenance have to be guaranteed during the operating hours of the customer company or organisation;

extended working hours are then organised on the basis of shift-work (early morning and twilight work), but these constraints are stable and can be planned in advance.

The control of working time can be organised through time sheets (typically in project work involving consultancy) or computer login (in more classical programming tasks), or not at all: working time measurement is then linked to the achievement of the work plan and objectives.

5.2.2 Locational flexibility

Telework is only mentioned as a way to manage flexible working hours in the Dutch and Swedish reports; in the Belgian case, full-day teleworking is not easily allowed, but occasional teleworking is welcome if it improves flexible organisation of travels, meetings, etc. The German case studies mention that long travels can entail problems in personal time management, but the Bulgarian and Hungarian reports observe that younger professionals like travelling. The Belgian case studies points out some dissatisfaction or worries as regards moving one's office to another location of the company in Belgium, as a consequence of the successive mergers ad acquisitions.

6. Work life balance

6.1 Existence and access to family friendly settings

No case study mentions any family-friendly policy in the studied companies. Only the German report points out specific financial benefits allocated by the companies for workers with children.

6.2 Difficulties, opportunities and changing boundaries of the work life balance

6.2.1 General work life balance

Despite high workload and sometimes long working hours, the general work life balance is positively assessed by a large majority of interviewees.

Flexibility in working time organisation and arrangements is positively appraised and compensates the high workload. A good work life balance is considered as an individual matter. As said in the Dutch report, "the company has the responsibility to allow employees to combine work and private life, while on the other hand the employee is responsible for taking this opportunity". In Sweden, flexibility can be used for personal purposes, as long as employees manage to achieve their targets. The only atypical case is the British one, where flexible working time arrangements for personal purposes are not easy to get and employers are rather inflexible, except in case of emergency.

For young workers without children, flexible or extended working hours are not an obstacle to a good work life balance. The good salary level allows for comfortable leisure

expenses. The Bulgarian report points out that, even if they work hard, the young software developers have also a lot of leisure, sport and cultural activities. However, as said in the Swedish report, there is a general agreement among this occupational group that they enjoy a good quality of life and a good lifestyle, but that work is predominant on private life.

6.2.2 Work family balance

First of all, it is worthwhile to remember some characteristics of the sample: 40% of interviewees have no children and 49% have children who are still at home or dependent. Among those who have children, the average number of children is 1.9. There are only 15 women among the 57 interviewees and only 7 out of 15 have children. In three case studies (Germany, Hungary, Netherlands), there are no women having children at home. So, the case studies are not so talkative about work family balance.

Although work is highly flexible, it is too demanding to combine it with a family in which private duties are equally shared, as mentioned in the Belgian, Dutch and Hungarian reports. A majority of male interviewees are the main breadwinner of the family and their wife often works part-time or has renounced to a time-consuming professional career. Families must use not only the private and public child care facilities, but also the support of family networks (grandparents) when available.

Nevertheless, the Hungarian case study considers that the 'basic core' of working hours is rather family-friendly and compatible with school schedules; working hours beyond this basic core schedule can be organised in a very flexible way; overtime can be compensated by extra holidays, which are positively appreciated by fathers with children. Hungarian employers consider that workers with families are more stable and less subject for exchanging their current job security against another job, better paid but more risky (Makó & al., 2007).

Only in Sweden, telework is used as a tool to improve the work family balance. In Belgium and the UK, employers are rather reluctant to teleworking solutions for women with children.

Part-time work is not really welcome in software development. Part-time working is implicitly considered as a renouncement to a good career progress. The Swedish case study points out that long parental leaves are less welcome since the take-over by an American company, because a young workforce could suffer staffing problems as all workers are in 'child producing' age (Tengblad & al., 2007).

The size of the company has an influence on the possibility to get informal working time arrangements for family reasons: in small companies, where the management is closer to the employees, informal arrangements are easier to get.

As a conclusion, deterioration or improvement of the work life balance or work family balance are more linked to the restructuring of the profession than to the restructuring of companies.

7. The gender dimension

As already mentioned, the world of software development is mainly male-dominated, not only from a quantitative point of view, but also as regards values and professional culture. Out of the 15 women among the interviewees, 5 come from Bulgaria and 5 from Sweden, and none from Germany and Hungary. Some caution is necessary in the interpretation of results, because of this geographically unbalanced sample. Nevertheless, the sample of women is representative of the variety of occupations, as well as of family situations.

Gender issues are not only to be found in the accounts of female interviewees, but also in understanding how the male interviewees talk about women. It is necessary to go beyond the gender-blinded discourse, which is dominant in ICT occupations.

7.1 Gender, careers and occupational identities

Two types of managerial discourses are encountered in the case studies. On the one hand, a gender neutral discourse: no gender discrimination in recruitment and in the first steps of the career (but a glass ceiling later on), equal opportunities for pay, equal access to training, but no women enough on this labour market (German, Hungarian, Swedish and partly UK cases). On the other hand, a gender biased discourse: working as software professional requires a total involvement in work, and women can only carry it out if they have no family duty or when the children are grown up; women are more convenient for customer-oriented tasks, rather than for technical tasks, because of their better communication skills (Belgian and Dutch cases).

Both discourses obviously reproduce gender stereotypes. As said in the Bulgarian report, "respondents prefer to indicate causes related to the nature of work; they do not perceive – or perhaps are not interested in – socially constructed gender relations" (Stoilova, 2007).

Specific career trajectories are mentioned for women. In Belgium, women often enter the ICT occupations with a first non-ICT degree and a complementary degree or vocational training in ICT. Such a profile is wider than pure ICT graduation, and gives them an advantage in more customer-oriented tasks. In Bulgaria, women frequently start their career as teachers (in mathematics or physics), but they are disappointed and return to their original choice for ICT, after some years teaching; they have however accumulated some didactical experience, now very useful in the software industry. Only the Swedish case study mentions that men and women are equally welcome in very technical careers.

The Bulgarian and Swedish case studies point out that occupational identity has a greater importance than gender identity in this particular occupational group, mainly among the young professionals.

Concerning salaries, the case studies confirm results from other research: women are disadvantaged by systems of individual negotiation of wages and extra-wages benefits. Formal systems of wage settings are more fair and transparent, and less sensitive to the individual capacity of bargaining with a manager.

7.2 Gender, skills and training

According to several case study reports, there is an implicit or explicit gender segregation of roles: women are supposed to be more skilled for functional analysis than for programming, more likely to enter customer relationships functions, but less available for exclusive involvement in their work. Men are better at human-machine interfaces, and women better at human-human interfaces. Almost all interviewees (at least within those who accept to tell about gender) report such stereotypes, but none thinks that women have to find their niche in a technological area locked by men.

Other gender disparities are pointed out in the reports. The pressure to self-training disadvantages women, as they have generally less free time to devote to professional activities. The problem does not come from women, but from the employers who force workers to train themselves during their leisure time. This pressure is lower in some countries, such as Germany and Sweden.

Training opportunities and skills development seem better for women in larger companies, which often propose a more structured training supply. Big companies also need a more balanced mix of IT skills and not-IT skills, which is favourable to women.

7.3 Gender and work life balance

When telling about women, the focus is systematically put on conciliation between work and family, as if women would not have any other concern in their quality of life, than caring for children.

Work life and work family balance is only considered equally for men and women in the Swedish case study. At the opposite, the Belgian case study quotes a manager telling that women (not men) have to choose between work responsibilities and family responsibilities. The UK case study describes a very paternalistic behaviour of a manager towards a single mother, who was working part-time and harassed to take part in meetings any day of the week. The Dutch case study points out that the high demanding conditions imposed to the employees are ipso facto extended to their partner; in this case all male employees lived with women working only part-time or not active on the labour market. This case leads to question to what extent the male-dominating culture of software developers is extended from the professional sphere to the private sphere.

8. Conclusions and trends

For the occupational group of software professionals, outsourcing is the first key word in restructuring. Outsourcing can take different forms (global outsourcing, local outsourcing, subcontracting, etc.), or being only a part of a wider structural change (mergers, acquisition by a multinational company, etc.). Outsourcing can be perceived as an opportunity associated with some risks (Sweden), or as a risk associated with few opportunities (UK), or just as a 'neutral' market change (Belgium), or as an integration in a new international division of labour (Bulgaria).

Merger is the second keyword as regards impacts on work organisation and quality of life. Mergers entail a change of size of the companies (Belgium, Germany, Sweden), and a shift in power relationships between merged entities (Hungary, Sweden).

Outsourcing and mergers, as leading restructuring items, interact with the strongest driver of occupational changes: the evolution of the profession itself, which is linked to technological innovation, innovation in the methodologies of functional engineering and software development, new fields such as software quality insurance or distributed programming.

The main qualitative impacts of this ongoing interaction between business restructuring and professional evolution can be summarised as follows:

- Outsourcing obliges the companies to deliver in due time, to fit customer requirements, and to communicate extensively on the work contents. These requirements made upon companies are transferred to employees.
- The skills mix is rapidly changing, integrating IT skills, management skills, communication skills and social interactive skills. The skills mix also depends on transfers of responsibility through restructuring.
- Software professionals become intermediaries between software providers, off-shored subcontractors and customers. Some employees feel 'in between' organisations, or even quasi self-employed (Netherlands).
- Global outsourcing and internationalisation entail a series of synchronisation problems, which have an impact on work organisation and, in several cases, on the work schedules and the work life balance. For workers with family duties, the extent to which these synchronisation problems are manageable depend notably on the quality of the infrastructure and services for children care.
- Mergers or, more generally, changes of company size, have impacts on the career opportunities (increasing with the size), social relationships at work (decreasing with the size), flexible and informal arrangements about working time (decreasing with the size). These effects can be compensated by appropriate measures of human resource management and working time management.
- When coupled to dismissals, restructuring entails a change of employees' behaviour, mainly characterised by distrust towards management and questioned loyalty.

Finally, some conclusions can be drawn about the institutional aspects that shape the changes in occupations

Generally, there are very few institutional regulations applied to software occupations. In many cases, the formal structures of social dialogue (for example workers councils) do not exist or have no influence. Wages are individualised, even when wage scales exist, as various bonus and benefits are usual components of the remuneration; individual wage negotiation often escape any regulatory framework. Only in the UK case, an existing legislation on protection of employment in transfer of undertakings had a significant impact on restructuring and its consequences for the workers.

However, several case studies mention that software companies can take advantage of legal or institutional provisions: parental leaves, working time compensation, access to training, formalised traineeship, children care services, etc. However, the use of these legal provisions is made 'à la carte' by the concerned company.

In new Member States, the observed changes are shaped by the institutional settings of transitional economies, as much as by global restructuring and professional evolution.

As a general conclusion, the occupational group of software professionals is experiencing a lot of changes linked to outsourcing, internationalisation and evolution of the profession itself. While the drivers of these changes are widely common all across Europe, the direction of changes – and their outcomes for the workers – highly depends on managerial strategies, and power relations within the companies. The occupational identity is not threatened as such, but its evolution is accelerated.

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Chapter V
Occupational monograph – Production workers in the clothing and food industries

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1. Description of the occupational group, main features

The following monograph on the occupational group 'production workers' compares the results of six occupational case studies from different European countries, which were conducted in the frame of the WORKS project. These case studies summarise significant observations from the Danish, Greek, Italian and Norwegian food sector as well as from the Belgian and Portuguese clothing sector in order to analyse changes due to restructuring in the occupational group 'production workers'.

The report bases on qualitative case studies. According to the intention of qualitative research, the results are exemplary and not representative. Rather the report aims to give deeper insight how global changes influence the occupational identity as well as working conditions and career development from the point of view of an individual production worker. The comparison of different national work realities of production workers does not claim to be representative neither to give a comprehensive comparison between countries or sectors. The methodical approach of the following comparison is to analyse how changes on a global scale affect an occupational group. The term 'occupational group' is rather a broad terminology; the work and life realties of employees or workers are likewise affected by institutional, sectoral as well as organisational preconditions. The report aims at distinguishing between developments, which follow from these factors but nevertheless tries to draw a comprehensive picture of the occupational identity of the whole occupational group.

1.1 General trends of the sector and occupation in Europe

Both sectors, food and clothing, represent old industrial sectors with a long tradition in national contexts, which underwent different developments in recent years. Production work is in both industries still an important task; nevertheless, the general trend of the decline of blue-collar work in European employment affected both sectors. The case studies reflect this trend. Most of the analysed cases show firms with attempts to outsource production or parts of the production. This causes often the feeling of insecure employment conditions by the affected production workers, which will be described in

the following. The structural developments of both sectors were analysed in the quantitative pillar of the WORKS project (Birindelli et al., 2007: 40).

The clothing sector faced fundamental structural changes in the 1990s. The significant decline of the employment rate in the clothing sector in all European countries, apart from Portugal, is evidence of these changes [12]. The decrease affected mainly production workers, whose share was considerably reduced. In contrast, other business functions of the sector like logistics or design show smaller reductions or even a rise in employment rates. However the percentage of production workers within the sector remains very high, especially in Portugal and the new member states. There the rate lays still around 75 per cent, whereas the rate in other countries is much lower (Birindelli et al., 2007: 112ff.).

In contrast, the food industry has undergone a relatively stable development without major changes in recent years. This applies to the number of employment in general as well as for the business function 'production'. The percentage of production workers in the food industry lays around 45 per cent in all European countries. However there is statistical evidence for ongoing automation in the industry with an increasing number of skilled factory workers (Birindelli et al., 2007: 129).

1.2 Characterisation of the occupational group

The occupational group 'production workers' in the food and clothing sector represents a group of workers which already has a long tradition. The group exists strictly speaking since the beginning of industrial production in the 18th century. Industrial production means the transformation of former individually created handicraft into the standardised production process which allows a significant rise in output. During the past centuries the production process changed fundamentally. It was increasingly rationalised by technical innovation and automation leading to more and more standardised working tasks. The invention of the 'assembly line' marked the beginning of mass production and lead to a massive increase in productivity by dividing working tasks in small steps. Therefore working tasks of the production workers are highly routinised and monotonous demanding low technical and intellectual skills from the workers.

The fordistic-tayloristic paradigm of work organisation aligned the working process primarily on machines. Characteristics of human beings like emotionality, corporeality and self-consciousness were regarded as disturbance variables in the production process. The main factors of disregard of workers in tayloristic production work are the disregard of corporeality, intellectual competences and personal qualities. In order to get over these experiences of disregard the workers developed different coping strategies like an instrumental work orientation leading to a strong concentration on the 'life' after 'work'. Other coping strategies were the advancement in the hierarchies becoming a foreman or a unionist as well as outsmarting the fixed work rhythm of the assembly line. The experiences of disregard as well as the coping strategies caused the development of

12 Portugal still has a relatively high share of employment in this sector. This can be illustrated by the fact that still 5 per cent of the total Portuguese workforce has a job in the sector, whereas in other countries the rate lies below 1 per cent of the total employment.

specific workers' culture and collective. The measurement of individual performance however could lead to mistrust between the workers themselves and against the direct supervisors (Senghaas-Knobloch & Nagler, 2000:110ff.).

Post-tayloristic management concepts aim at integrating 'human resources' into the work process. Human abilities like creativity, personal qualifications and competences as well as the acceptance of responsibility are essential in new management concepts like e.g. group work. These concepts break the standardised rules and force collegiality and cooperation. The integration of personal qualifications as well as the encouragement to cooperation change the work experience of the individual worker and can lead to a higher work satisfaction or even to a 'new industrial working culture' (Senghaas-Knobloch & Nagler, 2000:119f.). However, these new work management concepts were mainly introduced and tested in the automotive sector and are not widespread in the food and clothing sector. Here, the former organisation of production seems to be still predominant, although there are measures like a rotation in working tasks or ergonomic advancements to enhance the working conditions.

However, Hochschild, 2006 (p.159ff.) describes on basis of her empirical work in a US American company that the production workers do not have a strong interest in work in terms of content or career, even if they have access to further education measures. Rather she identified strong social bonds for the main motivation at work. According to her studies, the social contacts and the recognition at work can even take the place which family life had in former times.

Production in the food industry has taken an industrial and technological approach due to risen consumer demands in Europe over the past 50 years. The consumers expect ever-cheaper food as well as an increasing variety all year round (European Foundaton for the Improvement of Living and Working Conditions, 2004). These demands are fulfilled by industrial processing of food. Accordingly, the occupational group 'productions workers' in the food sector is relatively young. Before, the typical workforce of the food sector was seasonal workers in agriculture, which had to face the problematic of irregular employment over the year.

In the clothing sector industrial production has already a very long tradition. However, the production process of clothing allows technological rationalisation only to a limited extent, because the manufacturing of clothing is very labour-intensive. Furthermore, the products vary permanently (Dunford, 2004:317). As a consequence, clothing manufacture has a low level of automation. Rationalisation strategies were realised by relocating clothing manufacture to subsidiaries in low wage countries because of low investment costs as well as low demands on qualification. This lead to rapid global-wide changes in the location of clothing manufactures providing in insecure and bad working conditions for the concerned production workers.

1.3 Characterisation of the case studies

The sample of the occupational group 'production workers' of the food and clothing sector is covered by six occupational case studies of different national contexts. The case studies are based on 8 – 9 qualitative interviews each with production workers of both sexes with different ages and ethnical origin. Some of the case studies refer only to one

firm whereas other case studies reflect the experiences of more than one firm. All organisations faced recently a phase of restructuring. The production workers of the food sector are represented by two Scandinavian countries (Denmark and Norway) and two South European countries (Greece and Italy). The case studies of the clothing sector are from Central Europe (Belgium) as well as from Southern Europe (Portugal).

Regarding country differences the results of the quantitative analyses of the WORKS project showed that the working conditions across Europe differed most between the Scandinavian and the Mediterranean countries (Birindelli et al., 2007:71). While the Scandinavian countries in general provide complex jobs with learning opportunities and very good working conditions, in some of the Mediterranean countries (Greece, Portugal, Spain) the working conditions are generally lower with more routine jobs. Accordingly, the sample covers different fields of production as well as different institutional and national settings, which affect the occupational group 'production workers' in a certain way. However the analysis is no 'international comparison' in a narrow sense but aims to detect trends and developments related to country differences.

In the following the case studies will be shortly presented (see also Table):

- **Denmark**: The Danish case describes the occupational identity of production workers in a Danish slaughterhouse. Recently the production was centralised and automated and workers were recruited from a broader segment. This development tends to obstruct the worker's collective as well as the union power of this special group which was traditionally very homogenous and strong (Gorm Hansen, 2007).

- **Greece**: The Greek case study states that despite fundamental organisational changes the occupational identity of Greek food production workers stayed the same. Although former rather small national companies were transferred into a large trans-national company, the employment relations and structures were not destabilised at the local level. As a consequence, the occupational identity of production workers did neither change (Linardos, 2007).

- **Italy**: The Italian case study bases the analysis on three different cases: a large agro-industrial company, which produces fresh and frozen vegetables and has a conscious CSR-strategy; and two medium sized companies producing frozen vegetables resp. soft drinks, which are subcontractors of multinational corporations. Even though the level of the working conditions differs very much in the companies, the occupational identity is comparable in terms of solidarity between workers and dissatisfaction with their jobs (Pedaci, 2007).

- **Norway**: The Norwegian case study analyses the occupational group 'production workers' in two different companies, a fish farming and processing company and a brewery. Both have been subject to a range of organisational changes over the past years. However, the workers react differently to these changes: In the fish farming company, the reorganisation caused a loss of solidarity to the company as well as between the workers. In contrast, in the brewery the workers still feel strongly connected to the firm and to their colleagues (Kvernberg Andersen, 2007).

- **Belgium**: The Belgian case study focuses on the occupational group of mass production stitchers which have been upgraded to prototype stitchers of lingerie in a Belgian clothing company. The company offshored its mass production unit and decided to upskill the affected workers. On the one hand the workers feel appreciated by the upgrading of their skills. On the other hand they have strong feelings of insecurity about their job future (De Bruyn & Ramioul, 2007).

- **Portugal**: The Portuguese case analyses production workers which are employed in a Portuguese clothing manufactory producing garments for national and international companies. In recent years the firm restructured its organisational structure according to flexible production pattern, but faces nevertheless economical problems. There is no strong solidarity between the workers; they rather act individually in the company aiming to preserve their job (da Silva, 2007).

Table 7: Sample of the comparative analysis of the occupational group 'production workers'

Number	*Country*	*Sector*	*Type of work*	*Number of interviews and analysed firms*
1	Denmark	Food	Slaughterhouse	8 interviews in 1 firm
2	Greece	Food	Food processing	8 interviews in 1 firm
3	Italy	Food	Food processing	9 interviews in 3 firms
4	Norway	Food	Fish farming and processing; Brewery	9 interviews in 2 firms
5	Belgium	Clothing	Prototype stitchers of lingerie	9 interviews in 1 firm
6	Portugal	Clothing	Clothing manufactory	9 interviews in 1 firm

2. Work biographies

2.1 Career trajectories

The career trajectories are different in the food and in the clothing sector, because both sectors have different working traditions.

In all case studies of the food industry, the formal education level of the production workers is low. The majority of the workers have a school education up to different degrees but did not take part in a formal apprenticeships directly related to the job. However there was further training in some of the cases studies e.g. some of the Italian production workers hold a technical secondary school certificate funded by local administrations or the Norwegian production workers had the possibility to obtain formal certifications paid by their employer; however it became less common in recent years. But mainly further qualification takes place as 'training on the job'.

The work biography of the workers in the food industry can often be characterised as fragmentary. Often the workers had several different jobs before the actual one. These jobs were very often not necessarily related to the work in food production but could be located in a totally different field. The decisions to start in food production were motivated by different reasons. In the Danish case the decisions to work in the

slaughterhouse were mainly related to the good payments and the relatively high job security. In contrast the Italian workers were glad to have the possibility to work in the firm because of few alternatives. The Italian case also shows that these workers had to face phases of unemployment and were very glad to have the opportunity to work in the food sector. However, there was no evidence of long phases of unemployment in the other case studies. Rather, the workers of the Danish slaughterhouse did not experience phases of unemployment and take pride in not receiving welfare benefits from the government.

In the clothing sector the demands on education are higher. All production workers of the Belgian case have a formal vocational training in dressmaking. Furthermore, some of the workers could take part in additional courses in dressmaking offered by the Flemish employment agency. Due to the restructuring of the company, all workers received a special education by the company to upgrade their skills profoundly. In contrast the Portuguese workers gained their qualification only through a long work experience in the sector. Most of the workers are personally related with the sector, because their family also used to work in the sector. Often they were very young when they started working in the sector.

The work biographies of the production workers of the clothing sector seem to be stronger aligned to the specific demands of the industry. Qualification takes place as 'training on the job' and is received via a long work experience in the sector. Special skills are taught by special trainings. The clothing sector seems to require higher qualifications of the employees which are gained through experience or occasionally by special education.

In both sectors, the workers do not expect significant advances regarding their career development; mostly they stay in the position in which they were hired. Possible career advances are positions like line or production managers which can be reached after years of work experience in the firm. But generally the chances for career development are low.

2.2 Changes and driving forces

The business function production is especially prone to off-shoring or outsourcing strategies. This is reflected in nearly all case studies. The Italian interviewees experienced job changes due to dismissals in their work biography and are very uncertain about their job future and hope to hold their current job. The Belgian clothing company recently off-shored its mass production unit. It chose the way to upgrade the affected workers. They have ambivalent feelings, on the one hand they feel appreciated with the upgrading but on the other hand, they are insecure whether all stitchers are taken over into the new unit. The Portuguese case shows that restructuring processes can cause strong feelings of uncertainty. As a consequence, the wish for a stable working place is ranked first and the reorganisation process of the company is supported despite personal career drawbacks: *"I was going to be promoted last year but because of financial problems they [the management] had to fire people and didn't promote anyone. I understand that it is not a good time for companies; maybe this year will be better. I prefer not to be promoted and raised but at least have a place to work."* (cited in da Silva, 2007: 4)

The Norwegian production workers of the brewery experienced a phase of restructuring with lots of dismissals recently but this did not change the positive attitude towards the company. The remaining workers do not seem to feel uncertain about their further employment at the firm. The same is true for the Danish case: Even though the sector has undergone major changes, the workers do not think that their working place could be at risk.

Although all interviewed workers seem to have the same 'objective' basic conditions in their jobs meaning a relatively stable employment situation since most of the workers are employed at least for seven years at the same firm they evaluate the consequences of restructuring differently. Insecurity about the current employment and the fear of job losses is present in the cases studies from Southern Europe and Belgium. The employees are concerned about the economic future of the firm and are afraid of their personal consequences of restructuring or outsourcing and a closing down of the production facility. Often they have already experienced a change of job due to actions, strategies or even closings down of former enterprises. As a consequence, they do not have the feeling that they are able to control or form their own job future; rather they depend on economic decisions of the companies. The absence of anticipated job insecurity in the Scandinavian case studies may point to the strong institutional setting of the Scandinavian countries implying a feeling of security even under uncertain frameworks.

2.3 Institutional arrangements

As indicated above, institutional arrangements may influence the work biography of production workers. In the sample, the main national differences can be detected between the institutional arrangements of the Scandinavian countries in opposite to Southern Europe. Furthermore, the tradition of certain groups of workers in industrial action can also influence the institutional setting of the concerned group, which is illustrated by the Danish and Italian case studies.

The Scandinavian countries have a welfare state model which emphasises the strong role of the state in contrast to market power and seeks at activating and integrating the citizens into the labour market by providing a strong social net (Esping-Andersen, 2002:13f.). The Danish case illustrates that the workers appreciate the Danish legislation which offers them financial support in case of a job loss. Furthermore the Danish company itself has a social program which supports the workers in such cases with a financial compensation and further education. Both measures provide a strong security net for the workers in case it is needed. In slaughterhouse work the unions are present at national as well as at local level, because the Danish slaughterhouses have a long history of conflicts between management and workers. However in recent years the conflicts were increasingly solved by negotiations and dialogue instead of strikes. This stability is also reflected in the Norwegian case study.

The welfare model of Continental Europe focuses on "traditional familial welfare responsibilities" (Esping-Andersen, 2002:16), thus stable employment conditions are secured with strong employment regulations. Combined with huge entry barriers into the labour market this welfare model supports inadequately irregular careers and unstable employment. However the familialist bias is strongest developed in the Southern European countries and lowest in Belgium and France.

In Italy, the institutional framework provides very low social protection for phases of unemployment, so that family support becomes essential for these periods. However, the workers of the agro-industrial sector are especially protected under collective agreements and enjoy expanded welfare programs. These special agreements for the workers have historic reasons, because seasonal workers as the typical workforce of the sector have a long tradition in the Italian economy. Their situation was subject for regulation for a long time and the unions are still very important in the sector. They negotiated one-year contracts binding for all companies of the sector as well as greater unemployment benefits. Nevertheless, family support is still important.

In Portugal the workers experience their working place as highly insecure due to market developments. The work of unions is not relevant for them and they do not expect much support for their individual work situation. Although the interviewed Portuguese production workers did not experience phases of unemployment, family support has still a high relevance.

For the Belgian production workers unions do not play a major role, too. The majority of the workers hold a union membership but do not have much contact with it. The collective agreements are fulfilled by the firm and the relationship between employees and management is considered to be very good. Similar to Portugal, the Belgian stitchers did not experience phases of unemployment but are afraid of it.

Instable employment is characteristic for the work in the business function production, whether it is anticipated or really experienced. National settings provide different levels of security in case of unemployment or transition periods leading to a different perception of restructuring. The Scandinavian countries offer a social net which takes the consequences of restructuring from the workers which in return are not much concerned about their job future. In Continental Europe the consequences of restructuring are more individualised, although family networks have still a certain importance. As the Italian case shows, the work of unions can soften the consequences. However, the workers are much more affected by insecure economic conditions and related instable employment conditions. Their working life and therefore career decisions is much more influenced by these uncertainties.

All in all the career development of the production workers can be summarised as follows: The educational level prevalent in this group is very low, and consists mainly in school education. This is different for the production workers in the clothing sector. Qualification is gained over a long work experience in the sector. Training on the job is also the requirement for career advances, although there are only few possibilities and normally the workers do not intend to realise a career in their job. National institutional conditions influence the perception as well as individual consequences of restructuring for the affected workers.

3. Changes in occupational identities

3.1 Characterisation of the occupational identity

Production workers do not receive a feeling of collective identity from the content of work; rather other factors are relevant to build up a commitment to work. All case studies show that social relations between colleagues are very important to build up collective feelings. Especially important in this context is the interaction between colleagues, however it concerns mostly private issues and happens during working time, while working or in the breaks. In general, not much time is spent outside work.

The commitment to the organisation itself or the products is much lower and is only described in the case of the Norwegian brewery and the Belgian clothing company. Both companies produce well known high quality products. This may constitute the special commitment of some of the production workers to the products they produce. In most cases the commitment is low and the feeling of collectivity emerges rather from the social bonds between colleagues.

The contact with superiors, direct supervisors or management level, is much more seldom and they are perceived generally as distant and busy with few time for the production department. In the Belgian case study the production workers feel a "social barrier between the blue and white collar workers" even despite the familial atmosphere in the company (De Bruyn & Ramioul, 2007:6). Supervisors are often only present and comment on work if something is going wrong. Therefore appreciation by superiors is 'shown' by missing attention, as is expressed by the following quotations of the Danish case study: *"if your manager leaves you alone, you are doing a good job"* or as a manager expresses his recognition: *"it is so annoying; I can never find anything to complain about you"* (cited in Gorm Hansen, 2007:8). This is confirmed by the Italian case study; here a worker complains about few positive assessments and feel underestimated: *"Being a little late or working less than according to schedule is enough to be admonished. There has been a day when I worked twenty extra-minutes, but nobody came to say 'well done!'"* (cited in Pedaci, 2007:7)

As a consequence, the workers receive mainly recognition from their colleagues. However, among peers it is unusual to comment on the individual work performance rather recognition is provided through social interactions [13].

Competition between workers is not regarded as an important issue of the work life and seems to be a rather seldom phenomenon. It becomes only relevant due to organisational structures which are per se beneficial to competition, like a gap in payments due to accord work (Danish case study) or concerns about the future job security (Belgian case study). In contrast, the Italian case describes that the cooperation between workers are high. Different aspects of cooperation include e.g. the share of knowledge related to machinery or the work process as well as discussions about and assistance in job related problems.

Solidarity and cooperation between workers in the production department have already a long tradition in the occupation and which in former times gave rise to a strong

13 Due to upgrading of the mass production unit, other forms of recognition become relevant for the Belgian production workers (see 3.2).

worker's collective and the emergence of unions. Although production workers are traditionally considered to have a strong worker's collective the case study give evidence that this is not necessarily related to unions anymore.

The work of unions seems to be an essential part of the occupational identity only for the Danish and Italian production workers. In Danish slaughterhouses the workers are all organised under the same union with a strong affinity between members. The workers feel well represented by the union and in former times they mobilised quickly for collective action. In recent years, however, negotiations with the management became increasingly common. Nevertheless, union membership is still considered obligatory among workers. In the Italian case the attitude of 'older' workers still leads to membership and active participation in the work of unions. However, young employees, temporary workers as well as workers from non-EU states do not feel that they belong to this worker's collective. They have a critical view on the work of unions regarding their efficiency to protect workers. They, in contrast, prefer ''weaker forms' of joint action (to discuss and act only among colleagues)" (Pedaci, 2007:6). The Portuguese case gives evidence that a strong solidarity only exists between direct colleagues. There is low interest in collective actions and little confidence in the supportive function of unions.

3.2 Relations between changes in occupational identities and organisational restructuring

The occupational identity of 'production workers' is affected in various aspects by organisational restructuring. What is striking most is the disbanding of the worker's collective. This becomes evident by the fact that social relations between colleagues diminish. The case of Danish slaughterhouse workers gives evidence that relations which had a private and even family-like character before are slowly being replaced by a more formal attitude towards work. The cases of the Italian and Portuguese workers confirm these findings. Meetings outside working time as well as solidarity between workers diminish. Often this is traced back to the larger size of the organisations which accordingly becomes more anonymous. Furthermore higher work loads as well as an increased efficiency leave less time for social interaction and informal contacts between workers. Due to the centralisation of the Danish slaughterhouse the geographical spread of workers increased leading to long transportations times to work and back. Although the Danish company offers several attractive options for social activity after work the workers do not take part in it.

The commitment and solidarity to certain work groups is an overall trend which emerges from a restructuring of working tasks. This can be illustrated by the development in Danish slaughterhouses. Here the trade of slaughtering becomes increasingly automatised and taylorised, so that what "once [was] a *trade* has now been transformed into a number of loosely coupled *tasks* to be performed by trained hands and bodies undermining the historical occupational identity" (Gorm Hansen, 2007:9, emph. in original).

As a consequence, the workers become more united by working groups which perform certain tasks. Therefore the identity as well as the commitment of the production workers becomes more related to work groups. However, it takes time to establish a common identity. And if these working groups are changed flexibly the workers' collective seem to

erode even more. The Norwegian case of the Fish farming company confirms this finding. Due to restructuring the working time was reorganised into shifts and previous working teams with strong social bonds were split. However the commitment of the workers was closely tight to the work groups. As a consequence, the commitment to the firm diminished sharply and could not be recovered up to now despite serious attempts of the firm.

Another aspect of change which can be traced back to restructuring is the changed attitude towards unions as the Danish and Italian cases show. The Italian case gives evidence that the role of unions depends as well on the type of company. Small subcontractors have less bargaining power as the following quotation indicates: *"we are almost invisible so it is normal that trade union's relationships are more complicated"* (cited in Gorm Hansen, 2007:7). In contrast, large organisations have a stronger interest to maintain good union relations as well for a positive public image. The Belgian and Greek cases give evidence of a good relationship between management and unions. The Danish case study points to a more complicated relation which weakens the position of unions. The workers are informed in company training courses about the pressure of global markets and the placement of the company in international competition. The workers internalise the pressure of global competition and how it demands "efficiency reliability and cooperativeness of workers"(Gorm Hansen 2007:10). 'Globalisation' therefore becomes a normative topic which weakens the worker's collective and the union power in the slaughterhouse. Consequently, conflicts are solved on the basis of negotiations inside the slaughterhouse in accordance with the demands of the company.

In concrete situations of restructuring, low information and involvement into organisational decisions leads to a feeling of demotivation in work and has therefore a negative influence on collective feelings as was analysed in the Norwegian fish farming company. In contrast, the active involvement of workers into decisions processes gives rise to a higher commitment and may even weaken collective action against management decisions, see Danish case.

Two cases describe a change of tasks due to restructuring. In the Portuguese case working tasks are organised according to the principle of flexible production. While older workers still stress the need of experience and specialisation to fulfil certain tasks, younger workers emphasis the need to have flexibility in working tasks. 'Old knowledge' about special tasks and know-how diminishes, although new aspects like the ability to switch flexibly between tasks and working places or specific technical know-how gain in importance. The Belgian case study describes an upgrading of the working unit of 'mass production stitchers' to 'prototype stitchers' causing massive changes for the occupational identity of the affected group. The upskilling process was regarded as a strong challenge by the workers and caused feelings of insecurity at the beginning. However, after the training course the work profile of the production workers changed. They now work more in teams and have a closer collaboration with other departments. The content of work is more varied, demands more responsibility and allows new forms of recognition: *"If [the management] tells you that you can't leave, because else [the department] looses a very good stitcher, you feel really appreciated"* (cited in De Bruyn & Ramioul, 2007:7).

To sum up, the former strong collective of the workers is affected by an increasing heterogeneity of the occupational group 'production workers'. This heterogeneity includes a broader range of workers from different countries, a differentiation of working tasks, flexible working groups. This destructs former feelings of a homogenous worker's collective. Furthermore the knowledge about economical developments in the course of 'globalisation' includes the production workers in the process of global competition. Being aware of the possibility that the production units can be easily outsourced weakens the position of the production workers as well as of the unions. Therefore, often they aim at supporting the companies during restructuring.

4. Learning and skills development

4.1 Changes in skills requirements

Changes in skill requirements occur mostly due to the automation of production and related introduction of Information Technologies (IT). However, this is not necessarily connected with changes in skill requirements for the production workers. In Greece, Italy and Portugal only line managers or foremen have access to or use IT. The Portuguese workers have to get accustomed to new tasks and machinery due to flexible production pattern. In Norway, and Denmark the workers are more affected by automation processes. On the one hand the knowledge of languages becomes more important than years before, due to the use of machinery and written documents. On the other hand, technical know-how about the machinery e.g. IT-based steering systems becomes part of the work. In the Danish case the introduction of automated systems caused a 'classic upskilling/downskilling process': few workers gain new fields of competence with increased responsibility and influence, while the majority of workers do not need former skills any longer and is less challenged. This process could not be observed in other cases, maybe due to the already existing level of automated production.

The Belgium case represents an exceptional upgrading process, which is not related with automation but with an increase in handicraft skills. The Belgian production workers were able to accomplish one to two different operations before the restructuring, after the upgrading they know how to accomplish up to 50 different operations to assemble the whole product.

4.2 Management of learning and training processes

Learning and training processes take place mostly 'on the job'. At the beginning, the workers learn from experienced colleagues. Formal training takes place rarely; new skills which can be gained by e.g. the change to another working unit are mostly learned from colleagues or according to the principle 'learning by doing'. Work experience is therefore the most important way for further education.

Occasionally training courses take place e.g. for security in work or introductory courses about the company, but generally few training opportunities are offered by the firms. The Belgian production workers, for example, attended a 12 week training course

for upgrading their handicraft skills, apart from that no further training opportunities are offered. Although some workers consider that further training especially in the field of IT is very important for the future of the sector, they neither take the initiative themselves to learn outside the job, see Portuguese case. Line managers or foremen enjoy generally better training opportunities and are supported to learn the use of new technologies and IT skills.

It seems that daily work routines of the majority of production workers have not changed much due to the introduction of new techniques and machinery. Only few workers, often those who already have a higher position, were challenged by new tasks and enjoyed corresponding training opportunities. Nevertheless more machinery is involved in the production tasks, which do not seem to cause major changes in skill requirements. The majority of the production workers perform more or less the same tasks or adapt quickly to the new machinery. New skills for new tasks are either learned 'by doing' or from more experienced colleagues.

5. Quality of work

5.1 Changes in working conditions

The working conditions and therefore the quality of work of the production workers changed in several aspects.

In the Portuguese case, due to the restructuring of the company, flexible production pattern were introduced which caused a new (flexible) organisation of working tasks as well as working time. For the individual workers, this caused a change in work organisation, because they have to offer a higher temporal flexibility regarding extra hours, weekend work and adaptation to night shifts in order to handle frequent high peaks in work load. Moreover, the reorganisation of working tasks asks too much especially from older workers. Due to these changes the workers feel that their working conditions worsened and "that they have to adapt their lives to this reality [flexible production]" (da Silva, 2007:8).

In the Italian case temporal flexibility with long working hours during high peak periods including work at the weekends and extra hours is also prevalent. For the Italian production workers, the work load causes a high level of stress in terms of work intensity and demanded working hours especially for female production workers (see 7.3). However, if overtime is paid the willingness for extra hours seems to be much higher. In Portugal and Denmark overtime is compensated by days off, but workers would prefer strongly compensation by salary.

The Danish case describes an increased intensity of work, too. Due to an increased pace of work, workers feel that they have to work more for the same money. Furthermore they feel stressed and are afraid whether they can keep up with new efficiency demands. However, the automation of production improves the physical working conditions of production tasks significantly, because of a lower risk of injuries. Nevertheless the work still is physically demanding with repetitive tasks. The Norwegian case study points out that these working tasks are subject for 'ergonomic challenges' (Kvernberg Andersen,

2007:12), which are partly implemented in the Norwegian Fish Faming company. Only the case studies from the Nordic countries point at the issue of health conditions. It seems that in other counties these do not play a major role, yet.

The described developments in the cases above show that in some cases the work intensity increased due to a higher efficiency in working tasks as well as to the need for temporal flexibility. However the developments differ in the compared cases. In other case studies that means in the Belgian, Greece and Norwegian cases the work intensity stayed the same. Although e.g. the Belgian production workers have to cope with high peaks, too, it seems that this does not mean a major stress for them. This may be caused by the fact that they are able to choose whether they want to work during weekends or not.

The level of autonomy in working time described in the Belgian case seems to be an important factor which influences the job satisfaction clearly. Furthermore the positive attitude towards the company as well as the upgrading of tasks contributes to a high job satisfaction. Autonomy in the performance of working tasks has a special importance. The Danish case describes that in the course of automation of production a loss of former autonomy takes place. Before the workers could work in their own pace, now the automated production demands strict working schedules which are set by the manager. This led to dissatisfaction among the workers, because the working tasks become monotonous and are characterised by a top down approach. The Italian case describes as well a low level of job satisfaction due to repetitive tasks with nearly no autonomy to organise them: *"you don't have the chance to take the initiative and choose something, to modify the process of carrying out a task even if it seems better to you"* (cited in Pedaci, 2007:8).

Another important factor which influences the level of job satisfaction is the integration of the workers into decision processes of restructuring. The Belgian case as well as the case of the Norwegian brewery gives evidence that satisfaction with job is high, if the workers have the feeling to be integrated into restructuring processes.

Nevertheless the Belgian case shows that despite very good working conditions in the company and good relations with the management, ongoing job insecurity determines the feelings towards work. Perceived insecurity about the future work is an essential factor regarding the quality of work.

Another important aspect affecting the quality of work is the level of wages. The Italian case study gives evidence that the salaries that can be earned in food production are too low for providing family needs: *"there has been an increase, but wage is still low, at least if compared to prices, rents, costs of living […] If my husband didn't have his own I wouldn't be able to make ends meet"* (cited in Pedaci, 2007:8). In general, the payments in production work are low, only the Danish slaughterhouse workers are, measured on the normal wage level, relatively well paid.

5.2 Relations between these changes and the restructuring processes

The relationship between changes in working conditions and restructuring depends strongly on the way, how the needs of the workers are taken into account. As the Portuguese case show, the integration of temporal flexibility causes a high burden for the

workers, if they have to adapt to the temporal requirements of the firm. A lot of pressure is taken from the workers, if they have some freedom regarding flexible working time on their part. Furthermore, new working tasks emerging e.g. from the automation of production, can cause feelings of excessive demands for some workers, which are not sure whether they are able to fulfil the new efficiency requirements.

The level of job satisfaction of production workers is generally low due to monotonous and repetitive tasks. Nevertheless, if the level of autonomy of the single worker is even reduced by restructuring, the satisfaction with the job decreases as well. However, if the workers are integrated into restructuring processes the attitude towards the company seems to be better.

6. Work life balance

6.1 Existence and access to family-friendly settings for this OG

In none of the analysed cases special family-friendly settings like e.g. day care centres were offered by the firms. However, in some cases formal (Denmark and Belgium) as well as informal (Greece) working time arrangements were provided in order to ease the combination of work and family. These arrangements were however available mostly for women (see further sect. 7.4).

6.2 Difficulties, opportunities and changing boundaries of the work life balance

In the occupational group 'production workers' the difficulties to combine work and life concern mostly the combination of family and childcare duties with the demands of production work. The main problematic aspect mentioned in nearly all reports was the missing match between working time and opening hours of public service institutions like kindergartens, day care centres, and medical assurance and so on. As a consequence the production workers have to organise an 'individual fit' of the different time regimes with the help of spouses, relatives, friends and neighbours. This is especially the case in Portugal and Italy, where the companies do very seldom offer special working time arrangements but have a strict shift system: *"women that have to take their children to kindergarden have quite a lot of problems; when they have morning shifts and must clock in at six they cannot take their children because nobody looks after them at kindergarden or school. […] each of us tries to sort things out by their own means, if the husband cannot take care of it, because perhaps he goes to work at that time, the mother will do it"* (cited in Pedaci, 2007: 10).

However this problem is alleviated by the still existing strong family network in both countries. Especially the Portuguese case points out that "the relation between work and family is not a complicated relation" (da Silva, 2007:12). Next to the geographical closeness of company and homes, which e.g. still allows to have lunch at home, the "social support network" (da Silva, 2007:13) including parents and neighbours is still very strong and eases the combination of different schedules significantly. This network seems to exist still in Italy as well, because relatives, especially mothers, tend to step in if it is necessary;

however it is no longer as strong as in Portugal and (female) Italian workers suffer strongly from the lack of flexibility in working hours.

Only the prototype stitchers from Belgium have no problems to combine work and life due to working time arrangements *"I think I have very good working hours. It's actually ideal. I can drop my child off at school in the morning and I can take him when I come back in the evening."* (cited in De Bruyn & Ramioul, 2007:11) In addition, some of the workers use the possibility to work part-time.

Furthermore, working schedules including overtime or night shifts, which are e.g. in Denmark compensated with an irregular day off, lead to longer and irregular working hours. This makes it difficult for workers to have planned and regular leisure activities or to have regular time with their children.

The compatibility of work and life for the production workers depends mainly on the formal demands the companies set on the workers. On the one hand this causes difficulties to reconcile work with family demands. This affects, however, primarily women (see further 7.4) who choose different strategies to combine both fields, depending on national cultures as well as on institutional settings. While in Southern Europe (Italy, Portugal) the family network still plays an important role, it is far less strong in Continental (Belgium) as well as in Northern Europe (Denmark, Norway). Here the workers depend more on public institutions as well as on measures of the company to combine both spheres.

On the other hand, boundaries between work and life are clearly defined. The workers have to align their organisation of 'life' on working time demands, but beyond the formal organisation work does not play a major role in their lives, apart from private friendships which emerged from the job.

7. Gender

7.1 Career profiles and trajectories

In general the division of tasks in the occupational group 'production workers' is characterised by a strong gender bias. This becomes apparent with regard to career profiles as well as trajectories. The career profiles of production workers depend on the type of work or even industries. Slaughterhouse work is a traditional male profession, which is still highly visible in the division of work. For women it is still very unlikely becoming a manager due to prevalent (male dominated) career paths. On the contrary, as the Belgian case shows, stitching is a typical female profession with only women working in this field, however there are no possibilities for further career advancement in the company. Furthermore the working tasks within production work are highly gendered, e.g. packing and cleaning are clearly considered to be female tasks. The Portuguese case shows strong gender stereotypes: Tasks, which need 'strength', are generally performed by men and on the contrary, tasks which need 'perfection' are fulfilled by women. The Greek case study describes that women only perform manual work and are excluded from technical qualified work processes and therefore have lower career possibilities. Generally, we can observe a gender related division of tasks in different forms in all case

studies. As the findings from Portugal show this division of tasks has further consequences on wages. Although women and men perform the same tasks: "the work categories men belong to (machine specialist; stamp specialist; store workers) have subsidies of risk that women categories don't have (seamstress; embroiderers)" (da Silva, 2007:10).

Furthermore, in this occupational group a traditional division labour regarding household tasks seems to be prevalent. This influences the career trajectories, as mostly women reduce their working time due to household tasks. This interruption of the career can influence the career advances within the company negatively.

All in all the gender relatedness of career profiles and trajectories becomes evident in two aspects. First, the often strongly gendered allocation of working tasks within the organisation may cause disadvantages for women e.g. due to the loss of special payments or career possibilities. Second, the household division of tasks is still oriented on the male breadwinner model. Therefore it may cause disadvantages in the career trajectories of women, because the career advancement is related to work experience which is gained over years.

7.2 Skills requirements and development

Due to the gendered task distribution in production work, women seem to have rare possibilities for further advancement in the company, because they normally perform production tasks which require and allow less formal qualification. As it is explicated in the Danish case, there exist no formal selection criteria for upgraded job positions, however "women and non-Danish slaughterhouse workers are rare members of the new 'upskilled' group' (Gorm Hansen, 2007: 14). Nevertheless, according to the experiences of the Portuguese and Danish cases, new chances for women arise from a change in working tasks. In the Danish slaughterhouses special slaughtering skills become less important in the work process, so that the "traditional *white/male* occupational identity' erodes (Gorm Hansen, 2007:15, emph. in original). In the future this could allow increased working opportunities for women in new fields. In the Portuguese case specific knowledge of a female production worker already gained importance to the disadvantage of gender and age: "*I am a woman and I am much younger than most of the workers of my department. Even so I am in charge of the stamping department for three years now. I think this happened because I know how to work with all machines, I have a specific degree and I know what is needed to manage people in stamping, what is the essential aspect. A few years ago it wouldn't have been possible to have a woman in charge of a stamping department, a confection maybe, but not a stamping department. Now what the employers want is good production at the agreed time and care less the gender and the age. The mentalities are changing."* (cited in da Silva, 2007:7)

Up to now, there are no special support programs for women regarding skill enhancements; they have to assert themselves to achieve new working positions. Furthermore, women in the production sector are still mainly responsible for household work and family life; this may cause a weaker interest in training opportunities outside working time.

7.3 Working conditions

The gender relations in the occupational group are still very traditional, although women already work very long in the production sector. Female work in production often was a necessity due to the low wage level in the production sector which required two incomes to meet the financial needs of the household.

Family concepts seem to be traditional in this occupational group. Mostly, the female production workers are married and have children. In the relationship, they carry the main responsibility for household tasks as well as for childcare next to their work in the company. In the attempt to combine both tasks, they suffer especially from fixed working schedules which often do not allow flexibility in working time on part of the workers. Moreover new flexibility demands which are determined by the employer like in the Italian and Portuguese cases make it even more difficult to combine work and family demands. It is much easier for female production workers, if they have some temporal flexibility on their part, which is already implemented in the Belgian company.

Furthermore, the Danish case gives evidence of the consequences of the highly gendered division of tasks (see chapter 7.1). In the slaughterhouse a "very masculinist, at times downright sexist" (Gorm Hansen, 2007:13) working culture is prevalent. Women only stay in certain departments if the join in the tone, otherwise they leave to another department after a short while. Furthermore women suffer more from the physical demands of the manual tasks and have faster injuries. The working conditions are aligned to the needs of male production workers, women have to adapt to these requirements or otherwise leave the company or the department. However this kind of discrimination seems to be exclusively related to the specific male working culture of the slaughterhouse. It can be seen as a further confirmation of the highly gendered division of working tasks, which can either have a strong masculine bias like slaughterhouse work or a strong feminine bias like stitching.

7.4 Work / family relations and balance

All case studies give evidence that women still are the main responsibles for domestic tasks. That is even the case in 'emancipated' countries like Denmark or Norway. Mainly women carry the major burden of combining the spheres of work and life. They feel responsible for the sphere of household work and the production work. Both spheres play important roles in their life, for which they carry the responsibility: *"I don't mind to stay late if needed but not often because I have my things to do at home and if I don't do it no one will. I like what I do but during my hours and when I can"* (cited in da Silva, 2007:13). Nevertheless women are considered to give less to a career than men, because of the responsibility for household tasks which lay in the domain of *"the girls"* (cited in Gorm Hansen, 2007:16).

7.5 Overall gender questions

Two main factors are characteristic for the gender relations of the occupational group 'production workers'. On the one hand the division of working tasks is highly gendered. This has several implications on the career and skills developments as well as on working

conditions. This traditional division of tasks still causes disadvantages for women, e.g. in the career development or in the payment. Nevertheless there is a trend that the traditional tasks which are strongly related to men erode increasingly. This can offer new chances for women to enter in these fields. However, still men are mostly chosen for technically demanding jobs and the firms are from introducing programs which support the careers of women.

On the other hand the 'male breadwinner model' still functions as the normative model for the organisation of work on part of the companies as well as for the division of labour between both sexes. This has implications mainly on the work life balance of women who have to carry the burden to combine household tasks with work at first rate. But the responsibility for household tasks can influence as well the career development negatively.

Although gender relations differ in the analysed countries, the described trends can be observed in all countries.

8. Conclusions and trends

Changes on global markets have a direct influence on the work and life reality of production workers. The business function 'production' is located at the very low end of the global value chains and seems to be most likely to be outsourced and off-shored. Working places in production are therefore characterised by a high level of insecurity in employment. This has consequences on both, the individual worker as well as the workers' collective. The feeling of unstable working places is very present in this occupational group, although mostly the workers did not experience phases of unemployment or frequent job changes. The high dependency of the firms on global economic conditions is therefore reflected in the single working places. The power of unions weakens due to global economic conditions, too. Very often they have to seek for negotiations with the management and accept worse working conditions. The argument related to the power of global markets is so strong, that it weakens the bargaining power of unions significantly. If the union power diminishes further, the production workers become even more exposed to global markets.

These insecure global economic conditions as well as the loss of union power would require a strong institutional backing to lessen the development. A successful model seems to be the Danish flexicurity model, which softens the effect of global market constrains for the individual worker by providing a strong social net as well as the support for a new working place.

Production workers were well known in former times to have a strong and homogenous workers' collective. This collective seems to weaken as well due to an increased intensity of work. High work loads, flexible production, increased efficiency as well as long working hours leave less time for the workers for social interactions or informal contacts during or outside working time. Nevertheless the workers' collective is still very important for the production workers and forms the main part of the occupational identity. Recognition in work functions only over personal attributes which are acknowledged by colleagues and neither by work performance. Generally a good work performance is not noticed by supervisors which mostly pay attention to

disturbances in the production process. Therefore the loss of collective relations within the working group would deteriorate the working atmosphere for the workers profoundly.

Flexible production patterns as well as the automation of production changed the demand of knowledge. Now, knowledge about certain machinery and related technical know-how gains importance. Nevertheless, training opportunities are very rare in production work. The work realities of the majority of the production workers seem not to change significantly due to the changes in knowledge. The production workers have still a very low satisfaction with their job and have very low autonomy performing repetitive and monotonous tasks.

Regarding gender relations, the business function production faces still the marginalisation of women. On the one hand, the division of tasks is highly gendered leading to worse career opportunities, less payments and so forth. On the other hand the work organisation is organised along the male breadwinner model. Since women are the main responsible for household tasks, they suffer most from long and flexible working hours which do not fit the opening hours of public service institutions. Furthermore they are equally involved in the sphere of work as well as the sphere of family. This 'double-burden' can again influence e.g. career possibilities negatively.

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Chapter VI
Occupational monograph – Logistics workers

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1. Description of the occupational group, main features

The following monograph on the occupational group 'logistics' compares the results of three occupational case studies from different European countries that were conducted in the frame of the WORKS project. These case studies summarise significant observations from the Belgian, Bulgarian and Dutch logistic sector in order to analyse changes due to restructuring in the occupational group 'logistics'.

The report is based on qualitative case studies. According to the intention of qualitative research, the results are exemplary and not representative. Rather the report aims to give deeper insight how global changes influence the occupational identity as well as working conditions and career development from the point of view of an individual production worker. The comparison of different national work realities of production workers neither claims to be representative nor to give a comprehensive comparison between countries or sectors. The methodical approach of the following comparison is to analyse how changes on a global scale affect an occupational group. The term 'occupational group' is a broad term, the work and life realties of employees or workers are likewise affected by institutional, sectoral as well as organisational preconditions. The report aims at distinguishing between developments that follow from these factors but nevertheless tries to draw a comprehensive picture of the (increasing) identity of the occupational group in the logistics branch.

1.1 General trends of the sector and occupation in Europe

Empirical evidence shows that the business function 'logistics' gained importance in Europe during recent years. Currently, 4.8 million people are employed in 'logistics', that is approximately 2.5 *per cent* of the total labour force of the European Union. However, the development in old and new member states differs significantly. Since the mid nineties, employment in logistics increased significantly by 20 *per cent* in the old member states whereas employment in logistics decreased in the new member states. The business function logistics became more important in the old member states; especially the Netherlands, Denmark and Belgium actually have a very high share of logistics

employment. As a consequence, there was no major shift of jobs from the old to the new member states in logistics (Birindelli et al., 2007:152ff.).

Although the development of employment in logistics is different in the old and new European member states, the same changes concerning sectoral distribution of logistics employment could be observed. Between 1997 and 2004 logistic jobs became more and more concentrated in the sectors of trade, transport and packaging. Some years before the jobs were more spread across several sectors. Due to speeding up processes on different markets as well as to differentiation processes it can be concluded that "logistic activities in Europe are increasingly performed within specialised service companies" Birindelli et al., 2007:158).

According to the results of the quantitative pillar of the WORKS project, the business function 'logistics' undergoes rapid changes as well as significant growth during recent years, at least in the old member states. Also the results of the European project NOVALOG[14] sum up that logistic activities expand rapidly in the European context. Increasingly the different functions of 'logistics' are outsourced to sub-contractors of the transport sector. Reflecting these processes, jobs in 'logistics' seem to develop into an 'employment market in its own right" (NOVALOG, s.d.:7). Thus the empirical figures focus very much on the development of a new profile of this business function.

1.2 Characterisation of the occupational group

The NOVALOG project defines 'logistics' as follows: "Logistics involves managing flows from the supplier to the user, and the consumer, based on forecast or defined requirements: physical flows of materials and goods, information flows, related administrative flows, in view of the expected effectiveness and quality of services" (NOVALOG, s.d.:7). In order to handle these processes several types of jobs of different hierarchical levels are needed. In the NOVALOG project jobs within logistics were systematised and a nomenclature was developed. Four employment groups including 22 jobs were identified (see Table 2). The four employment groups are structured as follows: The first group includes management positions which are covering the strategic aspect of logistics. Planning positions for procurement and purchasing are involved in the second group. The third group contains tasks concerning production planning and control, while the fourth group covers operating tasks in warehouses (NOVALOG, s.d.:9). The attempt of NOVALOG is to focus clearly on logistic jobs while excluding transport related jobs.

[14] The European NOVALOG project analyses changing trends in logistics employment. Further information is available on http://www.novalog-project.org.

Table 8
Nomenclature of logistics jobs (source: NOVALOG, s.d.:10)

Group 1: Formulating & implementing logistical strategy
Supply Chain Manager
Logistics Manager
Logistics Analyst
Logistics Engineer
Logistics Controller
Logistics IT-Specialist
Logistics Supervisor
Group 2: Purchasing/ Materials Management
Materials Manager
Packaging Manager
Purchasing/ Procurement Manager
Purchasing Officer
Purchasing Clerk
Stock/ Inventory Controller
Group 3: Production Planning and Control
Production Planer and Controller
Group 4: Warehousing
Warehouse Management
Warehouse Manager
Warehouse Supervisor
Administrative Operations
Order Processing Clerk
Warehouse Operations
Warehouse Operator
Forklift Driver
Order Picker
Warehouse Supporting Activity (examples)
Maintenance Supervisor
Maintenance Operator

But even the attempt to systematise job positions by leaving out transport related jobs leaves a broad heterogeneity of tasks in logistics. A homogenous occupational group 'logistics' does not exist, but a variety of functions in the field of logistics. This variation is reflected within the following report which covers various occupations in the field of logistics (see Table 1). However it causes methodical problems regarding the analysis and description of an (homogenous) 'occupational group'. In the sample of the comparative analysis at least two different 'occupational groups' are present: logistic managers as well as office employees. However, the work and life realities of logistic manager differ clearly from those of office employees. Consequently, this report can offer only an overview over different work realities of different positions in the business function logistics. 'Employment in logistics' rather than one single occupational group 'logistics' should be

therefore understood as several occupational groups which form the basis of the following analysis.

The above mentioned methodological constraints may be due to the fact that different occupational groups in the business function 'logistics' is rather evolving and is gaining strongly in importance during recent years. Logistics actually becomes a highly differentiated field of global services which are highly technically supported. The character of this field changed fundamentally to modern and heavily demanded global services with strong connection to costumers and markets (Eckardt, 2006).

Although the framework of the sample describes a variety of job profiles, the scientific focus seems very concentrated on two occupations: logistic managers as well as office employees. The comparative analysis, therefore, concentrates very much on these two different occupations.

1.3 Characterisation of the case studies

The sample of the occupational group 'logistics' is covered by three occupational case studies of different national contexts. The case studies are based on 6– 9 qualitative interviews each with employees from the field of logistics of both sexes with different ages. Some of the case studies refer only to one firm whereas other case studies reflect the experiences of more than one firm. All organisations faced a phase of restructuring recently. All in all the business function 'logistics' is represented by two countries from Continental Europe (Belgium and the Netherlands) and one Eastern European country (Bulgaria).

Accordingly, the sample covers different tasks of 'logistics' as well as different sectoral, institutional and national settings, which affect the occupational group 'logistics' in a certain way.

The following case studies will be presented (see also Table 9):

- **Belgium**: The Belgian case study analyses export operation employees which work at a multinational beer brewery. In the course of a large restructuring process which affected the whole company the department has be offshored to the Czech Republic. After this offshoring process the employees of the department have been relocated within the company or 'have been sent' to early retirement. According to the descriptions the employees experienced these restructuring processes very negatively. Feelings of insecure future employment as well as of frustration that specific knowledge gained by working experience was not acknowledged are dominating actually. Furthermore, the affiliation to the firm which are strongly connected with feelings of collectivity among employees decreased significantly (De Bruyn & Ramioul, 2007).

- **The Netherlands**: The Dutch case study focuses on the occupational identity of logistic managers from different companies out of several sectors. Due to the economic pressure of companies from Eastern countries (new Member states within the European Community) the Dutch companies react with an offensive process of technological changes in this sector. Thus the logistic managers have to cope with higher skill requirements as well as with changing professional demands. Nevertheless, the case

study reports that the employees still enjoy a relatively high quality of work with comfortable working hours and stable employment conditions (Bannink, Trommel & Hoogenboom, 2007).

- **Bulgaria**: The Bulgarian case study analyses the development of employees, which work in several positions in logistics departments and subcontractors of breweries. Bulgarian breweries already faced major restructurings in terms of privatisation due to the change of the political system. However, according to the report the recent restructuring in logistics caused different effects for the employment situation. Basically the result of the case study indicates an enrichment of working tasks for most of the employees which, however, has led to a higher intensity of the work load. Whereas one major part of the employees is adapting to changes and benefits individually, for another part of the employees the restructuring has negative effects on their work situation (Kirov, 2007).

Table 9: Sample of the comparative analysis on the occupational group 'logistics'

Number	*Country*	*Sector*	*Type of positions*	*Number of interviews and analysed firms*
1	Belgium	Food & Beverages	Export operation employees	9 interviews in 1 firm
2	Bulgaria	Food & Beverages	Logistic manager, Warehouse manager, office employee, worker	9 interviews in 3 firms
3	Netherlands	Food & Beverages, Clothing, Transport etc.	Logistics manager	6 interviews in 6 firms

2. Work biographies

2.1 Career trajectories

Office employees

The career trajectories of the office employees differ strongly from those of logistic managers. The office employees in Belgium and Bulgaria do not show a unique form of formal qualification for the position in the logistic department. The Belgian employees of the logistic department partly have a relevant apprenticeship for their occupation, like accountant or secretary; partly they hold a degree in totally different field (car mechanic) or do not have one. They rather qualify on the job. In the Belgian company it seems to be common practice that employees move within the firm to different positions. In former times the employees used to stay very long in the firm, working in different departments, depending on actual demands. However none of them planned to go into logistics, possessed a relevant education or took special courses for this field.

In Bulgaria the situation seems to be similar. Employees doing office work in the field of logistics hold different degrees, ranging from a graduation at an economy school to a higher education in food processing technology. Either they worked before in several

firms holding different positions or are already for a long time in their current company but switched positions. Furthermore the promotion to leading positions seems to be possible even without a high formal education degree. However in Bulgaria very fragmentary work biographies are common due to the transformation of the political system.

Office work in the field of logistic seems to offer the possibility for a transfer from former working careers, providing a relatively easy access and future career possibilities. However this field is relatively prone to outsourcing, as can be seen in the Belgian case. This may be even due to the same fact which allows the relatively easy transfer from former positions: Relevant skills seem to be learned easily.

Logistic managers

In contrast, the career trajectories of logistics managers already show in contrast already higher qualification requirements as well as specialisation. The Bulgarian logistic managers hold a university degree, mainly in the field of economics and have already worked in different positions and fields before they became a logistic manager. In the Netherlands nearly all logistic managers hold a professional degree in logistics, either a university degree or the qualified further in training courses related to logistics. In the sample there is one exception; one of the managers reached the position as logistic manager by a career within the company. However, formal qualifications seem to gain increasingly importance in the Dutch logistic management.

Regarding the career development, in the Netherlands there seem to be relatively good career opportunities, a 'well-developed job ladder' (Bannink et al., 2007:6), which however depends on the personal qualification. It does not occur frequently that logistic workers enter into the top management level. Nevertheless the position in logistics offers them a stable working position, if they are open to qualify further in IT skills.

2.2 Changes and driving forces

Office Workers

The Belgian company offered traditionally stable working conditions with lifelong career opportunities and was strongly anchored in the region. Moves within the company were common in the organisation; furthermore, they offered further developments opportunities for the employees: *"[The management] thought I had other qualities and they tried to let these come out."* (cited in De Bruyn & Ramioul, 2007:4).

However, in the course of internal restructuring changes of positions became more frequent. Furthermore, future changes become more and more limited due to age and formal qualification. Regarding the employee's further job possibilities they depend strongly on the decisions of the firm, and can hardly develop possibilities on their own: *"it's not that you can direct your career. […] You can change jobs, but it could be that you will move to a department which will be restructured the day after or even disappears (..) so you have to try to anticipate whether your department will stay or not, and you have to do it yourself, because you can't ask anyone"* (cited in De Bruyn & Ramioul, 2007:6). Career perspectives in the firm changed fundamentally for the employees. While before they could expect a lifelong

career in the company, now there is a higher degree of insecurity regarding job tenure and less power to direct their organisational career trajectories actively. Furthermore the knowledge and experience in the company is no longer highly valued. Rather, 'old' workers are the most affected from restructuring, because they were sent to early retirement.

The most important organisational changes in Bulgarian companies are related to the privatisation processes beginning in the 1990s. Next to mergers and closures of production facilities, also rationalisation processes also took place influencing the technological and internal organisation. These changes also affect the career trajectories of the employees in several aspects. However, the employees doing office work only faced 'minor' changes relative to the transformation of the system, e.g. a change of departments or working tasks within the same firm. For other respondents the job situation changed more profoundly: one employee who was released from the army had the opportunity to realise a career in logistics within the company.

Logistic Managers

For Bulgarian employees working at management level, the restructuring mainly offered the possibility to work on new tasks with more responsibility and new challenges.

In the Netherlands the job requirements of logistic managers changed mainly to risen job requirements. On the one hand that affects the communication and cooperation with business partners: *"You need to be in permanent contact with (potential) partners; this is crucial for enhancing the logistic efficiency"* (cited in Bannink et al., 2007:6). On the other hand formal qualifications and the knowledge of IT tools become increasingly important. Some years ago it was possible to follow a career as logistic manager by qualifying on the job. These career ways diminish more and more, while IT-skills become crucial. Although logistic activities seem to become increasingly important for the business success of companies, they are relatively simple to outsource. Nevertheless, maintaining employment stability is an important aim for logistic managers "That is, their aim is not to outsource as much as possible, even if it is profitable for the company" (Bannink et al., 2007:7).

In general, there seem to be different developments for both groups of workers. Career paths of office workers in logistics are extremely prone to changes. The employees normally do not have a long work experience in this field and changed from several departments and former career pattern to this field. The office work in logistics seems to resemble other kind of office work in other company units and it seems that the tasks can be easily learned. The work biographies of the office employees are often not straightforward, but show several changes of tasks or departments, mostly due to internal reorganisation. In contrast the positions of the logistics manager are more stable, thus requiring a skill level which increased profoundly during the last years. Consequently work experience and special technical knowledge has a higher importance in the case of the logistic managers, which have stable working positions. It seems that the management part of logistics stand is no subject for negotiation, rather the executive logistics functions.

2.3 Institutional arrangements

In the Netherlands, new trends in the sector are expected from the opening of Eastern European markets, which could allow a higher level of efficiency in logistics. In contrast the Bulgarian logistic sector is still very much in a period of transition caused by foreign investors who realised organisational changes. These changes caused large waves of dismissals and a high extent of flexible employment. The acquisition by a multinational company was considered and experienced as highly positive and prestigious in the first phase. However the attitudes change, because former privileged working conditions became increasingly conform to other types of enterprises (local investors or state owned). Nevertheless, the inflow of foreign investments is still considered as highly important for the further economical development.

3. Changes in occupational identities

3.1 Characterisation of the occupational identity

Less occupational but much more organisational identity is reported from the Belgian case where the employees for several reasons strongly identify with their organisation: first because of the size and public publicity of the company, second because of the long affiliation of the employees in general. Through restructuring processes this relationship will probably change. "As a consequence, Maltco is not regarded anymore as a company where job tenure is secure for life, but on the contrary, employees feel that they are only sure of their employment until the next restructuring will happen" (De Bruyn & Ramioul, 2007: 6). Losses of security are also expressed by the strategic planning of career trajectories, which is strongly connected with the notion of occupational identity. Because of the lack of information regarding the strategic plans of the company, the employees feel insecure to reflect about future career planning or simply about their professional expertise. Therefore 'capacity building' on an individual level usually was possible in Maltco. Through the long-term perspective the tasks the employees carried out were not related any more to their educational background. After reorganisation a "vertically fragmented and horizontally integrated system was replaced by a vertically integrated system" (De Bruyn & Ramioul, 2007: 8). This also changed the tasks of the employees towards a more standardised and less challenging working profile. The change of the working profile affected also export operation officers and their wide contacts to costumers. As the case study shows, the employees feel extremely frustrated by these changes.

In socialist Bulgaria within the companies occupational identity was strongly connected with the prestigious (and highly symbolically) function of engineers and qualified workers (Kirov, 2007: 8). Thus, specific occupational identities were not as developed as they were in other countries (i.e. with their own labour unions and /or corporate representatives in many countries). In the sample there are mainly two levels: the management level as well as the level of different tasks in the logistics department. In management the self-monitoring of the manager tends to reflect very much the increasing

opportunities of this occupational group. Therefore the managers strengthen very much the notion of a dynamic and flexible occupation which creates a visible contrast to the idea of "doing the same during 35 years" (Kirov, 2007: 9). According to the descriptions less occupational identity in terms of traditions and collective identity seem the case in Bulgaria. In contrast, the interviewees strengthened very much the future challenges of the profession in order to participate in the economic changes. Therefore the deep economic change with the professional experiences for the employees seems the incentive of creating a common occupational identity.

On the other level of logistics tasks the orientation of the occupational identity seem – quite similar to the management – developing towards future career trajectories. Also here, the incentive seems the systemic change which is characterised by the acquisition by a multinational enterprise. The objective is to improve the sector logistics as a whole in terms of effectiveness and competitiveness.

In contrary to the Bulgarian case, the Dutch case creates a clear relationship between the cognitive perceptions of the occupation and the activities the employees are doing. Whereas in the sample employees did not develop their professional identity, there are logistics managers which emphasise very much their position in the company. "To the extend logistics managers show a professional identity they emphasise that their position in a company allows them and requires the oversight over a broad range of business processes and requires that they combine the knowledge of various fields of expertise" (Bannink et al., 2007: 9). The development of the occupational identity implies a whole range of possibilities which will be developed much more in the nearest future. According to the analysis recent trends in logistics, though, seem to contribute to the emergence of a stronger and more professional identity" (Bannink et al., 2007:9). This identity is based on the increase of knowledge-based working activities.

In sum, the comparative analysis of the occupational identities does not allow to formulate a clearly defined occupational identity of logistics managers. Once again the activities are based on different educational levels which have created big differences between the employees. And – at least in these cases – the organisational and political framework has created specific characteristics, which still effect the individual perceptions of occupational identities.

3.2 Relations between changes in occupational identities and organisational restructuring

As the Dutch case described above changes in occupational identities refer very much to new demands in this sector: "First, the content of logistic competence is more and more based on scientific knowledge, adding a touch of professionalism to logistic management. As respondent LOG 5 puts it:' logistics is becoming a real discipline, based on clear cognitive principles'. Second, as logistic managers have developed a more external orientation, they start to share their views on the profession" (Bannink et al., 2007: 9).

These aspects reflect visibly tendencies in nearly all sectors where an increase of knowledge-based activities has been analysed in many studies. Through the steadily ongoing process of globalisation, logistics became a central aspect in the global value chains. Technology-driven developments like i.e. new communication systems seem the

precondition of competition in this sector since the last decade. Through the introduction of the concept of just-in-time delivery the branch also is accustomed to speeding up processes. Thus – according to the Dutch case – the emergence of developing a professional identity in the logistic field seems "an irreversible trend that affects the position of the older workers but attracts younger people with high (university) skills" (Bannink, 2007:10).

As described above the restructuring processes in the Belgian case have affected the occupational identity to a significant extend. With regard to the changes De Bruyn & Ramioul (2007:9ff.) strengthen four aspects: firstly, the employees felt a lack of recognition by the high-level management, who made the decision to offshore the department. Secondly, the organisational model has been changed into a vertically fragmented and horizontally integrated system. Thus working profiles have changed as well. Thirdly, through the geographical reorganisation the workers are now shattered among different departments. This has deteriorated the feeling of collectivity. Fourthly, for a number of employees the new tasks are less challenging and more boring. Thus the whole working culture has changed towards a low validation of tacit know-how and expertise and higher levels of job insecurity.

With regard to restructuring the Bulgarian case offers an impressive description of the effects and how they influence social groups. Whereas in socialistic times working integration was realised with all social and ethnical groups, after the transformation, firstly unskilled workers are no longer accepted by employers. This refers basically to the ethnical group of Roma which started to suffer unemployment and social precariousness after restructuring processes. The second group are employees which have to confront only few changes in their work. "However there are some indicators that could make us think that this group is more committed to the work than it was in the pre-privatisation period" (Kirov, 2007:10). The third group enjoy better opportunities. The occupational identity is based – as described above – on the development of professionalism which is connected with the challenges of mobility, flexibility and client-based orientation. Furthermore the international bias is considered as an important element of the occupational identity.

Interestingly the three case studies present a whole range of developments which also has been discussed in academic literature. Starting with the importance of knowledge-based activities, technical support and a high commitment on the professional level, the Dutch case focuses very much on the professionalism of this occupational group. In the Belgian case the introduction of standardisation processes has led to downskilling processes and de-qualification of work profiles which goes ahead with a high level of frustration and insecurity within the employees. Social segmentation has been developed in Bulgaria where low skilled people have clearly lost possibilities on the job market whereas the high skilled managers are meeting good chances in this sector.

4. Learning and skills development

4.1 Changes in skills requirements

The Belgian case constitutes a special situation, because the department of office employees who handled part of the logistics processes was off-shored. Nevertheless the outsourcing process shows that the required skills were assessed differently by employees and management. The employees stated that most relevant skills and knowledge are gained 'on the job'. In order to acquire all relevant tasks the learning period is about a year. Furthermore language skills in French, English and Dutch were obligatory. The management however underestimated the relevance of tacit knowledge and experience needed to fulfil the tasks. The people who took over the tasks had no specific professional background, the only requirements they needed was the ability to speak Dutch. They got a four week training period, however this period was too short and a lot of mistakes followed. For some of the Belgian employees the restructuring affected their skill requirements positively, however most of them faced deterioration of their tasks which are now more boring, repetitive and less demanding. In the future they expect further reorganisation, because a technological rationalisation by IT is quite likely for the remaining tasks.

In the case of the Dutch logistic managers, skill requirements have increased in recent years. Information on customer demands, stock levels etc. have become important due to IT-based systems linking and integrating different data bases within the firm. Therefore managers need to know how to handle the increased and more complex data sets which requires profound knowledge of specific software.

4.2 Management of learning and training processes

The Belgian office employees have no prospect of further training processes because of the current firm politic: "The learning and training opportunities are considered to be non-existent in the near future" (De Bruyn & Ramioul, 2007:12).

The Bulgarian employees assess that there is a change in skills needed, e.g. English skills as well as IT skills. However training processes are not obligatory, mainly the opportunity to attend formal training is low. Mostly new skills are learned on the job. Moreover some Bulgarian employees with management responsibilities expect that "the individual himself should be responsible for the development of his skills" (Kirov, 2007:16). Nevertheless it seems that employees in management positions have better support on their individual qualification development.

The Dutch logistics managers are supported strongly by the management to enhance their skills portfolio, both regarding specific programs and managerial and communication skills, as this is estimated as very important for the companies: *"At a certain moment, you just need to jump in. Also the company, because the company cannot use people with outdated skills"* (cited in Bannink et al., 2007:14).

It seems that the development of skills and learning in logistics is highly dependent on the hierarchical level of the employees. While office employees mainly improve their

skills by learning on the job, logistics managers are highly supported by the company to improve relevant skills.

5. Quality of work

Office employees

In the Belgian case the quality of work is very much affected by the restructuring event implying the closure of the former department. Compared to the tasks they performed in the old department, they feel that the new tasks are less challenging and varied. *"Our work was never finished [in the export operations department]. This is very different I this department [i.e. order processing]. Now I go home in the evening and the work is finished. I wasn't used to that feeling in the beginning. (..) I prefer that my day is full with activities instead of having nothing to do in the afternoon and surfing the internet"* (cited in De Bruyn & Ramioul, 2007:10). The employees suffer partly from this development because they feel underestimated in their work regarding the skills they have. Furthermore they have less autonomy in their working tasks than before. However the management of working time has not changed due to the restructuring. The amount of working time remained the same for the employees in both departments.

What contributes to a negative evaluation of the quality of work is the information policy of the firm. Important information is given very superficially. The employees got informed about major changes only in the last moment and were not asked about their opinions or complaints. Since the decision-making process is very much hierarchical all decisions are made at the top management level. The employees "do not even know to whom they can turn their questions" (De Bruyn & Ramioul, 2007:10). The level of participation is generally very low which contributes to the dissatisfaction with the firm and the way the restructuring was carried out having strong influences on the quality of work.

Another important issue which influences the quality of work of the Belgian office employees is the high level of insecurity about their future work. The employees are concerned that the new departments are very likely to be offshored, too. These feelings are even reinforced by the factor 'age'. Age seems to a crucial factor for career advancement in the firm, as "almost all of the interviewees see themselves cut off of a promising career […] due to their age" (De Bruyn & Ramioul, 2007:11). All in all, the quality of work in the Belgian case is low. The experience of the quality of work is influenced strongly by the negative experience of the restructuring process and related changes which deteriorate the satisfaction with work.

In the Bulgarian case the conditions of work have changed significantly due to the privatisation process. In general, the work became more intense including a higher work load, increased complexity, higher time pressure, and a stronger focus on customers. However, the evaluation of the changed requirements in work depends on the constitution and perception of the individual employees. While some employees "could not handle […] the new working conditions and the intensified work and decided to

leave" (Kirov, 2007:15), other employees evaluated the changes positively especially with regard to future perspectives.

The management of working time depends very much on the rhythm of the sector. Especially during summer and at the end of month the work load is much higher than in other parts of the year. These "busy seasons" (Kirov, 2007:15) implies a strong pressure on the office employees: *"We have one stationary and one mobile phone, all telephones are ringing, it is something terrific, all speak at once and we start to do our purely technical work after 17.00 or 18.00, it is everyday life for us"* (cited in Kirov, 2007:15). The employees are most likely to take their holiday during winter time or the beginning of the month, when the work pressure is much lower. Consequently, the demands of the firm influence very much the time management of the employees.

Logistics managers

For the Bulgarian logistics managers the above described changes are generally favourable. Due to the centralisation of the business function logistics, the managers have to fulfil new tasks having more responsibility over stores even in other sites which they have to supervise. Therefore, they have to travel frequently now. In general, the managers have a very high amount of working hours, some work up to 15-16 hours a day, including regularly checks during the weekend: *"I will not stay 100% of the time (note V.K. – the respondent speaks about coming to the factory during weekends) because we have no right of extra hours. I'll just pass through the plant or I'll call if there is a problem, our mobiles phones are given by the office, we do not switch them off 100% of the time"* (cited in Kirov, 2007:15f.). The logistic managers seem to lay a very strong focus on work and show a very high commitment to work, because they seem to be completely available for the firm in terms of their time.

The Dutch logistics managers are not strongly affected by changes due to restructuring. Their employment positions remain stable. However the complexity of logistic issues grew "because of the increased emphasis on just-in-time delivery of goods and the integration of the logistics function in the overall business process" (Bannink et al., 2007:12) as well as the use of IT-based applications. But like the Bulgarian case study, these changes are assessed differently. Some of the managers experience the changes as a clear deterioration of their working tasks, while others asses them very positively.

The working time arrangements of the Dutch logistic managers are orientated very much on normal business hours. "Most do not feel a strong need to work overtime" (Bannink et al., 2007:12). The family seems to be equally important assessing the quality of work: *"Considering overtime: of course you make your hours and a bit more, but I'm not a regular overtime worker. Well, you have your normal home situation. I try to be at home at normal hours. […] In the end there's only one thing important and that is home"* (cited in Bannink et al., 2007:12). The managers have to organise their time by themselves, so an effective time managements is regarded as crucial, to get the work done 'in time'.

To sum up, the satisfaction with work as well as working time arrangements differs very much regarding countries and hierarchical levels. Belgian office employees have a very low satisfaction with work. In the other cases the satisfaction with work is much higher, however leading to irregular and long working hours for the Bulgarian employees and

managers. The logistics sector in Bulgaria seems very demanding for the employees with flexible time requirements. In contrast, in the Dutch case the managers seem to be highly satisfied with their job. They have stable work relations and good time management conditions to combine work and life.

6. Work life balance

In neither of the firms special family friendly settings were provided. However, in general no major difficulties regarding the combination of work and family were reported. In the Belgian company, most of the interviewees have a family or live together with a partner and work loads as well as working hours are well combinable with family life. However, the restructuring process itself had major impact on the work life balance of the employees. While some employees were sent to early retirement, the financial situation remained stable for those who stayed. But nevertheless, through the course of restructuring insecurity about the job future had strong effects on the work-life balance. It affected the psychic well-being of the employees in several ways: *"I was afraid that they would throw me out. (..) I was very grumpy (..) I did not sleep at night for two or three months."* and *"I come home and stop thinking about work. But… I also have suffered some blows, and, - I have no problems admitting this -, I have had a minor depression. You feel this coming, but you keep on working because you have a deadline (..) and you still are a bit afraid to loose your job"* (cited in De Bruyn & Ramioul, 2007:14).

The Bulgarian workers face in general higher time requirements and work intensity than before. This is especially the case for managers who are expected to work extra-hours and on weekends. Generally, if someone aims at following a career he is expected to have a high work load. This is difficult to realise for employees who are responsible for family duties.

The logistics managers in the Netherlands have flexible working time arrangements which they can in turn adapt (informally) to requirements which occur at home. Furthermore, overtime is required only occasionally. However the job description demands full time work.

In terms of harmonisation of working life with family needs, the Belgian as well as the Dutch case studies provide a picture without changes for the employees. Due to the institutional and organisational framework it seems that restructuring processes have not that much the temporal organisation of the employees. This is not the case in the Bulgarian case study. Here speeding up processes and higher professional demands also have affected the work-live balance of the employees in terms of longer working hours and less availability at home. In terms of gender equality the situation also has changed (see Sect. 7).

7. Gender

7.1 Career profiles and trajectories

Both, the Dutch and Bulgarian case studies explain that the sector seems to be strongly male dominated in terms of number of workers. The same is true for office employees, which have a high proportion of males, too. In Bulgaria "the situation in the plant in South-Western-Bulgaria is similar – women occupy positions of invoice preparation officers and storekeepers and they represent less than 20% of the personnel employed in the logistics" (Kirov, 2007:8). However, logistical tasks seem to be regarded traditional male occupations, probably due to the fact, that before heavy manual work was part of the warehouse work. Some female workers are still working in the Bulgarian stores during the day but they are not allowed on shift work with few exception.

Nevertheless, women seem to achieve – 'by exception' – management positions: in each case (Dutch and Bulgarian case) there was a woman in a management position in the logistics department. In the Belgium case study there are no considerations of 'gendered' career profiles and trajectories. "In general, the interviewees did not mention a significant difference in career profiles or trajectories which are related to gender issues. We only got some anecdotal 'evidence' of gender differences in career profiles" (De Bruyn & Ramioul, 2007:7). In contrast to the Belgian case study, Kirov considers an important gender issue when reporting about career profiles. Because of changing skill requirements the need to take English language courses has arisen at least in one company. These courses are offered by the company and are rarely visited by female employees because of their family and household needs. Another aspect is long maternity leaves which basically are taken by female employees. Thus, further training as a precondition for the development of career profiles is usually restricted by male employees.

Basically there is less information about the working culture in the logistics. The impression of the 'male domination of the occupational groups' is based on the quantitative picture of the field. Nevertheless it would be interesting whether there is a male dominated working culture in this branch and whether there are differences of payment between the sexes (mostly based on different work descriptions). In the Bulgarian case, processes of change after privatisation would be extremely interesting too in terms of gender.

7.2 Skills requirements and development

The gender differences of skills requirements and development are difficult to assess. In the Belgian company there are no noticeable differences from a gender perspective (De Bruyn & Ramioul, 2007). Also the Dutch case study does not provide evidence of gender differences regarding skills and learning. According to the study the only women in the sample has good career and training opportunities. However the Bulgarian case gives some evidence that women are the main care taker for family needs what means that these obligations could be a barrier for the participation in learning opportunities (see sect. 7.1). This hypothesis has been underlined by a quotation from the sample (female

employee): "*I wanted to learn more but I had neither the financial possibility, nor the time. I have no possibility to go to study after work, it was a minus for me but the circumstances were such. I envy people that know perfectly English language*" (Kirov, 2007:15).

The Bulgarian case study is mentioning another aspect when referring to the 'occupational identity'. Here, the study reports about the increase of social segmentation through changing skill requirement in the work profile. The example is mentioning the precarious situation of an ethnical group where particularly women are asking for work and employment in the logistics company. According to the quotation also here women are main care taker for family needs which implies the breadwinner function as well.

Comparing the three case studies, only the Bulgarian case study offers some information regarding skills requirements from a gender perspective. The author mentions the development towards horizontal and vertical gender segmentation in the logistics occupational group (Kirov, 2007:8). But the question remains whether the historical shift towards privatisation within the companies has changed this situation or not and what the factors are which hinder and which support this occupation structure.

7.3 Working conditions

As described above, in the Bulgarian case the shift towards privatisation has led to an increasing intensification of work on all organisational levels. The intensification is described as speeding-up process, an increase of the working time as well as additional shifts and changing demands on skill requirements. Particularly on the management level the employees are working overload as several quotations show: "…the manager of the store is saying that it is a period when he is at home about 22.00 in the evening. Another employee with managerial functions is saying that he is staying often 15-16 hour and sometimes is coming also during weekends to see is everything OK" (Kirov, 2007:14).

Based on these considerations, the Bulgarian team assumes the "hypothesis that the restructuring contributes to a gender unequal approach of working conditions" (Kirov, 2007:14). After the shift towards privatisation some women left the company. According to the author, the harmonisation of work and family needs was not possible for them. Because of the lack of family-friendly policies in the companies there is neither an incentive for men to support family needs, nor women dedicate themselves to skill requirement. Thus restructuring processes were accompanied by intensification of work but on the same time there was also a significant improvement of health and safety conditions, which has to be taken into consideration. Also the participation of employees into decision-making processes of the company are described as new issues on the level of working conditions.

The Belgian case study does not provide information about working condition which could be relevant from a gender perspective.

The Dutch case study strengthens very much the fact that the occupational group is male dominated. Therefore the working conditions are based on the 'traditional' division of labour. "Yet, most of the respondents are breadwinners with non-working or part-time working partners at home. The male domination in this occupation seems based on households in which female are predominantly responsible for the household tasks. To some extend, this must be ascribed to tradition and the 'technical' image of the logistic occupation" (Bannink et al., 2007:13).

Working time seems the crucial aspect in harmonising work and family needs. According to the authors one employer refused the wish of one male employee to work part-time. This can be taken as hint for the "male dominated culture in logistics" (Bannink et al., 2007:13).

There are two aspects of working conditions which have been described as hindering factors for the equal access of work for men and women: Firstly, the intensification of work (Bulgaria) and secondly, the lack of (temporal) flexibility (The Netherlands). These are factors which limit particularly female employees to maintain employment. In both cases *logistics* is described as a branch with a 'male working culture' without going into detail.

7.4 Work / family relations and balance

According to Kirov in Bulgaria the combination of work and life lies in the responsibility of women, while men seem to be strongly focused on their occupation: "For men there is an understanding that work should be a priority" (Kirov, 2007:17). For the Dutch logistics manager no gender differences regarding the work life balance could be stated. However that can be traced back to the fact that the sector is considered as 'strongly male dominated'. The logistics managers are the main breadwinners, "who have non-working or part-time working partners at home. This implies that the sex segregation of the occupation is mirrored at home" (Bannink et al., 2007:17).

Also in the Belgian case the company does not offer any specific work-life friendly policies. Also the information about the institutional framework in Belgium does not influence significantly the improvement of work-life balance. Having a look on the personal information in the annex, the situation seems quite similar to the Bulgarian and Dutch case studies. Most women who work in logistics are co-breadwinner and mainly responsible for family needs. But in the Belgian case, it seems that the younger generation shares responsibilities of household tasks at all. In addition to these circumstances, the case study strengthens very much the insecurity and the loss of information the employees have to confront. Thus maintaining the job surely dominated the individual concerns before reflecting strategies of improving the working conditions.

7.5 Overall gender questions

All three case studies evaluate the working conditions in the business function 'logistics' from a gender perspective. Because of the high number of male employees in this branch, the case studies result in mainly two conclusions: firstly, the sector is represented by a male working culture and secondly, there is no information of 'gendered' working conditions.

According to the first hypothesis, from a comparative point of view it would be very interesting to know more what is meant with 'male culture' in The Netherlands in comparison with Bulgaria? There are only some hints with regard to differences of working time. Especially the case of Bulgaria seems extremely interesting in terms of historical shifts. How was the situation before the privatisation of the companies? How

were the women integrated into the labour markets? Keeping in mind the studies about the losses of female labour integration after 1989 in Eastern Germany, the gender issue seem one of the most interesting topics of the development of occupational groups. Particularly here the orientation on the breadwinner model has institutionally caused a lot of disadvantages for women on the labour markets.

The second conclusion is closely connected to the first hypothesis. The lack of information depends very much on the structural approach of the research focus. Interestingly the sample shows the development of gender equality: In the Bulgarian case and partly in the Dutch case the male breadwinner hegemony fades, "where women gradually emerge as the lynchpin of any new equilibrium between households and the economy" (Esping-Andersen, 2002: 69). In the Belgium and partly Dutch case women's incomes participate of the household income. The personal information show very much the high employment rate in both countries and focus on the reality of gender preferences.

The key sentence with regard to the gender perspective has been formulated by the authors from the Netherlands who state that through the male domination in the branch "the sex segregation of the occupation is mirrored at home" (Bannink et al., 2007:17). This seems partly true particularly when considering differences between the sexes in the occupational functions. But gender always matters on the societal level and can be considered as key ingredients for a socio-economic equilibrium. In order to find the social and cultural effects of male domination in these business functions, interesting question should be raised and further qualitative oriented research would be needed.

8. Conclusions and trends

In a globalised economy the business function logistics becomes more and more important as the transportation of goods has to be accomplished reliably and in short time frames. In this context, new organisation patterns as well new technologies are used in order to fulfil current requirements in logistics. Currently the business function logistics is in a process of change, which can be observed in all analysed cases. However, the outcomes of the changes differ very much between the case studies. Interestingly the sample shows the most important effects of restructuring topics which also are discussed in literature:

- **Increase of knowledge-based activities:** Starting with the importance of knowledge-based activities, technical support and a high commitment on the professional level, the Dutch case focuses very much on the professionalism of this group. In the Belgian case the introduction of standardisation processes have led to downskilling processes and de-qualification of work profiles which goes further with a high level of frustration and insecurity within the employees. Social segmentation has been developed in Bulgaria where low skilled people have clearly lost possibilities on the job market whereas the high skilled managers are meeting good chances in this sector.

- **Hierarchical and vertical differentiation:** Furthermore the current development has different effects on employees working on different hierarchical levels. While the logistic managers seem to benefit from these changes which offer them more responsibility and a higher influence within the firms, the office employees on lower

hierarchies suffer from recent development. On the one hand, the logistic managers face an increasing grade of professionalisation which is strongly connected with the introduction of new technologies (IT based planning systems). On the other hand office employees experience downskilling and standardisation processes which neglect the individual skills and working experience of the affected workers. Currently, only the high hierarchical levels seem to profit from developments in the course of the knowledge-based society.

- **Male working culture:** In all three case studies the male working culture of the 'branch' has been pointed out. Principally this conclusion is based on the number of male employees on all organisational levels of logistics. Also here the comparative analysis shows a range of different pictures: Whereas the political and economic transformation in Bulgaria focus on the increasing difficulties of chances and opportunities particularly for women, the other two countries already focus on a consolidated picture not only within the professional field but also within the gender arrangements outside the working place. As the Dutch case study points out, temporal flexibility or other arrangements which does not fit to the breadwinner model are widely refused by the company's management. Thus social arrangements and maintaining the traditional division labour seem the rational strategy in meeting the working conditions in logistics.

- **Methodological considerations:** The underlying sample of employees in the business function logistics represents a business function which is very much 'on the move' and 'under change' as no clear professional profiles with related career trajectories exist at present. This is strongly reflected in the wide range of the case studies which cover different professional profiles at different hierarchical levels. This wide range as well as the small size of the sample makes it very difficult to give a comprehensive comparison over developments in the business function logistics. Nevertheless, the analysis of the case studies implies that managerial positions are further developing in logistics. The need for higher skill requirements caused by the technological progress in the field which can be observed by logistics managers implies a professionalisation of the occupation. Similar career trajectories and professional demands building on comparable educational paths as well as similar skill requirements seem to form an occupational identity in logistics which unites the high qualified employees in logistics.

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Chapter VII
Occupational monograph – Front office employees in customer relationships in public services

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1. Description of the occupational group, main features

1.1 General trends of the sector and occupations in Europe

Overall employment in public administration increased between 1996 and 2004 as well in EU-15 (+5.8%) as in new Member States (+7%), although with considerable differences among countries (strong decrease in Germany and Italy, strong increase in Ireland and Spain). This average increase is however lower than the increase in total employment. In railway and postal services, the trend is quite opposite. Employment suffered quite substantial losses during the same period (-7% in railway, -4% in postal services).

Precise quantitative mapping of employment in customer service relationships in public services is not really possible, as this business function cannot be isolated in employment statistics or occupational statistics concerning public services. In the quantitative pillar of the WORKS project [15], the researchers tried to build up a 'proxy' of this occupational group, by cross-tabulating occupational and sectoral classifications. The concerned occupational category is ISCO 42 'customer service clerks' (which is however much wider than the occupational group of front office employees); the sectoral codes are NACE 75 'public administration' and 60.1+64.2 'railway and postal services'.

In 2004, 1.6% of all employees in public administration in EU-15 work as customer service clerks; it represents about 187000 employees. The proportion remained rather stable between 1996 and 2004 (slight decrease of 0.2%). In the new Member States, the proportion is 1.2%. In railway and postal services, the proportion of customer service clerks is higher (3.7% in railway and 8.6% in postal services), andemployment decreased significantly in those occupations.

Outsourcing of front office tasks from public services to private companies cannot be made visible in labour statistics.

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15 Concerning this occupational group: mainly Geurts K., Coppin L., Ramioul M. (2007), *The transformation of work? – Tracing employment in business functions: a sectoral and occupational approach*, WORKS deliverable 9.2.1

1.2 Characterisation of the occupational group

The occupational group of front office employees is characterised by two main features:
- They are office workers (clerical workers);
- They are in direct relationship with customers.

In the WORKS project, front office employees are selected as an occupational group within the business function 'customer relationships in public administrations or services of general interest'. So, our occupational group of front office employees is limited to those sub-sectors, which are studied in the WORKS project: public administration and services of general interests (railway and postal services) – in short: public services, including former public services. Obviously, not all front office employees in the service sector are concerned.

Among clerical tasks in service activities, front office and back office tasks are usually distinguished. Front office tasks consist of interface with customers, either face-to-face or through the mediation of information and communication technologies (ICT), such as in call centres and online services. Back office tasks include administrative management and logistics. Front office and back office are separate, but intertwined activities. Software packages (customer relationships management systems, enterprise resource planning systems) are increasingly used to interconnect front office and back office tasks. Some front office tasks can be organised without employees, through direct contacts of customers with the technological infrastructure of the provider, either on site (for example, automatic ticket sales machines in railway stations) or online (for example, internet ticket sales).

Front office employees are in direct relationships with the customers, at the interface between service providers and users. "At this interface, interactions take place between the provider and the customers, i.e. exchanges of information, knowledge, emotions, verbal or gestural signs. This interactions also expresses power relations, domination or reciprocal influence" (Gallouj C., 1998). The service relationship is therefore at the core of the tasks definition of front office employees.

Several authors (Bouchez, 2004; Cerf & Falzon, 2005; Gallouj, 1998; Laville, 2005) have proposed various typologies of service activities, but those typologies encompass a much wider set of occupations than only front office employees. The service relationship also characterises the tasks of health workers, social workers, workers in personal services, retail workers, etc., who are not concerned by our occupational case study. So, we have selected, among existing typologies, some relevant criteria that are relevant for the characterisation of the occupational group of front office employees in public services:

- The *degree of interactivity* in the service relationship: some activities require a strong interaction between the employee and the customer, while other activities require limited interaction.
- The *degree of personalisation* of services: some activities are strongly (and increasingly) standardised, while other activities are customised and must be adapted to the individual characteristics of every customer.
- The *time dimension* of the service relationship: some activities are 'one-shot', while other activities require following-up the customer and maintaining the relationship along time.

Some front office employees in public services are 'locked' in low interactive, highly standardised and one-shot tasks (low-skilled tasks). Others have a higher skills profile, combining interactive and personalised tasks and longer-term involvement in customers' files management. However, a significant number of front office employees combine, in their daily work, a set of tasks covering the full range of the three criteria: low and high interactivity, strong and weak standardisation, one-shot and follow-up. The concrete figures of the tasks mix of employees are much more blurred than the typologies of service activities.

As regards the skills mix of the occupation of front office employees, two important factors have to be taken into account. On the one hand, front office work is characterised by a mix of 'technical' or 'administrative' skills, related to the content of the service relationship, and communication skills, related to the form of the service relationship. This articulation between technical and communication skills is continuously questioned by organisational changes. On the other hand, work organisation and tasks definition are squeezed between two trends: an increasing need for conceptualisation of the service relationship, centred on the conceptual chain 'problem identification – diagnostic – solution'; an increasing pressure for operational and timely delivery of the service (Cerf & Falzon, 2005:61-62). In other words: squeezed between reflexive and productive constraints.

Fortunately, the range of case studies carried out in seven countries almost covers the full range of those front office tasks and skills.

1.3 Characterisation of the case studies and interviewees

Table 10: Sample of the comparative analysis of the occupational group 'front office employees in customer relationships of public services'

Number	*Country*	*Sector*	*Type of positions*	*Number of interviews and analysed firms*
1	Austria	Housing services of local government	Front office employees (call centres and contact offices)	9 interviews in 1 service centre and 1 call centre
2	Belgium	Regional public administration	Front office employees in local contact offices and regional call centre	7 interviews in 1 organisation
3	Germany	Customer services in railway	Front office employees in a big railway station	8 interviews in 2 subsidiaries
4	Hungary	Customer services in unemployment administration	Front office employees in local offices	9 interviews in 1 organisation
5	Italy	Governmental services to citizens	Front office employees in local and national government	8 interviews in 2 organisations
6	Sweden	Customer relationships in postal services	Front office employees in three different channels of service provision	8 interviews in 3 organisations or subsidiaries
7	UK	Services to citizens in city councils	Front office employees (call centres and contact offices)	8 interviews in 2 firms (public/private partnerships)

According to institutional contexts, the seven occupational case studies can be distributed in three categories. The German and Swedish case studies present the evolution of occupations in important public services (railway and post), subject to deregulation and liberalisation. The Belgian and Hungarian case studies describe a process of organisational and technological modernisation of customer relationships in public services, leading to more autonomous and customer-oriented service units. The Austrian, British and Italian cases deal with partial or complete outsourcing processes of the customer relationships function to external service providers (call centres), mainly in local administrations.

The German and Swedish cases concern privatisation processes of big national public services, the German railways and the Swedish post. In 1994, the State railways from Western and Eastern Germany (Bundesbahn and Reichsbahn) were merged in a private joint stock company, Deutsche Bahn AG. In 1990, the postal market was deregulated in Sweden and competition started in the distribution of postal mail and services. The Swedish post was transformed into a State owned limited company, and in 2001, public post offices shut down and were substituted by business-oriented postal centres and other service points for the general public.

The Hungarian and Belgian cases concern an internal restructuring process of customer relationships in public services. In Belgium, the Walloon regional administration, created in 1988, has recently restructured its customer relationship services according to three channels: e-government online services, local contact offices, and phone services (not outsourced). In Hungary, a new governmental institution is created in 1991 to manage services for the unemployed. This creation is closely related to the shift from the State-socialist political and economic regime, characterised by formal full employment, to the market economy, characterised by fluctuating demand and supply on the labour market and increasing unemployment rates. The restructuring concerns registration of unemployed people and intermediation on the labour market, introducing computer-based front office work for employees and self-service facilities for customers. This organisational and technological modernisation was supported by the European programme PHARE, in cooperation with Danish and Swedish unemployment services.

Two other case studies (Austria and Italy) are studies of outsourced call centre services, in which public administrations are outsourcing part of the service work, but without transfer of personnel. In Austria, a public company responsible for housing services in Vienna outsourced its phone customer services by founding a new specific company in 2002. This company launched a public tender for a call centre service, which was attributed to a consortium of two call centres, which took over the whole telephone service. The Italian case study focuses on governmental services to citizens in Rome, either in an external call centre, or in public relations offices; call centre operators work in companies destination of outsourcing and none of them was hired by public administration, while employees of the public relations offices are civil servants. The Austrian and Italian case studies underline the differences in working conditions and quality of work between employees in the administration and employees in outsourced call centres.

The UK case study is similar to the Austrian and Italian ones, except that the personnel is 'seconded' from local administration to a public/private partnership between a British multinational IT service provider and two local government councils. Those councils, as

well as the externalised service centres, are located in two different regions, with different labour market contexts. British front office employees carry out both phone and face-to-face customer relationships with citizens.

The sample of interviewees is composed of 57 persons, 40 women and 17 men (70% women). In two countries, there was only one man among the interviewees (Hungary and the UK).

The age of interviewees runs from 20 to 62. The average age is 41. The age distribution is the following: 16% of the interviewees are younger than 30; 28% are between 30 and 40; 32% are between 40 and 50; 24% are older than 50. The age distribution is rather unbalanced among countries: in Italy and UK there are almost no interviewees under 30 and over 50. In Austria, Germany and Sweden, on the other hand, the age between 30 and 40 is depleted. A majority of respondents are married or live with a partner (77%); 61% of the interviewees have children who are still at home or dependent; almost 30% have no children.

The training background reflects the rather modest and often very heterogeneous qualification level: only half of respondents (47%) went on studying after secondary school; only 8 interviewees have a specific office graduation (secretarial or accountancy degree); 5 interviewees in Italy and 5 in Hungary have university degrees, but often not specific to their current occupation; 26% of the interviewees declare having followed specific trainings at work.

The mobility on the labour market is contrasted among countries, but is generally low among public administration employees. On the other hand, in call centres it is common finding people who have done several types of jobs. On the whole sample, 21% of employees have known more than 2 successive employers before the current one. 14% have been unemployed for maximum 2 years. In a high feminine sample, 30% of women interviewed have stopped working to take care of their children during 2 to 10 years.

2. Work biographies and career trajectories

2.1 Career trajectories

Except for the Italian call centre workers, who have a higher educational background, this occupational group is characterised by a rather modest qualification level and often very heterogeneous background. Employment at their present employer has been preceded, for many interviewees, by different jobs in various sectors and short periods of unemployment. In the Swedish case, "getting the present employment has for most of them been more or less accidental" (Tengblad & Sternälv, 2007); in Austria, a number of employees took the call centre job because there was no alternative except unemployment.

In order to cope with the diversity of individual trajectories in the sample of interviewees, it is useful to distinguish four types of career trajectories, which could almost cover the whole sample.

- *Organisational careers coupled with light internal restructuring*. This career pattern is illustrated by the Belgian and Hungarian cases. Restructuring mainly concerns work

organisation and distribution of tasks, but does not threaten the status of employees. Career trajectories generally follow the classical path of civil servants, although restructuring introduces perturbations in the system (see below). In the Austrian and Italian case studies, the front office employees belonging to the internal service centres of the public administration have similar organisational careers.

- *Organisational careers coupled with strong restructuring*. This career pattern, illustrated by the German, Swedish and UK cases, differs from the first one by the importance of organisational restructuring and its direct impacts on workers' status. Front office employees are given new status, with negotiated continuity as regards their former status. The German case of internal transfer of personnel to subsidiaries and the British case of external transfer of personnel ('secondment') to a private/public partnership are typical examples of 'negotiated continuity' of careers. However, all concerned interviewees have experienced those changes as potential limitations to their career progression and job security. Anyway, liberalisation and privatisation are perceived as threats to lifelong employment in the same organisation.
- *New entrants in restructured organisations*, coming from various backgrounds. Among the British, German and Swedish interviewees, those who entered recently the restructured organisations, without having known the former status, perceive their career prospects as more uncertain or insecure. Despite privatisation, they however hope that it will still be possible to develop a career in the new organisations. As shown by the UK case, such expectations also depend on the local labour market and the local rate of unemployment.
- *Insecure trajectories in outsourced services*. This career pattern is observable among the outsourced call centre employees in Austria and Italy. Most of interviewees do not perceive their current job as a career, but as an opportunity to find a job; their trajectory is often made of a succession of fixed-term jobs, in different sectors. Their job security is low. They however hope to be hired in more stable contracts.

These career patterns illustrate contrasted biographies of 'core' and 'peripheral' front office employees. Core employees have rather continuous work biographies, and expect career progression, even if opportunities become more restricted. Peripheral employees have discontinuous work biographies, and expect stabilisation.

2.2 Changes and driving forces

For 'core' employees, changes are mainly perceived as limitations, rarely as opportunities. Career opportunities become limited because there are fewer positions in upper and middle management, and they only become available when older workers go to retirement. Most often, their perspective is limited to 'horizontal mobility', i.e. a change of job content, as illustrated by the Belgian and Hungarian cases. According to the German report, the ongoing division of the railway into several separate enterprises also leads to an increasing limitation of the internal labour market, and thus of career opportunities, as well as of a limitation of chances to change from one activity to another (services and sales for example). The Hungarian case mentions that top public managers, at the hierarchical level where the strategic decisions are made, are mainly recruited from outside the organisation; this practice is also restricting the internal carrier opportunities.

The very formal and rigid system of career management in public administrations is also perceived as increasingly limitative. In the Austrian case, the official classification (A-B-C levels according to employees' education) has hardly any flexibility to accept mid-career people from outside, and also results in a difficulty of categorising employees with different education and job biographies, for example students. As a result, call centre agents are not regarded as 'human resources' at all and there is no opportunity for them to change from one of the call centres to one of the service public centres, even though they may have the qualifications (Schönauer, 2007). In Hungary, a bureaucratic hierarchical organisation leads to 'vertical' carrier paths, regulated on the principle of the length of service and levels of qualification, according to a specific classification table. If an employee has the necessary qualification and the years of credited service, he automatically steps from one wage category into another one, without reference to performance or occupational evolution (Makó & al., 2007).

For 'peripheral' employees, there is no organised career path. Career trajectories are characterised by mobility and flexibility. Differences between core and peripheral employees are analysed in the next point. There is few mobility between core and periphery.

2.3 Institutional arrangements

Differences in career trajectories of core and peripheral front office employees illustrate very well the determinant role of institutional factors.

The Italian and Austrian case studies clearly show the contrasting career trajectories between call centre employees and public administration employees. While Austrian interviewees at service centres have very continuous work biographies, call centre agents have very discontinuous job and training biographies, and call centre work is more or less an interim occupation. The same occurs in Italy, where public administration employees have similar professional trajectories, most of the time within the same organisation; they have been working for the organisation for a long time, some for more than 10 years and aspire to advance in their career in the sector of communication within the public administration; at the opposite, call centre operators, after transition, unemployment and mobility periods, are still looking for stabilisation within the organisation, expecting future definitive hiring. Stories of Italian call centre employees show a clear feeling of scant job security due to the expiry of contracts (Piersanti M., 2007).

The British case study underlines the importance of local economical context and local labour market to explain these differences. In one of the council administrations investigated, the interviewees had locally experienced a range of different 'bad jobs' and, by comparison, they were experiencing customer service in the public sector as a 'good job'. In the other region, which is relatively prosperous and where unemployment is low and the labour market is tight, a number of different call centres are competing for workers with good communication skills. Here, the workers clearly had much higher expectations that employers should respond to (especially their needs to fit work around family responsibilities) and were less 'grateful' for their working conditions (Dahlmann & al. 2007).

In the Belgian, British and German cases, working in the public sector was a deliberate decision to gain more security in employment and also to benefit from family friendly

policies and a good working atmosphere. Although with privatisation (German case) career as a state employee is no longer possible, motivations of this kind are also to be found among those interviewees who came to the railway after the rail reform. The same occurs in Sweden where lifelong employment has been common in the Post over the years. This is changing through the restructuring, leading to an increasing number of temporary agents. Some of the respondents have this background of long life employment, and even the new employees see a future in the Post, as it is a large organisation.

3. Changes in occupational identities

3.1 Characterisation of the occupational identity

This occupational group is composed of several types of workers:

- Postmen, railwaymen (mainly men) closely identified to an organisation, but confronted to new entrants with quite different backgrounds and loose attachment to the organisational identity (German and Swedish cases);
- Skilled clerical employees, considering themselves as office workers and identifying themselves as civil servants in a broad meaning (even when 'seconded'), but having very heterogeneous training backgrounds (Belgian, British, Hungarian cases, and core employees in the Austrian and Italian cases);
- Peripheral employees, having little identification neither to a profession nor to an organisation (call centre workers in Austrian and Italian cases).

Several case study reports underline that the identity of this occupational group is not created by a particular training background, neither by the belonging to a profession. As mentioned in the Swedish report, "None of the respondents defines oneself belonging to a specific occupation. The occupational group is in many ways not an occupational homogenous group, being in different positions and organisations." (Tengblad & Sternälv, 2007:8-9).

For interviewees in public organisations or in privatised public organisations, the main reference in the occupational identity is the (former) institution. Organisational identity is stronger than occupational identity.

For big national institutions like Swedish Post or German railways, where people had life long employment, there were a strong traditional identity: "male-dominated and largely closed world led to an extremely consistent identity of the classical railwayman who identified with his enterprise, knew his colleagues well, could get enthusiastic about the railway as a technical institution (the locos, the rail network, the stations…) and often lived in a cheap rented flat belonging to the railway as well." (Dunkel, 2007:7). The Hungarian report mentions that the lack of a specific vocational training outside the organisation, and the importance of on-the-job training, explains a strong identity related to the organisation rather than to the occupation.

The importance given to the good atmosphere at work and good social relationships among colleagues (for instance, in the Belgian and British cases) still reinforces the identification to the organisation rather than to an occupation.

Some interviewees, in all countries, try to relate their occupational identity to the quality of the service to the customer and the satisfaction of the customer. "Occupational identity can differ according to the level of usefulness the interviewees attribute to their job" (Vandenbussche, 2007:10); "I am satisfied when I have succeeded in turning an angry customer to a satisfied one" (Swedish interviewee quoted by Tengblad & Sternälv, 2007:9). This emerging identification to customer service rather than to a particular organisation is a significant trend, in the direction of an emerging occupational identity.

3.2 Changes in occupational identity and relation with restructuring

Several changes led to an evolution of the traditional forms of identity. A first key trend is an increasing formalisation of the customer service function. In the German railways, before restructuring, customer-related services were simply subordinated aspects of the platform guards' tasks; now service tasks are at he core of full time jobs, with a range of additional tasks. The Hungarian report mentions the implementation of a quality-oriented service model, instead of an administration-oriented model. The Swedish case also insists on this aspect of 'service and people orientation' in postal services.

In the German and Swedish cases of privatisation and creation of subsidiaries, the occupational group moves from a single employer to a multi-employer configuration. In this context, "one defines oneself primarily as an employee of the railway and not as working for DB Sales or DB Station & Service" (Dunkel, 2007), and "working with postal matters full or part time" (Tengblad & Pernälv, 2007). The identification with one single organisation becomes less evident and the teamwork is increasingly replaced by independent ways of working, in which the customer relation (keeping the customer satisfied) is at the core of the job, as a source of motivation, pride, recognition and satisfaction at work.

This customer-oriented evolution has consequences in terms of occupational identity. As mentioned in the Hungarian case study, while the on-the-job training was at the core of workers' identity, "the fresh and younger entrants having widely recognised and marketable knowledge and professions (e.g. psychologist, consultant, HRM-expert, etc.) are developing a stronger occupational identity in contrast with the organisational one." (Makó & al., 2007:10).

This trend also concerns peripheral employees. The Austrian case stresses that "crucial part of their occupational identity is the aim to help people, to provide good services and to give good information. In this field they [call centres employees] do not differ much from employees at service centres [city administration]. It is a personal satisfaction to help customers. This behaviour is very similar to that of the employees at service centres and could be seen as a sign for high job identification, which does not necessarily correspond with identification with an enterprise" (Schönauer, 2007:).

A second key trend is the weak integration of peripheral workers. The Italian and Austrian reports dealing with call centres work, both insist on the lack of solidarity between employees of the source and the outsourced organisations. "They have hardly

any personal contact and hardly know what the others are doing". In Italy, a low affiliation to trade unions is observed in the call centres compared to the public administration. In Austria, while city administration has a very long tradition of interest representation, agents at the call centre were not allowed to elect a workers council because of their freelance contracts.

In both cases, weak cooperation, integration with the group, or identification with the city/public administration is related to the form of contracts: temporary contracts, short term contracts (Italy) or freelancers (Austria). "While most people at service centres [city administration] have job tenure or other forms of highly secured contracts, people at call centres used to work as freelancers. It is understandable that they see their job ideally as a transitional situation." Their strategy is then to limit identification and to establish a boundary between job and personal ambitions in helping people, which becomes a central motivation at work.

Finally, the spatial division of labour influences occupational identities. Location of call centres does not help fostering communication with the correspondent public administrations, as quoted in the Austrian and Italian cases. "Agents have the experience that their work is not recognised by the service centre [city administration] or customers (…). Most costumers do not even know that the call centres exist" (Schönauer, 2007:6).

In the UK case, which describes a positive situation in terms of collective atmosphere, cohesion and satisfaction at work, spatial division of labour and types of contracts have been handled in a different way: the reorganisation led to a transfer of personnel, so a spatial moving, but all employees interviewed had kept contact with their old workplace, bridging the new situation. Moreover, the choice of the secondment model instead of outsourcing allowed keeping contractual arrangements they had previously with the respective councils. For most aspects, there was little change in terms and conditions: staff kept the same scale of pay, and all are in a pension scheme.

4. Learning and skills development

4.1 Changes in skills requirements

As mentioned above, employees of this occupational group have very different types of formal qualification, but 'informal" social competence and stress resistance are often important prerequisites for front office employees. Moreover, skills required and acquired on the job are only recognised within the organisation, because they are specific to each organisation, as for example, very specific software skills.

The increasing use of ICT-tools has several implications. The main one is a standardisation of tasks and knowledge. "The net training is very much oriented on facts and routines; to be honest it's all about making it simple and cheap" (Swedish interviewee quoted by Tengblad & Pernälv, 2007). The Austrian case study mentions that an important part of the initial training of agents consists of guidelines in how to use the databases, which are updated regularly; the knowledge base is conceived like a questionnaire and it is not necessary to get an in-depth understanding of the structure of

the city administration to give correct answers. Agents are only informed about a small part of the whole customer service procedure and lack an overall picture. This makes their work difficult and influences job satisfaction.

Standardisation of knowledge is also related to the increasing use of e-learning methods. Swedish employees are expected to get the contingency training on their own, with the support of the system; and in the Austrian case, the most important information tool is the knowledge base; in addition there are pop-up windows and e-mails, which inform agents about new instructions or changes.

This standardisation is linked to a lack of more in-depth training, as managerial skills, business skills or communication skills. Efforts are made to keep the agents up to date but training is mainly focused on the content of work.

On the contrary, the UK report mentions that transferred personnel experiences a diversification and broadening of existing knowledge; interviewees consider their new roles to be up-skilled. The public access service has brought together previously fragmented services, which used to be carried out separately. So, while the area of advice was very narrow, now customer service agents deal with hundreds of different types of queries. Moreover, employees are satisfied with the training policy: in one administration (more favourable context), training needs can be brought up in monthly meetings with team leaders who are trying to accommodate interests; so far no training request has been turned down. In the other one (more depressed economical context), interviewees feel that training provision has always been good, and continues to be sufficient. A last interesting point mentioned by the British report is the importance of learning a new working culture: "for transferred staff it was crucial to learn a new culture of customer service" (Dahlmann, 2007).

4.2 Management of training and learning

In some cases, the introduction of new technologies led the enterprises to take responsibilities in training and getting the useful ICT-support for employees. It is the case in Sweden and UK, while in Austria, Hungary and Italy the training policy and the policy of human resources development are assessed as insufficient by the interviewees. In Germany, on-the-job training is predominant.

Increasing use of e-learning also makes the employee increasingly responsible for his own competence development. The enterprise can then save money on learning. The Italian and Austrian reports underline that not only in call centres but also in correspondent public administrations, the lack of a real training policy and training opportunities for employees is due to exiguous financial resources and lack of time: "Like employees of a council-owned company, people at service centres have many opportunities to take courses (e.g. at the administration academy of the city). But attending courses run by other providers requires a great deal of negotiation concerning costs and working time; there are no general rules about this" (Schönauer, 2007:12)

5. Quality of work

5.1 Changes in working conditions

5.1.1 Increasing workload

In the British, German and Hungarian cases, staff shortages led to increased workload. Staff reduction is sometimes related to the use of new technology, as in the German case where automation of sales leads to a reduction of sales staff. In the UK case, workforce is understaffed and as result, stress and dissatisfaction with working conditions are emerging. Moreover, the volume of tasks increased in the British and German cases, through the opening of additional telephone channels. In the Swedish case, as a consequence of reorganisation, some workers have now 'double work', being logistics workers and service workers at the same time, which damages the quality of their work. In this context (less staff and more tasks), time pressure gets obviously higher with restructuring.

5.1.2 Working time management

In the German case, the negotiated collective agreement on job security has been bought with concessions: weekly working hours were generally raised by one hour, but at the same time an hour less is being paid. Work breaks are now avoided, as in the UK where "the female supervisor tells of the great stress these workers work under – the calls can be constant, so much that they may fail to take their allotted 15 minute in the morning and afternoon" (Dahlmann, 2007). However, the UK report mentions a high level of satisfaction with changes in working time linked to the transfer of personnel: rotas are done for one month in advance and team leaders take personal preferences into account or otherwise allocate agents according to demand. Generally, staff stays in the same shift pattern and work on the same activity per month but at the same time the system allows for short-term changes (e.g. swapping days of work). However, the main conflicts are about time management. Resulting from the aim to be more customer focused, working hours have been extended. Employees have now to work on Saturdays (while their previous posts often had flexitime) to accommodate the more accessible public access to citizens; but, "interestingly this service is now being reduced due to lack of demand from members of the public" (Dahlmann, 2007).

The same happened in the Austrian case, where orientation towards customers' needs and quality management did also affect city administration services. All employees have included overtime of 8, 12, 20 or 30 hours per months, depending on the position. This means that employees are obliged to make this overtime because the salary for this time is already included in monthly wages. The outsourcing of telephone service leads to a situation in which the number of people working directly or indirectly for public administration increased, but the quality of jobs declined in general. Working time arrangements are much contrasted between city administration and call centres. Compared to service centres, call centres provide time schedules at very short notice, only about one week in advance. The way individual working times are arranged is not

transparent at all compared to public service centres. Moreover, while employees at city administration regularly work between 8:00 am and 3:30 pm. and until 6 pm. once a week, call centres offer around-the-clock service, which is only affordable because of cheap call centre agents (public service centre employees' wages are about twice as high as those of call centre agents). "We assume that public administration jobs could only stay that regulated because of the outsourcing. If the city administration had kept telephone service in-house, an extension of working hours for customer service employees at service centres might have been the consequence." (Schönauer, 2007:8)

5.1.3 Job security and wages

The question of job security and wages is also raised in the Italian and German reports. The Employment security collective agreement in German railways, apart from concessions on working time, also includes other issues: "Bonuses such as that for speaking foreign languages were cut. The employees define their situation as a bit-by-bit reduction of positive aspects of their employment, which the employees' representatives should be counteracting. And they cannot be sure either that employment will still be guaranteed after 2010 – something which was one of those self-evident facts for rail employees before the rail reform" (Dunkel, 2007:10)

In the Austrian case, call centres are today changing all contracts to regular open-ended contracts, which will lead to a reduction of labour flexibility, making employment also more stable. But there is also a group of agents who would have preferred to remain freelancers. They fear that their flexibility will be reduced and that they will be more dependent on the employer.

In Italy, the contrast is stressed again between job security of public employees and call centres employees: "Employees of this sector [public administration] enjoy protection under a collective agreement as well as state assistance and welfare services. Call centre operators instead, have, in most cases, staff-leasing contracts, with less welfare protection, therefore they do not know how to cope with work instability" (Piersanti, 2007).

5.2 Relations between these changes and restructuring

To sum up, the main changes through restructuring processes concern: more flexible, but often more constraining, working time management; systematic staff reduction (cost saving) leading to increased work load; weaker job security and fragmentation of workers' status according to their place in the value chain, either in the core organisations or in the outsourced functions.

An additional important change, clearly linked to restructuring, is the introduction of new management methods to measure or enhance the performance of workers. These methods lead sometimes to increasing stress. In the German case, financial incentives for active sale of more expensive products are introduced. In the Hungarian case, although employees remain civil servants, most incentives are based on the achievement of individual goals that are measured by quantitative indicators, for instance the quantity of 'solved' cases within a certain period of time. In the British case, the implementation of Service Levels

Agreements (SLAs), on the model of those in IT outsourcing, is a new element in performance measurement and control. Service level agreements specify performance indicators that must be reached by subcontractors. They are usually translated by the outsourcing company (or, in this case, the partnership) into targets that must be achieved by individual workers or teams. In one of the concerned outsourced units, the expected performance is assessed as realistic by the interviewees and SLAs seem to be 'softer' than those operating in the private sector, so they are perceived as manageable and not too pressurising. However, in the more depressed economical region, SLAs and performance monitoring seem to cause more stress; interviewed staff mentioned a 'big brother' atmosphere and stress caused by high call volumes at times (preventing to take small breaks).

In the Austrian case of city administration, new guidelines and performance standards have been introduced. For example, each request has to be handled within 24 hours. Previously it was the customer who tried to reach the responsible person; today it is the employee who has to chase the customer. But the contrast with call centres remains: although time-related performance measurements, which have been introduced at the city service centres, is definitely comparable to those at call centres, it gets clear that the degree of surveillance is not that high in the city administration. At call centres, everything is monitored.

We can assume that these new management models lead to more individually controlled work, and lead towards more individualised salaries, as already mentioned in the Swedish case.

6. Work life balance

6.1 Existence and access to family-friendly settings

The only cases that mention the existence of family-friendly policies within the organisations are the British and Belgian cases. In the concerned UK service units, family friendly policies are promoted and staff encouraged to take advantage of existing schemes. Most interviewees perceived these schemes as 'authentic' and feel that the organisations are really supportive of work life balance issues. One of the British call centres has special hourly arrangements for single mothers and at the other one, the informal relationship with team leaders enables some flexibility for swapping shifts. Interviewees feel they have a good level of work life balance and feel very content with their work. But, at the same time, it is noticed that if employees were aware of family friendly policies, they did not necessarily know the detailed content.

In the Belgian case, family-friendly policies mainly concern arrangements about working time and working conditions. "For instance, part-time are easily attributed (i.e. to women and men), the moment a person arrives or leaves can be adjusted for private reasons among colleagues, days-off are organised according to the people's needs, etc. Nevertheless, this kind of facilities is easier to organise in a big centre than in a small one, because of the number of people working there. (…) Workers, who experienced worse working conditions before (e.g. a stressful job, a longer distance between workplace and

home, etc.) or oldest interviewees who did not have these opportunities when they were younger – and with non-autonomous children – do valorise and underline them even more." (Vandenbussche, 2007:19).

In other European countries, the organisation of work life balance has remained a largely individualised problem until now. In German railways, the problem of combining work and private life has considerably worsened for most of interviewees since the weekend as leisure time as defined by society has ceased to exist as such: they only have every third weekend completely off. Apart from the problem of finding time and opportunities to compensate for professional stress (e.g. being able to talk to someone about it), shift and weekend work in particular pose considerable problems in combination with other activities. If one looks at the responsibilities of the interviewees in their family context, it becomes apparent that all of those questioned have – if in various ways – been freed from such responsibilities.

In the Austrian case, neither city service centres nor call centres have any special measures to facilitate a balance between work and life for employees: "It is surprising how little the city services care about its employees' matters. Especially women told us that they struggled a lot during the time when their children were small. Apart from kindergarten and after school care, relatives and friends are important resources to organise daily life" (Schönauer, 2007:13)

None of the Swedish post organisations has any specific policies in making it easier to combine work and family responsibilities, and workers are more or less dissatisfied with the balance between work and family. There are different reasons behind their dissatisfaction: the downsizing over the last years and the more intensive work that is considered to be one of the reasons alongside the non-flexible working hours. Swedish workers feel a low autonomy at work: "We have a relatively high freedom in deciding when to work, but when at work there is no flexibility." (Tengblad & Sternälv, 2007:10)

6.2 Difficulties, opportunities and changing boundaries of the work life balance

6.2.1 Working time

The question of working time flexibility is complex because depending on each individual family situation, flexibility can be convenient or not. For example, the Hungarian report mentions that predictable working hours is an attractive feature fostering team reciprocity. The same is noticed in the UK case, where planning of rotas is often done at a too short notice, which means that customer service agents feel they can't plan their family responsibilities effectively. But, in Italian and Austrian call centres, individual opinions are more contrasted. Some Italian call centre employees believe that work-life balance is above all influenced by working shifts, in particular night shifts that do not match with daily life of family and children. On the contrary, some Italian interviewees state that work life balance is achieved thanks to working shifts, because they allow employees to live different moments of the day. About this issue, there are significant differences according to gender. Women, including those who do not have to work on night shifts, declare that full-time working hours are very tiring. According to a lot of

them, the only way out to balance private and working life is to work part-time, a request that is often rejected by the company.

At Austrian service centres, working hours are regulated very strictly and offer hardly any flexibility. People who would prefer to work part time or to change working hours from time to time according to their situation of life, have problems; they are forced to choose between for example care work and work. But other employees, who need regulated working hours, who want for example to know exactly when they are going to be at home on a certain day, prefer this form of working time. At call centres, regulations are much more flexible, but in practice flexibility is mainly used by employers. So agents are expected to jump in very flexibly, but compensatory time off has to be planned a long time in advance. The way in which overtime is handled at the call centres also causes some problems for work-life balance from time to time. As a result of compensatory time off of some employees, work schedules of others have to be adapted continuously. In the opinion of some interviewees, it would be much better for the planning of working time, if overtime was paid instead of compensated with free time.

The new regular open-ended contracts, which have been introduced at the studied Austrian call centres, reduced the uncertainty that goes along with a freelance contract and which puts a very high pressure on employees (for example not to become ill). Especially for people who have responsibilities for a family and for children, the new contract is a big improvement also for their quality of life. On the other hand there is the group of students or people doing other courses, who experience the new contracts as a reduction of their work-life balance. Agents mention that freelance contracts had the advantage of a more flexible working time arrangement. But it seems that this was more a theoretical possibility which gave the feeling of freedom, but which was not really used.

Part-time work, as mentioned in the Italian case, could be a solution to work-life balance, but modest incomes of this occupational group and high cost of living at the place of work makes this option the more often unacceptable.

Finally, it appears clearly that work life balance is mainly a problem of women, who face the problem of distribution of household work and taking care of the children.

6.2.2 Commuting time

Travelling times are another crucial issue about work-life balance. In Belgium and the UK, the relocation through restructuring process meant a positive change in terms of travel and proximity to home for many workers. The German report explains how travelling times, cost of living, incomes and work life balance are interrelated factors. Indeed, with low incomes, workers "have to look for cheaper flats – these are cheaper the further they are away from Munich – this in turn extends travelling times and considerably lengthens working hours which are already long and in part inconvenient even more" (Dunkel, 2007).

6.2.3 Stress

The work life balance issue has also to take into consideration subjective factors. This occupational group is frequently dealing with daily conflicts with the clients. While in the UK, employees "enjoy the work they are doing and 'leave it behind' when going home"

(Dahlmann, 2007), working with customers in Hungary "creates a heavy mental burden to them and that they often 'take home' this conflict-related stress. The organisation does not deal with the 'burning out' problems of the employees in a standardised way" (Makó & al., 2007). In a general way, front office employees confronted to 'critical' or 'emotional' situations often transfer their stress from the work atmosphere to the family atmosphere. Stress, uncertainties and anxieties can also be created by the reorganisation process and influence the family, as mentioned in the Swedish case, where sick-related absence has been a major problem for the organisation over the last years. In order to prevent absences and support the general health of employees, special health supporters are being trained in every Swedish postal unit (Tengblad & Pernälv, 2007:9).

7. Gender

The gender balance is quite variable from a case study to another. While in the Austrian, British, Hungarian and Swedish case studies, women are the majority of employees, the sample is more balanced in the Belgian, German and Italian cases. In the German case, restructuring of the railway companies increased the proportion of women (now about 20%) in the workforce of a formerly exclusively male activity.

7.1 Career profiles and trajectories

Women career advancement is another crucial issue to be addressed. The German case stresses that if in middle management, women are becoming increasingly numerous, the highest management level is male. Although women build the majority of call centre personnel in Austria, they are underrepresented in supervising and management positions. Only the British report mentions a gender-balanced staff in managerial positions. The glass ceiling is prevalent in most other cases.

As regards careers, the situation about equal opportunities policies is not uniform. The Austrian, Belgian, British and German reports mention several employers' initiatives in the area of family-friendly policies, which mainly concerns arrangements for working mothers. In the UK case, all female customer service staff said they felt that they are working in an organisation where women have a lot of influence and where equality is taken seriously and valued. However, concerning call centres agents, the Austrian report underlines that this occupational group clearly shows a gender bias in the tendency to create new, but less qualified and less qualifying jobs. These new low-paid jobs are dominated by women.

7.2 Skills and training

Several case studies underline the gender segregation between technical skills and service skills, which is the most visible in the case of railway workers, and to a lesser extent among call centre employees.

In the German railways, men continue to dominate technical occupations, while women have expanded strongly into service-oriented sectors. This 'traditional' division of

tasks is met in several national contexts. The Hungarian report underlines that the majority of employees are female employees because most part of the competence-based skills such as empathy, coping with stress, etc., are identified as feminine characteristics.

"Informal skills falling under the umbrella of 'customer service' and good communication skills are more important than technical skills or formal qualifications. The job (…) also represents that traditionally reflects traditional female attributes, i.e. looking after customers and being caring towards customers" (Dahlmann, 2007:20). The Swedish case underlines a difference between women's and men's perception of work. For women, the focus is more set on the customer service side, while men defines themselves as salesmen and see a career in sales. Women do not perceive their career as advancement through training and promotion. Service tasks are interesting and stimulating in themselves, not for getting promotion (Tengblad & Pernälv, 2007:9).

7.3 Work life balance and work family balance

Working conditions in public services are rather favourable to working mothers (family leaves, children-compatible working time schedules, specific financial provisions, etc.). However, restructuring can lead to some dissatisfaction, mainly due to variable and extended working time schedules. In the Belgian and Swedish cases, working hours compatible with children care are important factors in decisions women take about their career. They have also had a number of career breaks taking care of small children. The same feature is underlined by the British report: "The reason of wanting to work in the public sector definitely ties in with them being mothers with children, looking for flexibility in their work but also a sense of security which they believed their employer could give them. (…) Interestingly, all the women interviewed were married, with a husband taking on the main 'breadwinner' role. What they ask from their employment is that it should enable them to give priority to their traditional gender role and not create undue conflicts in their lives." (Dahlmann, 2007:11)

In the Italian case, women find difficulties in considering possible career advancement within the organisation. The lack of a fair division of labour within the family and increased responsibilities, especially when there are small children, leads to an interruption in their trajectories or asking for a part time job. Moreover, those who have additional duties, like family and household, have no time or interest in any further training outside the job: this is also a limit to career advancement for women. The question of career breaks to take care of small children leads the company, for example in Italy, to choose men or young women with no family for permanent and stable contracts.

8. Conclusions and trends

For the occupational group of front office employees in the public sector, three key processes are considered in the case studies: privatisation of former public services, leading to their division in several enterprises; organisational restructuring of public administrations focusing on customer-oriented service points; outsourcing of customer relationships to call centres. These restructuring processes have several consequences on work organisation and quality of work:

- Staff reduction and correlative increased workload lead to higher time pressure.
- The number of temporary jobs or free-lance contracts is increasing. In spite of this evolution, working in the public sector is still perceived as a mean to gain more security in employment, especially for women with children.
- New management methods are introduced to measure or enhance the performance of workers. These methods lead sometimes to increasing stress and more individualised work, and it supports a trend towards more individualised salaries.
- An increasing limitation of the labour market/career opportunities, due to the subdivision of former big organisations into smaller companies or units.
- The function becomes completely customer-oriented, leading to hire people with specific background (communication, marketing, human resource management), while the identity of this occupational group was not, until now, created by any particular training or profession.
- For employees in outsourced or privatised organisations, the identification with the enterprise becomes less evident and teamwork is replaced by an independent way of working. In this context, personal ambition in helping people becomes a central motivation at work.
- An increasing use of ICT tools leads to standardisation of tasks and knowledge, having sometimes incidence on job satisfaction.
- There is a lack of training policy in several countries, with an increasing use of e-learning as a support for self-training.
- Work life balance is mainly a problem attributed to women, who face the problem of distribution of household work and taking care of children.

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Chapter VIII
Conclusions of the comparative analysis

BETTINA-JOHANNA KRINGS, LINDA NIERLING, GÉRARD VALENDUC

This chapter summarises comparative and integrated findings of the analysed occupational groups. As described in Chapter 1, the approach of occupational groups has been developed as a counterpart to the organisational level (see WORKS synthesis report on organisational case studies). Thus, qualitative information on the organisational and on the individual level aim to provide a comprehensive picture about restructuring processes on a global level.

In the first section, three clusters of occupations are constructed, according to the function of occupational groups in the value chains: knowledge-based (creative) occupations; manufacturing occupations; service occupations (front office, back office and management activities).

On the basis of the clustering, the second section provides the empirical findings according to the following issues: the relationship between restructuring and occupational changes as well as the relationship between business functions and occupational groups; quality of work and quality of life; hereby the importance of country specific factors is highlighted at the end. In an international perspective, common trends regarding recent developments are identified for these different clusters. Furthermore, the comparison between these clusters allows formulating general findings, which are relevant for all occupational groups.

In the third section, the evolution of occupations is presented as a research object *per se*. Key trends in occupational changes are identified for each cluster of occupational groups, and general hypotheses are formulated regarding those trends, in a comparative perspective.

The fourth section is devoted to the analysis of the gender perspective in the occupational groups. In the WORKS approach, gender is an integrative part of the research design. Gender questions are important in all occupational groups on different levels, as regards careers and identities, skills and learning, and work life balance.

1. Occupational groups as a research object

1.1 Global value chains, knowledge-based economies and occupational groups

The conceptual approach of the WORKS project is based on the idea of a new global division of labour. In order to map this new division of work, empirical findings of several projects show that there is a comprehensive picture about the re-organisation of business functions on a global scale since the beginning of the 1990s (Huws et al. 2003, Huws 2006). In order to understand this new dynamics of "global work organisation", the conceptual approach of the project investigates the business function as a unit of research, which is attributed to companies in the different nations. Thus, business functions i.e. software development, design or customer services are considered as part of the global value chains, and at the same time those function are incorporated into companies.

Both in the organisational and occupational case studies of the WORKS project, the companies are restructuring, because companies are the key actors in deciding which work is located where (Huws 2006). Here, at the level of companies, different forms of restructuring take place, which vice versa strengthen the position of different business functions on the global scale. In academic literature, there is general agreement about the growing dominance of transnational corporations, which continuously play an important role in defining and shaping working cultures, work styles and different types of work organisation.

One central finding of the EMERGENCE project [16], funded by the European Commission, is that there are several forms of restructuring processes that are difficult to analyse and quantify. "This is partly because of the rapid speed of change, including a change in ownership structure and/or control of many organisations. Lazonick identifies five forms that restructuring can take: buyout, outsourcing, relocation, downsizing and bankruptcy" (Huws 2006:18 ff).

Additional to those external restructuring processes, internal re-organisation of work routines, work pattern as well as work profiles takes place, whereby individual functions are transformed into separate costs or profit centres, or they are off shored as separate companies. One crucial aspect of these changes is the standardisation of many business functions, which are continuously combined with the digitisation of information and worldwide penetration with telecommunication networks.

Processes of commodification, standardisation and fragmentation of business functions already have taken place in some sectors i.e. the automotive and the clothing sector since the 1970s. Here, these processes were very much focused on mass production, but already with a multiplication of tasks and skills especially in the production sector. But as a consequence, the core activities strategically remained in the companies.

16 EMERGENCE stands for Estimation and mapping of Employment Relocation in a Global Economy in the New Communication Environment. The project was funded by the European Commission under the Information Society Technologies Programme (5th Framework Programme). For further information, see http://emergence.nu .

Since the beginning of the 1990s the observable trend is that an increasing number of activities are considered non-core. "The current trend of outsourcing of services can also be put in the historical perspective of growing specialisation and diversification of products and services, and thus on the shift of activities from the core to the periphery in the organisation" (Huws 2006: 21).

Whereas service and high skilled activities were formerly considered as core activities, which were undoubtedly part of the companies, in recent years "large companies are offering a range of back office functions to clients in both the private and public sectors, for instance in payroll administration, human resource management, design, publishing, costumer services and marketing" (Huws 2006: 20). The question whether activities are considered as "core" or "non-core" more and more becomes relative and must be described as such in relation to the strategic objectives of the companies, respectively in relation to the business functions. The fact that even skilled and high skilled activities also seem affected by information processing, digitalisation and networking, has led to the codification of knowledge and the ongoing process of standardisation of work.

Typically these restructuring processes are experienced by occupational groups and at least on an individual level by every worker. In order to investigate the impact of (global) restructuring processes on the individual level, on the base on a qualitative approach, occupational case studies have been conducted (see Chapter I). Hereby, research questions focus very much on qualifications and skills, work life balance as well as gender issues. "In order to understand the restructuring of value chains, a focus on workers' skills and knowledge is essential; this includes both an analysis of the role of 'creative' and managerial occupations in bringing about innovation and change and an analysis of the routinisation and deskilling of the work of those in older occupational groupings" (Huws, 2006a: 27). This scope of different occupations and experiences has been realised within the clusters of occupational groups.

1.2 Clusters of occupational groups

Based on the business functions identified for the qualitative research, corresponding occupational groups were selected, as explained in Chapter I (§5). The sample of occupational groups implies a variety of occupations in order to map managerial, creative as well as traditional working activities. Here, in order to show similar developments in certain occupations, occupational groups are aggregated into clusters.

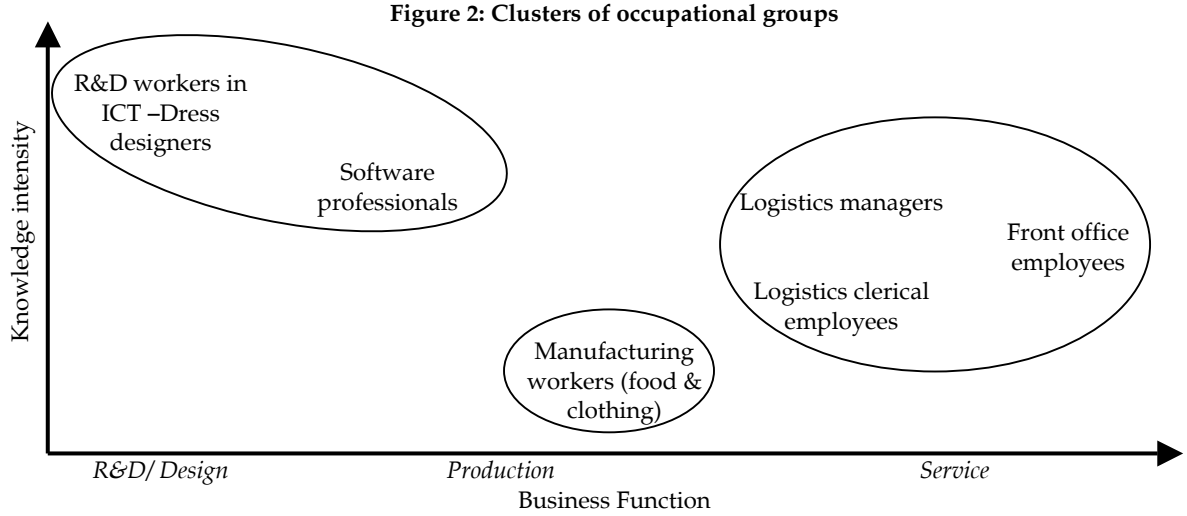
Occupational groups can be positioned regarding two criteria: their relative place in value chains and their relative knowledge intensity.

The place in the value chain can be located according to the sequence design – production – distribution – service, although several monographs suggest that value chains become less sequential and more iterative, including feedback loops from distribution and service to design, or shortcuts between production and services. In-depth analysis of changes in the value chains were carried out in organisational case studies, conducted in parallel with occupational case studies.

The knowledge intensity is a qualitative assessment, resulting from interpretation of individual interviews; in this study, we did not implement any measurement of the knowledge intensity.

In figure 2, the studied occupational groups are mapped according to the criteria of knowledge-intensity and business function.

Figure 2: Clusters of occupational groups



The first cluster includes ***knowledge-based (creative) occupations***. It consists of R&D workers in ICT, designers (fashion designers and technical designers), and software professionals [17]. There are several common aspects among those occupational groups, who can be characterised as creative knowledge-based workers, as far as creativity is understood in a broad meaning: aesthetical creativity, technical creativity, generation of IT knowledge.

The position of software professionals in business functions is different from their position in clustering of occupational groups, as they are both production workers (production of software) and service workers (customer-oriented and involved in service activities such as consulting or maintenance). However, the work style and the work performance in order to create products correspond to the other groups of this cluster.

The second cluster consists of ***manufacturing occupations***; it only contains the occupational group of production workers in manufacturing industries (food and clothing), characterised by a low knowledge intensity and a high standardisation of work processes.

The third cluster consists of ***service occupations*** (front office, back office and management activities). It collects office employees as well as managers in logistics and front office employees in public services. The first group represents different occupations in the service sector logistics; the second group implies employees of front office work [18]. Both groups of logistics clerical employees, logistics managers as well as front office employees in public services dedicate their main activities to service-based occupations. Logistics as well as customer relationships in public services got an increasing importance

17 The group of software professionals is already a merged group (professionals in software development and professionals in IT services for the public sector, as explained in the introduction of Chapter IV.

18 About the characterisation of front office and back office, please refer to the first section of Chapter VII.

through global restructuring processes. Actually, in the last years, they are facing enormous dynamic processes, which also have impacts on the occupational groups. Levels of knowledge intensity are different in this cluster. The monograph on logistics workers clearly distinguishes the knowledge issues for managers and clerical employees. The monograph on front office employees highlights very heterogeneous knowledge intensity, depending on the contents of the service relationship.

2. Occupational groups as a means for studying impacts of restructuring on individuals – empirical findings

2.1 Impacts of restructuring on changes in occupational groups

The empirical findings of the organisational case studies in the WORKS project have shown that restructuring of the global value chain has many expressions, e.g. outsourcing, off-shoring, closing down, internal reorganisation processes of companies. These different forms of restructuring can be detected in all sectors and branches in all countries. The restructuring processes have also an impact on occupational profiles and cause different developments, which are presented in this section.

2.1.1 Knowledge-based creative occupations

Dress designers

The dominant impact of restructuring processes for the occupational group of designers can be assumed as speeding up processes and a higher dependence of creative results on markets. In all countries, global corporations in the clothing industry set up the number of collections per year in order to increase the competitiveness. In the last years, this acceleration of production became a very important orientation for the branch. The occupational group of dress designers also had to meet these new demands in intensifying their work output on two levels: on a temporal scale and on the skill level. Therefore the sample shows a variety of individual strategies in order to cope with these demands, i.e. variety of career trajectories, from organisational careers to entrepreneurial careers, covering both salaried and self-employed status.

Their strong occupational identification as creative workers is threatened by structural changes in value chain of the clothing industry, notably the speeding-up process of the workflow and the broadening of skills. Nevertheless, designers still show a high identification and high subjective importance of work in their life course. The consequences of this new mode of work on the work life balance of this occupational group strengthen very much the differences between male and female designers.

R&D workers in ICT

Economic pressure, increased competitiveness and speeding-up of production cycles have created a shift from "research to market" in R&D activities. These processes are

relevant for R&D workers in all countries. The occupational group therefore has to broaden their skills significantly: language & communication skills, the ability for industrial application, management skills. Although the scientific background still seems characteristic for the working culture, the degree of market orientation within work differs between the countries. Describing the organisational differences it seems that, the higher is the need for market orientation, the higher is the change in work contents. Due to the broadening of the skill portfolio the proportion of women has increased, which has not changed organisational pattern, but to a certain extent the working culture. Here, many organisations of the sample offer attractive career paths and job opportunities (e.g. temporary employment abroad, possibility of travelling, career development), which are appreciated very much by the employees. In contrast to other occupational groups (e.g. designer), it seems that restructuring does not cause an increased work intensity, but the aperture of the occupation. Furthermore, it becomes apparent that for both, men and women, the job satisfaction seems very high.

Software professionals

The key words of restructuring are outsourcing (in the broad meaning of externalisation, not only in the narrow meaning of infogérance), mergers, and new international division of labour. An indirect effect of outsourcing is the increasing importance of non-ICT skills in the portfolio of competences of software professionals: relationships with other players in the value chain (partners, clients, purchasers) become more important, while purely technical tasks are often off-shored. Mergers can modify considerably the career opportunities, not only through upsizing the companies, but also through modifying the "company spirit", which is an important reference for software professionals. The new division of labour not only relocates technical tasks, but also responsibilities, and hence the career opportunities.

2.1.2 Manufacturing occupations

Although there are two sectors within the sample, the general trend is to relocate manufacturing processes either to subcontractors or to lower wage countries. This tendency affects the workers basically on the individual level. Through the increasing demand for flexibility and the globalisation processes, the feeling of individual insecurity and powerlessness seems very high, but depends on the institutional setting of the countries.

Generally one may state that these changes have strong influence on the occupational identity of production workers. Traditionally this identity was very much characterised by a homogeneous and strong worker's collective. Restructuring processes at a global level, however, appear more and more intangible for workers. Simultaneously public discourse strongly supports the necessity for global production. Thus the possibility of resistance seems to decrease for the workers as well as for the unions. Here, the normative dimension of globalisation slowly gains in importance in the subjective perception of the production workers. As a consequence, in all countries the former strong worker's collective is weakened, although it seems still determent for the occupational identity.

2.1.3 Service occupations

Logistics managers and logistics clerical employees

With regard to the relationship between restructuring and occupational changes, the sample does not result in a single organisational model. There are three different types of restructuring in the sample, off-shoring, privatisation and professionalisation, which have different impacts on occupational characteristics. In the Belgian off-shoring case, restructuring entails a downskilling process, as well as a high level of insecurity regarding the working conditions. These processes have frustrated very much the affected employees and destroyed the long trust-relationship to the company. The Bulgarian privatisation case impressively describes the process of social segmentation within the business function. The segmentation on the organisational level does reflect social inclusion and exclusion processes, which basically lead to feelings of satisfaction and disillusion. On the different levels the individual perception of these changes varies between the experience of challenges and losses of professional options. In the Dutch professionalisation case, logistic managers have to face a significant upskilling process, including a shift towards knowledge-based skills and qualifications. Here, the valorisation is appreciated very much by the employees.

Front office employees

The sample highlights three different types of restructuring, entailing quite different impacts on occupations: modernisation of public services, developing multi-channel service provision (contact points, call centres and online e-government services); privatisation of public services, including a new business model and a new style of customer relationships for "privatised" employees; outsourcing of customer relationships to private companies or public/private partnerships, with or without transfer of personnel.

In the first case, tasks and work organisation are changing, but not so much the occupational group, which has a weak occupational identity; workers identify themselves to the organisation rather than to the occupation; only new entrants express a new occupational identity of "service worker", less linked to the organisation. In the second case, not only tasks and work organisation are changing, but also the occupational identity, moving from a strong institutional identity to a weaker customer-oriented identity. Again, this trend is more perceptible among younger workers or new entrants. Older workers often perceive privatisation as a threat not only to their job security, but also to their occupational identity. In the third case, there is a dual segmentation between core workers and (outsourced) peripheral workers. Occupational identities are blurred. Transferred workers are "in-between" the former and the new organisational and occupational references. Peripheral workers do net feel included in the core occupational group of service employees.

2.1.4 Common transversal trends

The ***increasing economic pressure*** affects all occupational groups in different ways. The key words in these processes are speeding-up processes (designers), market orientation (R&D workers in ICT, software professionals), flexibilisation of production modes

(production workers, logistic employees), customer orientation as in market services (front office employees in public services). However, the impact has different meanings in the occupational groups: work intensification (design), broadening of skills and aperture of the occupational profile (R&D workers, logistics managers), high-level of insecurity (production workers, peripheral workers among front office employees), high-level of frustration (partly logistics clerical employees).

As a general trend in most occupational groups, these elements of change have created a tendency towards intensification of work. The question how and whether the occupational groups are coping with this tendency is presented in the sample by a variety of strategies. Hereby, qualification and skills (dress designers, R&D workers, software professionals), increasing individual commitment to work (designer, logistics managers), internal renunciation (logistics clerical employees), as well as business as usual strategies seems the dominant issue for individual strategies.

These changes take place within national institutional structures, determining specific features of labour markets, respectively occupational groups.

In most occupational groups, the economic pressure has created ***a new demand for skills and qualification***. In addition to its own professional features, each occupational group has to extend individual competences towards new skills. This extension of skills beyond the traditional occupational boundaries is very often transferred to the individual responsibility of the worker, through self-training or on-the-job training. Designers or ICT-researchers have to develop skills in marketing or management; software professionals have to develop skills in public relations; logistic managers develop a new professional work profile. Through these new demands, the identity of the occupational groups was partly affected. On the one hand the identity does not change, but new skills are integrated in the self-conception (designers, production workers), on the other hand, the development of new skills caused new occupational identities (logistics managers, R&D workers in ICT).

As a trend the increasing economic pressure is only partly weakened by organisational and institutional frameworks. In most occupational groups the ***economic pressure is transferred to social risks***. Collective bargaining power has been diminished in the case of manufacturing workers; logistics clerical employees also lost institutional protection.

In some occupational groups this delegation of risks towards the individuals can be described with a clear gender bias, especially when analysing the harmonisation of work and family life, i.e. dress designers, R&D workers, software professionals. The delegation of risks within career paths and career trajectories leads on the subjective level to stronger individual responsibility and/or management by the individual, especially in high skilled occupational groups.

2.2 Relations between business functions and occupational groups

The changing relationship between global restructuring processes and business functions is one of the main hypotheses of the WORKS project. The analysis of the relation between business functions and occupational groups is therefore questioning the changing profile of occupations as well as the changing identities in specific occupations. As shown by the empirical results, this relationship, however, seems interfere with organisations respectively the company. Therefore, the company still seems an important unit of

analysis, when qualitative aspects are explored (see WORKS synthesis report on organisational case studies).

2.2.1 Knowledge-based creative occupations

Dress designers

The occupational group of fashion designers, and to a lesser extent technical designers, has a particular position within the business function "design in clothing": they are "the" creative workers; they are artists. However, they must collaborate more closely with other occupations within the design function (model makers, prototype stitchers, textile engineers, etc.) and also with other business functions: purchasing, marketing, distribution and sales. The occupational group of dress designers seems squeezed between two trends: on the one hand, the performance of the business function relies on their creativity; on the other hand, they have to broaden their skills portfolio beyond artistic skills, to acquire extended business knowledge and to secure their position in the business function.

R&D workers in ICT

In the business function R&D, one may consider that the former homogeneity of R&D workers has diversified strongly. In cases of strong market orientation, new career paths (technical and managerial paths) have been especially developed. Thus the professional requirement for the occupation has diversified as well. The image of the occupational group changed profoundly through the integration of new work requirements. The development of new job profiles also led to a higher proportion of women in this business function.

Software professionals

The distinction between the business function "software production" and the business function "IT consulting" is increasingly blurring. The very "software factories" are now moving off-shore. In Europe, software production is being more integrated in a broader concept of software services, covering a wide range from consulting to development, customisation and implementation of software solutions. Software services are multi-client; that means that the specificity of the business function "IT service provision for the public sector" is lost; the public sector is only a market among others, however with specific rules.

A paradoxical consequence is that, although the software jobs are increasingly diversified (including the new Internet occupations), the occupational group of software professionals becomes more coherent. The overlapping and integration of formerly distinct skills makes the various job profiles more similar. The requirements and future trends are the same for consultants, analysts, developers, system or network managers, customer support engineers, etc.

2.2.2 Manufacturing occupations

Definitively production seems a significant business function of the value chain, which traditionally has changed very much during industrial relations processes. The business functions here can be characterised by a homogeneous occupational group in terms of skills, qualification levels, and attitudes towards work. In spite of different sectoral frameworks, the uniform picture of this occupational group remains the same. However, the institutional background of the production workers plays an important role in the workers' perception of restructuring processes.

2.2.3 Service occupations

Logistics managers and logistics clerical employees

The business function logistics does not show a single occupational group, but a wide variety of occupations within the business function. Logistics gets a growing importance in the global value chains. On different qualitative levels, new work profiles are currently unstable and evolving. Only the group of logistics managers is going to develop a collective occupational identity that is strongly connected to logistics.

Front office employees

Although customer relationships are really a business function in the value chain of provision of public services, this business function does not really correspond to an occupational group. Front office employees in public services do not endorse this occupational identity of being a "relational employee"; they refer either to an organisational identity, or to their former occupational identity before restructuring. Front office employees in public services are an artificially constructed occupational group, just because they carry out similar tasks, at a level of conceptualisation of their tasks. An employee of the Munich railway station, another in a contact point of the Walloon Region, and another in the call centre of housing services of the city of Vienna, will not feel to belong to the same occupational group. Front office employees are not an occupational group, but an occupied group within a business function.

2.2.4 Common transversal trends

There is a *methodological tension in the relationship between business functions and occupational groups.* A distinct correspondence between business functions and occupational groups cannot be confirmed by empirical evidence. On the one hand, some occupational groups may overlap several business functions in the value chain. This is the case of software professionals, covering consultancy, development, implementation and maintenance. Indeed, the occupational monograph (Chapter IV) covers two initially planned business functions: software production and IT services for the public sector. On the other hand, a very clear and identifiable business function, such as customer relationships in public services, includes a range of workers who, although performing similar tasks, do not really belong to an identifiable occupational group.

Moreover, the same business function, i.e. "production" may include very different occupational groups from one sector to another: i.e. production workers in the business

function "production" in the ICT sector have very few things in common with production workers in the business function "production" in the food sector. Material or immaterial production, production of goods or services, concern very different occupational groups, even if they represent the same segment "production" in a conceptual value chain.

In order to cope with this methodological tension, it seems that the sector as well as the firm are still relevant units of the analysis of occupations.

Some occupational groups are rather homogenous, because their occupational profile and individual identities at work can be characterised independently from national contexts or company features. This is the case of dress designers, ICT researchers, logistic managers, software professionals. In other groups, occupational profiles are rather dependent from company, sub-sector or country characteristics. This is the case of front office employees, whose profile is quite sensitive to the local form of business function restructuring. Although having a sub-sectoral identity in brewery or slaughtering, production workers present homogeneous occupational group transcending the heterogeneity of work situations.

2.3 Quality of work and quality of life

As described in Chapter 1 sect. 3.3, quality of work and quality of life are based on the following issues which were investigated in the case studies: job security and its absence; individual autonomy and control; status in employment; institutional support; flexibility in terms of work rhythm and working time; work life balance.

2.3.1 Knowledge-based creative occupations

Dress designers

The working conditions of designers differ between the countries. The economic pressure in the clothing sector influences very much the number of available jobs for designers; therefore, their career choices are often made of individual compromises. This pressure does not allow them to pursue simultaneously individual objectives of artistic creativity, autonomy, job security, commitment to work, optimal work location and quality of life. The case studies of all countries provide the impression that designers react individually to these circumstances. Either they react with commitment to the content of work (artistic creativity) or they decide to change the framework in which they work (freelancer position vs. stable employment). In the last case, it seems that the designers balance reasons, e.g. creativity against job security. Thus, the designers basically control their employment status.

Through restructuring processes, the speeding up processes play an important role in the clothing sector. In all countries, the designers had to confront an increase of work intensity as well as volume of work. The occupation has generally a high intrinsic motivation as regards content of work as well as on the level of public recognition (historical differences of this occupation between the countries). According to the self-perception of the designers, they seem generally very happy in their work. However, their work life balance often appears problematic, with regard to temporal overload, which affects significantly the private life of this occupational group.

R&D workers in ICT

Job security does not appear as a major topic in this occupational group, because of the high qualification of R&D workers and existing job possibilities in the IT sector. In all case studies a shift from research to market was observed which was actively experienced by the R&D workers and had consequences on time, density of workload, broadening of skills and individual expectations.

In all countries, the R&D workers are in stable employment positions, which influence very much the organisation of work routines. The institutional framework and its effects on these routines differ significantly between the countries. Although the working conditions are changing, quality of work seems rarely affected because of the intrinsic motivation of this type of knowledge-based work. The field of work has a strong research bias, therefore the occupation is highly recognised, both within the companies but also outside.

As a consequence, the self-esteem of this occupational group can be considered as high in all countries, which also reflects the active shaping of work-life balance. Quality of life is individually arranged along preferences and choices.

Software professionals

The job satisfaction seems rather high in the present time, but with incertitude about the future and increasing distrust in company management, notably concerning job security. Worldwide competitiveness however increases the workload, but most interviewees consider it as rather unavoidable on occupations based on project work.

Autonomy is a very appreciated feature, in the areas of individual work organisation, time management and learning. Autonomy is however framed by coordination needs, particularly synchronisation with off-shored tasks.

Working time flexibility is a general feature, but the concrete forms of flexible working highly depend on institutional settings at the company level or the national level. In worldwide value chains, synchronisation of tasks, and its impact on the management of work schedules, is a challenge for the quality of working life. Surprisingly, telework is not an issue anymore: either it is a banal way of working, or it is not considered as a structural solution for working time organisation.

The perception of the work life balance is generally positive among interviewees; autonomy and flexible arrangements can often compensate the high workload. The younger interviewees consider that their good income level allow them for a lot of leisure, even if they work hard.

The work family balance is more problematic, mainly for women. Few female software professionals have children. Work is considered to be too demanding to be combined with equally shared family duties. As a consequence, women with children must often renounce to some career advancement, and men with children are often the main breadwinners of their family. Even in institutional systems providing good childcare facilities, the support of informal childcare networks appears necessary.

2.3.2 Manufacturing occupations

Restructuring processes influence significantly the working conditions of manufacturing workers in all countries, especially in terms of job satisfaction and the feeling of security.

In those cases where workers were consulted and involved during the restructuring processes, the job satisfaction was positively affected. However, in most cases workers are not involved in these processes. Even through the introduction of technological innovations, in most cases the daily work routines remained the same for the workers.

Generally there is a contradiction between the formal (relatively stable) working conditions and the subjective perception of insecurity of the workers. Here, there is a clear difference between the Scandinavian countries and Southern Europe in term of institutional support.

Flexible production patterns increase the temporal constraints on the workers. They have to be widely available for companies' demands. In terms of quality of life, both regular and irregular working hours affect very much the efforts to combine work and life. Because workers have to respond to different fixed time schedules (public institutions, school, kindergarten etc.), they have to organise an "individual fit" to the different time regimes. Here, most of them rely very much on the help of spouses, relatives, friends and neighbours.

As a specific characteristic of this occupational group, all case studies describe strict boundaries between work and life in the cognitive perception of work-life balance. Due to the increasing feeling of insecure work places, quality of life has been very much affected by these worries. Usually the economic dependence to the companies is high. As a general result, production workers in all countries perceive their quality of work at a low level.

2.3.3 Service occupations

Logistics managers and logistics clerical employees

Global restructuring processes have affected very much the business function logistics, which also had consequences on the occupational group. The issue of quality of work differs strongly between the countries as well as the two employment categories within this group. In terms of job security there are differences regarding the qualification level of the employees in logistics and the institutional setting. The high dynamic of the recent developments in logistics have led to a specific occupational group, the logistics managers. For them, the quality of work is perceived as high regarding working conditions and work content, whereas the logistics clerical employees experience a significant decrease of the quality of work. On both levels, the institutional support differs between the countries with regard to working conditions.

Especially in the Bulgarian case, the political change leads to a double sided picture; privatisation strongly creates inclusion and exclusion processes, separated along qualification, ethnicity and professional involvement. For both managers and clerical employees integrated into the work process, the demands on work and work intensity increase. With regard to work-life balance, the focus shifts significantly towards work. From the perspective of the employees, these changes influence very much the quality of work and life.

Front office employees

Quality of work and quality of life are very different according to the three types of restructuring (privatisation, modernisation or outsourcing), and moreover highly depend on the institutional settings in each country.

Privatisation relies on cost saving strategies, translated by the companies in staff reduction and increased workload. Qualitative advantages inherited from the previous status of public employee are basically guaranteed, but continuously cut off. Much more than working conditions, job insecurity is perceived as a threat for the future

Modernisation entails less negative changes in quality of work, and the Belgian and Hungarian cases underline that front office employees are generally satisfied with their new working conditions, and that they often get more recognition of their work.

In the British case of outsourcing with secondment of personnel, changes in quality of work are generally considered as positive, thanks to a lot of negotiated provisions concerning job security, working time, flexibility, etc. Without such institutionally negotiated provision, quality of working live should probably have worsened. In the other cases of outsourcing, there is a clear differentiation of working conditions between core workers and peripheral workers; only peripheral workers are subject to job insecurity or precariousness, imposed flexibility, and reduced autonomy.

In the three types of restructuring, performance monitoring methods and systems are increasingly used and lead to growing stress and workload. In the case of outsourcing, performance standards for workers are included in the Service level agreements (SLA); it means that work organisation is, to some extent, defined by commercial standards imposed to the workers.

As regards work family balance, the institutional provisions of public services, partly or totally extended to transfer of privatised personnel, are considered as favourable to conciliation between work and family life. From the work standpoint, occupations are not too demanding, but time schedules become more flexible. From the family standpoint, various institutional settings (parental leaves, temporary part-time, schedule arrangements)

So, quite opposite scenarios are observed as regards quality of work and work life balance. It means that value chain restructuring is less a driver than managerial practices in each organisation.

2.3.4 Common transversal trends

Taking the restructuring processes into account two configurations of quality of work and quality of life can be encountered in the occupational monographs. On the one hand, some occupational groups are characterised by a rather high job satisfaction and positively appraised working conditions, but at the detriment of their work life balance, particularly the work family balance. On the other hand, other occupational groups are characterised by a low and decreasing job satisfaction, but also by a strict separation between work sphere and private sphere. All occupational groups experienced the effects of speeding up processes, the increase of economic demands and different reorganisation processes. Partly these effects have influenced the quality of work, respectively the quality of life. However the occupational groups deal very differently with these changes. Intrinsic motivation, high qualification and job chances seem important aspects of the quality of work of the knowledge-based (creative) occupations [19] which allows to

[19] As well as logistics managers.

maintain autonomy and participation in the own work biography. In many cases the content of work offers pattern of biographical identity for the work life balance. In a certain understanding external changes seem to be compensated with the work content. Based on this attitude the quality of life is created individually. Thus, the case studies in the different countries show a broad variety of work-life models in terms of division of labour between women and men, organisation of care work, individual preferences.

In contrast, the cluster of the manufacturing occupations has fewer opportunities to react and to participate in the mentioned change processes. Nearly in all countries they are not involved actively in these processes. External changes are perceived as threats by the workers, especially in those countries where the working conditions are already precarious. The subjective feeling of dependency from working places shapes the attitude towards these changes. Therefore quality of work is perceived as decreasing by the workers because of a further loss of autonomy and control. The quality of life is very much affected by the emerging insecurities on the level of the working place. The work life balance with regard to family usually follows traditional pattern in all countries. The way of combining work and family depends very much on women who have to deal with the temporal requirements of the company.

For the cluster of service occupations (except logistics managers), the development seems to be in-between the two extreme configurations. The appraisal of quality of work remains rather positive, except for peripheral workers in outsourced call centres, but there is an increasing concern about future job security. Privatisation, modernisation and outsourcing often lead to increasing workload and stronger performance standards. Again except for peripheral workers, quality of life is not so much threatened; the weight of flexibility becomes heavier, but institutional provisions keep such organisations attractive from the point of view of quality of life. Work and life spheres are generally not so blurred.

Considering the overall findings of the different clusters, the comparative analysis leads to three key results:

- In all occupational groups (global) restructuring processes affect the quality of work (and quality of life), which is incorporated differently by the occupations.
- The type of work, the level of skills and qualification, and the occupational identity seem the decisive aspects in managing these demands. The higher the quality of work, the higher is the scope of individual choices of present and future job biographies.
- Institutional factors play a central role in the experience of restructuring processes. Depending on their political orientation within national frameworks, they strengthen and/or weaken the effects for the occupational groups.

2.4 Country differences

According to the methodological approach of occupational groups (see Chapter 1), country differences should be neglected, because of the homogenous developments of occupations. The basic hypothesis of this approach is that technological and societal changes as well as the re-organisation towards standardised work processes strengthen very much the similarity of occupational groups. Therefore, country differences should play a minor role in defining change processes. Obviously, with regard to country

differences, institutional patterns (legal provisions and labour relations) as indicators for comparative analysis seem crucial, as shown in the developments of the occupational clusters.

2.4.1 Knowledge-based creative occupations

Dress designers

Differences related to the type and size of companies, and to the business segment in clothing (luxury, ready-to-wear, distribution oriented, technically specialised), are more important than country differences. Country differences essentially matter as regards institutional settings, which have very few influence on this occupational group.

R&D workers in ICT

The main difference between countries relies on the Scandinavian case and the Central European cases. The institutional setting does matter significantly in terms of working conditions, working time flexibility and family policy. As regards family formation, whereas a baby boom can be stated in the North, other countries show a stable or decreasing birth rate in this occupational group.

Software professionals

Country differences really matter, on several aspects. The practical implementation of flexible work forms is closely related to various institutional settings: labour legislation, negotiated agreements, but also more informal settings such as company culture, balance between individual and collective arrangements, etc. The labour market of software professionals is also quite different from a country to another: structure of the skills supply and demand, shortages, role of wages, gender imbalances, etc.

2.4.2 Manufacturing occupations

There are big differences between Scandinavian and the Southern European countries with regard to the institutional framework of working conditions. Whereas in the Nordic countries issues like ergonomics, health and safety, unemployment policies contribute to a better worker's integration, in the Southern countries institutional framework does not absorb social risks.

In terms of work life balance, workers in Southern European countries still rely very much on strong family networks. However, in the Northern countries, institutional support seems much more important for the harmonisation of work and life.

2.4.3 Service occupations

Logistics managers and logistics clerical employees

The sample highlights very much the differences between countries of Western and Eastern Europe. The political transformation process of Bulgaria, with its shift towards capitalistic production pattern, influences very much the work reality of the occupational groups. The Dutch case study represents to a high extent the shift towards post-industrial

societies, which has been described in literature as knowledge-based intensive and highly specialised sectors.

Front office employees

Country differences are an essential factor to understand the choices made among the various types of restructuring, the organisation of the transitory settings of the restructuring process, the changing terms and conditions of the employment contracts, the perception of the role as front office employees, and the future employment perspectives. The case studies do not allow drawing country models (neither North/South nor Western/Eastern). At the contrary, it can be supposed that the three types of restructuring coexist in almost all countries, but with different degrees of priority according different areas of services of general interest.

2.4.4 Common transversal trends

Country differences matter at different levels of relevance: institutional settings, organisation of the labour market and political background (Bulgarian case).

Institutional settings, which mainly include, legal provisions and labour relations, are relevant in several areas: working conditions, conciliation between work and family, access to training. Regarding country differences in a comparative perspective, there are significant differences with regard to supportive elements towards working conditions in all occupational groups. The impact of restructuring processes is weakened in those countries (Northern Europe), whereas in other countries (Central and Southern Europe) the impacts have to be compensated by the individual workers.

The conciliation between work and family is closely linked to the availability of caring infrastructure in the Scandinavian countries. In other countries, traditionally the combination of work and family is based on the wider family structure. This structure is eroding in some occupational groups, i.e. designers (Portugal), production workers (Italy).

Access to training and skills development are areas where institutional settings are overall weak across Europe, leading to an individualisation of employability.

The organisation of the labour market, including transition from education to employment, management of skills shortages, conversion schemes in case of restructuring, play an important part, even in sectors where other institutional regulations are weak, i.e. ICT sector.

With regard to the political background, there are expected differences related to the Western and Eastern divide. Due to the important political changes institutional pattern are focused very much on economic processes, whereas in the Western countries, institutional pattern are implemented for a long time. Generally institutional patterns still play a central role in shaping the working conditions of all occupational groups.

3. Changes in occupations: a comparative perspective

3.1 Knowledge-based creative occupations

The comparative analysis of the clustered knowledge-based creative occupations highlights several key findings:

a. Work plays a central part in individual identities and has a high subjective importance in their life.
b. Knowledge-based creative occupations are increasingly squeezed between creativity and market pressure.
c. There is a common trend in broadening the skills portfolio beyond the core occupational skills.
d. The results draw a moderate picture of the trend in standardisation.
e. The occupational labour market responds to a competence-based model, rather than on a classical professional model.
f. The position of creative workers in sequential value chains is increasingly blurred.
g. Within the cluster, the institutionalisation process of the different occupational groups is ongoing, but reveals with some weak points.

(a) In creative occupations, ***work plays a central part in individual identities*** and has a high subjective importance in their life. Other key words are related to this central place of work: autonomy; expertise and capacity to put knowledge in practice; continuous learning process; importance of social relationships at work, even if the creative work itself might be lonely; permanent need for recognition by both managers and peers. These features are described with more details in the monographs concerning these three occupational groups. As regards the various models of occupational identities, described in the theoretical framework of the WORKS project (Vendramin & al., 2006:134-135), identities observed in the three occupational groups are in-between the "negotiation" type and the "affinity type" of identities in the Sainsaulieu's model.

(b) Creative workers such as designers and researchers are increasingly ***squeezed between creativity and market pressure***. Creativity is positively valued, as related to autonomy and inventiveness, while market pressure is often perceived as a constraint, restricting creativity. The balance is however not so worse. For ICT researchers, the market orientation opens new career possibilities in research management or interfaces between R&D and users; for dress designers, in management of collections. In software services, some authors identify a trend to "co-production of knowledge" by both software professionals and users (Bouchez, 2004).

(c) Occupational monographs also highlight a common change in "professionalism", in the meaning explained in Chapter I, i.e. a set of competences of an occupational group at a moment of its process of social construction (Demailly, 2004). This change is the trend in ***broadening the skills portfolio beyond the core occupational skills***. Dress designers have

to extend their skills towards understanding industrial requirements, or negotiating with marketing or sales professionals. Managerial and communication skills get an increasing importance for ICT researchers, as well as for software professionals.

(d) Studies of creative workers often raise the hypothesis of increasing standardisation of knowledge, relying on codification of knowledge and leading to "tradeable" and "commodified" knowledge, as a consequence of global value chain restructuring (Huws U., 2007). According to this hypothesis, the standardisation process extends the range of codified knowledge and reduces the range of tacit knowledge, making codifiable some pieces of tacit knowledge, such as artistic or communication skills. Our occupational monographs of creative occupations draw a more ***moderate picture of the trend in standardisation***. In software development, where the best opportunities for knowledge codification could be expected, there is indeed a trend in standardisation of methodologies for consultants, analysts and programmers, but this trend is partly counterbalanced by an increasing need for customisation of software services, and more generally any ICT services. The consequence is rather a new division of labour between standardised work, often off-shored, and customised work. In dress design, some fashion designers fear that ICT tools deprive them from artistic creativity, or that market pressure reduce their creativity space. While this trend might be confirmed is "mass-clothing" design, the importance of creative work and non codified skills is displaced towards other segments of the dress market: specialised clothes, luxury fashion, top end of ready-to-wear, etc.

(e) The labour market of creative occupations does not correspond to the classical model of professional labour market. A professional labour market relies on well-defined occupations related to institutionalised training schemes, work contents independent from organisations, and qualifications transferable between organisations (Eyraud & al., 1990). A professional labour market also relies on permanence of knowledge, in order to allow for formalisation and standardisation of corresponding skills. Recent studies of ICT occupations, as well as our monographs on ICT researchers and software professionals, suggest that these occupations, respond to another model, named ***competence-based labour market***. Other occupations of creative workers, such as the occupational group of dress designers, also respond to this model. A competence-based labour market is defined by two main characteristics. On the one hand, occupational skills are linked to the individual and do not consist of a stable corpus of knowledge; they are acquired in multiple combinations: diplomas, on-the-job training, professional experience, lifelong learning. On the other hand, recognition and valuation of such skills highly depend on the ability of individuals to "sell themselves" either on the internal labour market of their organisation, or on external labour markets (Fondeur & Sauviat, 2003, p. 121). Occupational trajectories described in the occupational monographs on designers, researchers and developers correspond rather closely to this model of competence-based labour market, as also suggested by other studies of knowledge workers (Bouchez, 2004).

(f) A consequence of structural changes in the value chain is a ***blurred position of creative workers in a linear sequence design – production – service***. This linear sequence is questioned by restructuring. Although the core skills are still well defined by a position in the value chain, broadened skills cover a wider scope. For example, dress designers are

increasingly included in feed-back loops between design and industrial prototyping, or design and sales; the continued renewal of collections according to sales figures has a strong influence on the pace and scope of creative work. Still more significant are the cases of ICT researchers and software professionals. In the initial WORKS planning of occupational case studies, three occupational groups were selected, precisely according to the linear sequence design – production – service: researchers in ICT, software production workers and IT consultants for public services; production was implicitly considered as the application of R&D, and consultancy as the commercialisation of software products. This linear model appears as non relevant. ICT researchers are increasingly involved in product development or services to clients. The boarder between software professionals and consultants is so blurred that we needed to merge them in a single occupational group. Moreover, the concept of "production workers" in software is not adequate, as they are indeed service workers, as much close to customer requirements as consultants.

(g) The ***degree of institutionalisation of occupations*** can be assessed as regards the three criteria proposed in Chapter I for the definition of occupational groups. Respectively dress designers, R&D workers in ICT and software professionals may be considered as institutionalised occupational groups, reveals some strong and weak points:

- A similar place in the technical and social division of labour, and a coherent set of work contents, regardless the company or the country: this is the case of all three groups.
- Sharing, to some extent, a subjective collective existence and similar meanings of work: in the three cases, the occupational group is indeed both a way of defining oneself and a social process.
- Developing a specific and collective capacity of intervention in the social field: this is the weak point. Community practices do exist in each occupational group: researchers meet in scientific events and belong to scientific communities; designers take part in fashion events and are recognised by peers; communities of practices are rising among software developers, either company-driven or on a voluntary base. These are however "weak" collective capacities, leading to few intervention in the social field. The potential role of professional associations is not mentioned in the occupational monographs and did not appear as significant in the individual interviews. The unionisation is very weak in all three occupational groups. Institutional recognition is however acquired, but not strong.

3.2 Manufacturing occupations

For the occupational group of production workers in the food and clothing sector the following key findings can be summarised:

a. Through global restructuring processes, workers' collective is changing towards a weaker position in bargaining processes.
b. Although technological innovations change the demands of knowledge and skills, this development basically does not influence daily working routines of production workers significantly.

c. Generally the subjective satisfaction in the job remains low; furthermore due to restructuring the workers have to integrate new aspects of subjective frustration and insecurity into their working life.
d. Due to organisational pattern the temporal intensification of work is rising.

(a) Workers in both sectors traditionally present a strong collective identity and express their occupational solidarity as blue-collar workers, although they may also have "second order identities" in brewery, slaughter, catering, sewing, etc. Unionisation and collective feeling are traditionally strong, but become increasingly weakened through restructuring processes. As regards Sainsaulieu's model of occupational identities, this occupational group clearly illustrates the fusion type of identity and its development into a community form of identity (Vendramin & al., 2006:134-135). Through restructuring processes at the sectoral and company level, workers' collectives are ***changing towards a weaker position in bargaining processes***. The main threats identified in the occupational monograph are the fragmentation and weakening of workers' collective; the risks of increased individual competition among workers; the weakening of unions and their bargaining power.

(b) In contrast to knowledge-based occupational groups, technological changes do not change qualitative aspects of work. Although the technical framework of production work has an influence on the working profile, upskilling processes with higher salaries and higher qualification demand do not result from these changes. Therefore ***working routines do not change***. In the subjective dimension challenges of work are perceived as very low.

(c) Also in relation to job satisfaction the difference to knowledge-based occupational groups is significant. Through restructuring the ***subjective satisfaction in the job remains low***, as regards job security, wages, content of work, participation, future perspectives. This occupational group is deeply affected by strong impacts of restructuring on employment, outsourcing, flexibility, which has especially effects on the perception of job security.

(d) Under increasing pressure of the employers and other linked companies in the value chain (suppliers, subcontractors, etc.), the ***temporal intensification of work is rising***. The increasing intensification on the level of the individual worker reflects the increase of productivity of the organisation. This increase in productivity seems the key argument in defending the global market competition in the organisational, the political and public discourse. Through the normative power of this discourse, counter-arguments in favour of working conditions oriented on the human dimension become obsolete. Therefore, most of the negotiations between the specific unions of the production workers agree basically on the objectives of the employers.

3.3 Service occupations

The comparative analysis of the clustered service occupations highlights several key findings:

a. Organisational identities are often more important than occupational identities.
b. There is a wide variety of education and training levels, often not directly linked to the occupation.
c. Until now, service work itself does not define an occupational identity.
d. Ongoing restructuring of the concerned business functions (logistics and customer relationships) could lead to emerging occupational identities.

(a) In both clustered occupational groups, ***organisational identities*** are often more important than occupational identities, because occupational identities are rather weak. Front office employees in railway, post, public administration or municipalities identify themselves to the organisation they belong – or they have belonged, in case of transfer of personnel. These organisations were characterised by a high level of collective solidarity relational interactions, but current restructuring splits them in smaller and separated groups. Tensions can arise between new entrants in the occupation, who have less adhesion to the former organisation, and older workers, who remain attached to their former organisational identity: it is the case of several postal, railway and municipal employees in the sample. The case of new workers in outsourced call centre is rather different, as they have a more instrumental relation to work.

The logistics occupational group gathers two types of identities. Technical and administrative employees, as well as managers who got their position through an organisational career, have a stronger organisational than occupational identity. However, managers who enter recently the business function, with degrees from higher education in management, engineering or logistics, develop a new occupational identity, directly referring to the logistic activity itself, rather than to their function in the organisation.

(b) In both occupational groups, the ***variety of educational background and skills levels*** is very wide. Occupations are not directly related to degrees or training schemes, but to a role in an organisation. For example, entry routes into the occupation of front office employee in customer services are very diversified, and not determined by an initial background; there are very few "strategic" career paths, and a lot of career paths depending on involuntary reorientations, chance or opportunities, labour market accidents, detours in personal life, etc.

(c) Back to the definition criteria of occupational groups proposed in Chapter I, front office employees in customer relationships cannot be really considered as an occupational group. The direct service relationship, which is the only common definition of their tasks, is until now not sufficient to define a common place in the technical and social division of labour. This definition is moreover artificial, it is constructed a posteriori by the researcher and not yet shared by the employees. Their occupational profile is quite sensitive to the organisational and local contexts, and therefore quite not independent from organisations and countries. Their occupational identity is still weak, while their organisational identity remains stronger. In several cases, they have a collective capacity of intervention in the social field, but linked to their organisation and not to their occupation.

(d) The future of those service occupations is still open and need further research. Both business functions (logistics and customer relationships) get increasing autonomy and economic identity through global restructuring processes; they are emerging as separate

business functions. Does this economic emergence also lead to ***emerging occupational identities***? The answer is different for each occupational group.

For front office employees in customer relationships, the findings of the occupational monograph suggest that a new form of identity is slowly emerging, mainly among younger workers and new entrants, and might become the "cement" of the group: the customer service identity, characterised by the service relation and the role of clients in the recognition of occupations, as suggested in Chapter I while commenting Abott's theory of occupations. The emergence of this service identity however depends on the extent to which the tasks are fragmented. Taylorist forms of organisation of customer services, leading to standardisation and deskilling, are not favourable to structuring a customer service identity.

Logistics employees could be considered as an occupational group under construction. Their set of common tasks and the new place of their business function in the technical and social division of labour are getting coherence. The better socioeconomic visibility of the logistic function can reinforce their subjective identification as logistics workers, which can be a symbolic improvement as regards their former occupational classification. The case studies describe that there are able to defend collectively their specific occupation. For logistics employees, the achievement of a specific occupational identity is linked to advances in the recognition of logistics as an industrial sector, including on the one hand, a renewed classification of occupations, and on the other hand, sectoral forms of business organisation, employers' and workers' representation, bargaining structures, training structures and other institutional features.

For both groups, the achievement of a real occupational identity highly depends on the institutional context.

4. Gender dimension in occupational groups

The integration of the gender issues into the WORKS concept is based on a broad conceptualisation of gender, which is useful both on a structural level for the quantitative work as well as for the qualitative work (Gunnarson & Balkmar, 2006). One central aspect of the conceptual framework of gender is to incorporate elements that make visible the relation between paid and unpaid work in society. This relation represents the relation between the productive and the reproductive sphere, which – according to the gender approach – always is reflected together. The idea of the concept is to highlight different structural and normative frames that are restricting women's (and men's) spaces of action. Gender contracts are expressed on different levels: on an overall structural level in society in the relation between paid and unpaid work; at the work-place, in the vertical, horizontal and time sex segregation; and within allocation of work tasks within the family (Gunnarson & Balkmar, 2006). Using qualitative indicators of gender segregation in the labour market shows the degree to which care for children and elderly persons is solved within the enlarged family. This structure is still usual in many European countries. Basically national differences provide informative 'locally situated' frames for understanding gendered meanings and local variations of spaces of action for women and men. Here, the institutional and social framework has to be involved in order to understand gender relations in changing societies.

With regard to gender issues in the occupational groups, qualitative indicators have been evaluated, which deal very much with the individual spaces of action on the level of workplace but also on the level of work life balance. The level of workplace offers three levels of analysis: individual, organisational and societal levels, which interact with each other. The relations of power between the sexes are central for understanding gender on all three levels. Therefore relations of power are expressed implicitly or explicitly by these structures as well as by individuals, which have been analysed carefully.

Here, within the occupational approach, indicators for this relationship are the possibility of participation within the restructuring processes, participation in further training programmes, the use of temporal flexibility, and individual strategies according to work life balance.

Before entering into thematic subjects, specific gender issues of occupational groups are presented in order to provide a general overview of these gender relations.

4.1. Specific gender issues in occupational groups

4.1.1 Knowledge-based creative occupations

Dress designers

As it is described in the monographs, the impact of restructuring on this occupational group deals very much with speeding-up processes and high workload. This has significantly influenced the organisation of working time. The current demands in design require long and flexible working hours related to the increase of the number of collections per year.

The following aspects characterise notably the gender dimension of this occupational group. The high professional demands cause clear individual decisions as regards the life course. This decision refers to male as well as female designers. However, the difference between male and female designers emerges in the case of family planning. Whereas the combination of work and life does not cause major problems for men, for women this combination is much more difficult. Female designers have to find individual models to combine both spheres. These individual models of the combination of work and family depend very much on national characteristics, i.e. a strong family structure in Southern Europe, institutional support in France, high level of childlessness in Germany.

The occupational demands can be considered as so restrictive for women that they have to take clear decisions in favour or against a professional biography as designer. If they take the decision in favour of work, it seems that the creative part of the occupation gives them a meaningful life.

Generally, the occupational group provides a highly individualistic picture, which is closely linked to artistic and creative living models.

R&D workers in ICT

Taking into account that the ICT sector is already considered as an established sector, the impact of restructuring refers very much to the shift to market orientation and widening of skills on the level of qualification. Whereas in the last decade this sector was characterised by a male working culture because of its high technical components, the

shift towards market resulted in a higher proportion of women in all countries. With regard to working time, high disposition for job performance and high technical skills, the occupational group, however, can still be characterised by a "male working culture".

Although the i.e. Norwegian institutional framework provides temporal flexibility to the employees (part-time, parental leave, sabbatical), mainly women take advantage of these possibilities. Here, female Norwegian R&D workers realise the combination of family needs and high professional demands. In the other countries, female R&D workers adapt themselves more or less easily to these circumstances and organise their work life balances along the given working structure and individual arrangements. This development is widely assessed as a cutback of gender differences in this business function. However, the case studies show that the demand for high individual performance creates strong restrictions to the individual conduct of life, e.g. strong orientation on the professional career and neglecting of family life.

Software professionals

The gender gap among software professionals is not only due to gender segregation in work organisation and human resource management. Obviously, occupational trends such as increasing or unpredictable flexibility and pressure to self-training are not favourable to women's work, but they are not worsening the existing gender gap. The gender gap has multiple causes: gender disparities in curricula and diplomas of higher education in ICT, which create imbalances in recruitment; the image of ICT occupations, which are traditionally not made attractive for women; the masculine computer culture, for which not only companies are responsible, but also the media and the fiction.

It is worthwhile to highlight that most of current campaigns for gender equality in ICT professions, led by either women organisations or public institutions for equal opportunities, focus their efforts on the image of the occupation, as a root of the gender gap in education and training, employment and careers.

Restructuring often entails a broadening of the skills portfolio towards communication, team management and project management; strong technical skills are however always required and must be continuously updated. Although skills in communication and teamwork are often considered to be likely to improve women's place in software occupations, such changes were not yet observed.

As regards training opportunities, there is a widespread complain concerning the mismatch between employers' requirement of continuous skills update and the effective training opportunities given to the workers, and a strong focus on self-training (including individual e-learning). Self-training increases the time pressure on women, who have generally much less free time than men.

Time flexibility is a constraint for the work life balance and the work family balance, both for men and women, but the constraint is higher for women if unequal share of household tasks. However, the way women can handle time flexibility highly depend on two factors: their degree of individual autonomy in their own work organisation, related to organisational settings in companies; the existence of appropriate care infrastructure, related to institutional settings in society.

As a consequence, choices in work life balance are strongly individualised and are linked to individual arrangements, as well at work as in the household network. In this

area, this occupational group presents several similarities with dress designers and ICT researchers.

4.1.2 Manufacturing occupations

Generally, restructuring in production caused an increased level of insecurity for female and male production workers. In production work there is strong sex segregation both in the clothing sector and in the food sector. This segregation refers not only to the whole sector but also to specific working tasks i.e. packing (food sector) or sewing (clothing sector). Although technological changes are regarded as new opportunities for gender equality, empirical evidence shows the persistence of gender segregation in this business function. This division of working tasks still leads to further job discrimination of women (job opportunities, salaries). Men are usually chosen for new technical functions along the assembly line.

With regard to work-life balance, the organisation of family life is based on the male breadwinner model. In both sectors and all countries, this is still the most common model, in which women have to carry the burden of combining paid work and domestic work. Even temporal flexibility of production work has to be combined with family duties, which is principally done by women. Very often these demands are experienced as exhausting and tiring.

4.1.3 Service occupations

Logistics managers and logistics clerical employees

In all case studies, the restructuring processes caused a differentiation in the business function logistics. This differentiation led to the development of valorisation and devaluation of tasks, which had different meanings on the gender development on different levels. On the level of logistic managers, the proportion of women is very low, whereas the proportion of women in clerical positions is high. Historically the branch logistics is dominated by male workers, which has not changed through restructuring. However it becomes apparent that mainly women are affected by down-skilling processes.

In the case studies, the male breadwinner model seems the dominant model of gender arrangements. Because of the high proportion of men in this business function, the work organisation has been historically developed according to male-oriented occupational groups. In this aspect, differences between countries seem impressive. Whereas in the Dutch case study the male domination slightly becomes a topic of negotiation (time flexibility), the Bulgarian case shows an increase of gender segregation (traditional division of labour).

Comparing the three case studies, the gender relationship in the work process seems very much dependent on institutional policies. For example, the Bulgarian change of political system hints on the rapid deterioration of the female working and living conditions.

Front office employees

This artificially constructed occupational group is quite heterogeneous from the point of view of gender distribution, gender relations or gender models. Gender issues are more closely related to organisations, than to occupations.

Some types of restructuring have an indirect influence on gender relations. Privatisation (German and Swedish cases) entails the development of commercial relationships and a growing share of women in front office tasks, as well as career progression of women up to middle management. In "dual" outsourcing processes (core and periphery workers, in the Austrian and Italian cases), women are clearly trapped into peripheral employment, while the British case of outsourcing with secondment did not change so much the gender relations, as well as the Belgian and Hungarian cases of modernisation. The case studies raise questions such as: are there gender roles in "emotional work" in customer relationships? Is there a gendered skills bias in relational skills? However, they do not provide enough material to develop these questions further than already made in the occupational monograph.

Participation in lifelong learning also relies on specific organisational contexts, rather than on occupational features. Access to training is better and easier in (former) public services, which have a training tradition and an official concern for equal opportunities; in outsourced call centres, training opportunities are low for both men and women.

Time flexibility, when regulated such as in public administrations or former public services, may be favourable to the combination of work and household tasks, paid and unpaid work. Several female interviewees stress that it was one of the advantages of working in public organisations. However, the increasing market pressure tends to a weakening of these advantages.

Anyway, the gender features mentioned in the case study reports have much more explanatory factors at the level of the organisation itself, than at a wider occupational level.

4.2 Common transversal trends

As described in chapter 1, the methodological approach of the WORKS-project defines the occupational groups as means for studying impacts of restructuring on individuals. Thus, the analytical focus has been developed from the perspective of business functions, respectively organisations. In order to reflect changes on the level of business functions, the methodological approach requires the comparison of different occupations in different countries. Gender relevant topics, which have been analysed in the general empirical findings, are presented according to the following thematic issues: work culture, skills and qualification, and work life balance.

4.2.1 Individual performance beyond occupational work culture?

In all clusters, knowledge-based (creative) occupations, service occupations and manufacturing occupations provide a specific perspective of gendered working cultures.

The male working culture takes particular shapes in ***knowledge-based creative professions***, in which work has a central place in individual identities, and daily life is dominated by the structures of work. As analysed by Krings in a research on women in

multimedia occupations, "the domination of daily life by the structures of work has resulted in a suppression of vital processes for nearly all the women interviewed (the two exceptions, interestingly, were women with children). (…) Adopting the traditionally male labour model is rarely a matter of reflection and is generally seen as the only possible way of life." (Krings, 2007, p. 101). Such attitudes towards work and work life balance are particularly encountered in the occupational monographs on designers, R&D workers in ICT and software professionals. Interestingly trends towards the strong orientation of women on professional biographies can be observed in all countries. Depending on the national institutional pattern, the variety of working and living models differs strongly. When different cultural and institutional settings foster working cultures, including more equality between men and women, renunciations of family life are less frequent on the female side. Even in the Scandinavian countries mainly women are making use of family supporting measures like parental leave, sabbatical etc. As the material shows men generally do not change their attitude towards work and domestic tasks as well as family duties.

The working culture of ***manufacturing occupations*** remains basically in the traditional division of labour between the sexes. Here, changes of work maintain the segregation structure of women and men within the companies. In production work tasks have gendered connotations of working functions. In private life, the classical role model dominates the division of domestic work whereas women carry the main responsibility for children care and family support. This development is the same in all countries.

Interestingly in the ***service occupations***, namely in logistics, a traditional male working culture is prevalent, because of the historical development of the branch. Only in office work the proportion of women is high.

Among front office employees in public services, the work culture is mainly that of the organisation the workers belong to: post, railway, regional administration, and municipal administration have distinct work cultures. The work culture of post<u>men</u> and railway<u>men</u> was obviously gendered, but things are evolving slowly with the feminisation of the workforce and the increasing focus on commercial relationships. Only recently recruited front office employees do not always share the culture of the former organisation and they identify themselves as service workers, pointing out the service relationship rather than the belonging to an organisation. In this case, the "service" culture is often associated to tacit skills of women.

In the comparison of the gender development in the different clusters, one may conclude that in the knowledge-based cluster, gender relations are in motion. As also described in academic literature, the female integration into skilled and high-skilled occupations has changed the attitude towards the traditional division of labour. Work provides self-fulfilment, identity, autonomy and at least the possibility to choose the own biographical way. In those countries where these attributes are positively reflected in the institutional framework, the choice between work and family seems not that restrictive.

In the manufacturing cluster, the traditional perspective of gender relations remains the same. Because of the increasing pressure on the workers, the feeling of insecurity and powerlessness grows. Whether and how these feelings are reflected in life by men and women has to be evaluated in further research.

Concerning office employees, the gender dimension of the work culture is quite different according to the type of organisation. The emerging "service" culture, which

might become transversal to the whole occupational group, can counterbalance traditional features of the male work culture.

4.2.2 Skills and qualification as means for empowerment?

In the cluster ***knowledge-based creative occupations*** the trends towards the orientation on markets has changed the skill requirements. In the occupational groups R&D workers in ICT, designers as well as logistics managers, there can be stated a widening of skills (see monographs). From a gender perspective this widening offers new job chances especially for women in the ICT branch. The range of activities has been extended by managerial, language and communication skills. Therefore, the occupational profile changed significantly. In the case of designers, technical skills (software programs, knowledge about production processes and new materials) became an important part of the skill portfolio and had an impact on the workload. In the case of software professionals, non-technical skills (project management or team management skills, communication skills) got an increasing importance. This trend is characterised as more favourable to women, who often have a broader skills portfolio than men, as they often have a twofold educational background.

In these occupational groups, successful qualification and further training measures are based on the self-commitment and self-responsibility of the employees. Therefore, the subjective involvement into new professional demands has a high importance and shapes the relationship between work and life.

In the cluster ***manufacturing occupations,*** the technical industrialisation continues steadily. In both sectors food and clothing, it seems that the standardisation of work processes is going on, which affects the work of men and women similarly. Through restructuring traditional tasks eroded to certain extent, which could offer new job chances for women. However, the traditional division of tasks remained and rather men were chosen for new technical tasks. Thus, existing gendered stereotypes of the division of tasks in production work have been reproduced, i.e. men's work has been upgraded by heavy and technology-based tasks, whereas women's work seems to be transformed in more simple and repetitive tasks.

Generally there are few training possibilities in production work for both sexes. But, if the company offers training programs, usually men are participating. For women it seems extremely difficult to take part in these measures, because of domestic work and family duties.

These difficulties regarding the participation in training activities also can be observed in the cluster ***service occupations***, respectively female clerical employees in logistics. Especially in the Bulgarian case, where capitalistic economic structures were introduced, the creation of gendered division of work becomes obvious; due to the female responsibility for family duties it became nearly impossible for women to take part in training measures, which could have offered new professional chances. The picture of front office employees is more contrasted. In former public services and public administrations, the long-standing tradition of open access to training is not disappearing, but weakening under increasing market-oriented pressure. In outsourced services (call

centres), there is a strong gender segregation in employment status, and the most precarious status are clearly disadvantaged in access to training.

Having a look on the differences between the clusters, qualification and skills offer clearly new options and chances for professional paths. In high skilled occupations, the responsibility for further career development relies in the individual engagement, whereas the low-skilled occupations depend very much on organisational supply of training. Qualification and skills seem extremely important to enable men and women to extend their scope of action. Women in high-skilled occupations hereby, are much more independent in choosing their individual biography. Women in low-skilled occupations are affected in a double way: first from the position in the company and second from their family involvement. Their scope of actions is therefore limited. This picture is reflected in all analysed countries.

4.2.3 Work life balance towards domination of work?

In the cluster of ***knowledge-based creative occupations***, the topic of work-life balance has been approached along the indicator of time. As also examined in a huge body of international literature, the temporal organisation of work and life has been transformed through new models of organisation at work. Project and team-oriented work, and work organisation according to results, shape very much the increasing blurring of boundaries between work and life. The results of the academic debate are very much reflected in the empirical findings in the occupational groups. Whereas men's biographies seem to remain stable, the identity of women tends to orientate towards professional biographies. Through the possibility of individual choices, in all countries the 'classical' female role is eroding. Therefore the sample offers a plurality of working and living models in female biographies: living with partners, living with family, living alone, living and working in two different locations etc. These considerations are found in all countries, although cultural and institutional patterns play an important role within these models.

The cluster of ***manufacturing occupations*** offers a different picture. The boundaries between work and life are formally separated. But also in the subjective dimension of work, the separation between work and life is expressed strongly. Conciliation between work and family can be made increasingly difficult because of organisational options in flexible work schedules, at the company level. Flexible or atypical schedules (shift work, twilight work, and irregular working hours) lead to contradictable situations in households, which especially affect the work-life balance of women. Through the flexibilisation of working time, the lack of adaptation of social infrastructure has to be compensated individually. In most of the countries where sufficient caring infrastructure and services are not available (like Southern Europe), the pressure of flexibility on conciliation leads to individual renunciations and family backing, which are mainly supported by women. For other countries characterised by strong institutional regulations (like Scandinavia), the individual responsibility of production workers is nevertheless high with regard to the conciliation of work and family life.

Due to time restrictions, also regular social activities as well as hobbies etc. very often cannot be accomplished by both sexes. This aspect hints at the subjective dimension of work-life balance of these workers. As described in the monograph, generally the job

satisfaction is very low. Because the content of work does not provide a meaning for their lives, the priority of individual engagement lies more on the social environment and family life. Through restructuring flexibility demands make it more difficult to respond to these needs. In order to reflect the gender dimension of this development, further qualitative research would be needed.

In sum, the broad variety of occupational groups shows that the line of separation according to family planning and care activities goes along the difference between men and women. On the part of women, there is a need for action and creation of the daily combination of work and family life. Interestingly, the different occupational groups offer a broad range of working and living models on the base of individual female decision making processes.

The low-skilled occupational groups represent traditional ways of division of labour between the sexes. The income of both sexes is rather low and the whole household depends very much on both incomes. Probably female work is only understood as a contribution, because part-time work or working less overtime is represented mostly by women. It seems that in some countries the (precarious) substantial basis defends these traditional gender structures. Or vice versa, women have less substantial possibilities to change their role model.

In contrast, the high skilled occupational groups provide a different picture. Because of the substantial independence, self-fulfilment in the job as well as personal autonomy men and women tend to create their own work-life balance. Here, it seems that men remain in traditional models, while women develop new arrangements between work and life. In the case of family building, however, women have to look for the conciliation between both spheres. Possibilities for new and more equal working and living conditions seem to depend on a lot of institutional and cultural aspects. But the sample shows, that even in the Scandinavian countries with an institutionalised family supporting system, mainly women are the care takers.

In service occupations, higher and lower skills profiles are at stake and the picture is in-between the two configurations described above. Role models are rather traditional and are slightly affected by restructuring. However, for skilled employees, increasing autonomy at work is reflected in increasing autonomy in their life course.

4.3 Gender relations in stability and motion – final observations

Qualitative aspects of the gender dimension of the occupational case studies provide an idea about the impact of (global) restructuring on the individual level. Hereby, basically the relation between work force flexibility at an organisational level and its implications for the quality of work and the quality of life in the particular context of gender relations was analysed. As highlighted by the monographs, in all occupational clusters, work culture, skills and work life balance are the main indicators of analysis, which were reflected from an international comparative perspective.

In order to analyse these main indicators adequately, the objective of the research approach was to track procedures, individual activities, and subjective decisions as a reaction to these changes. Thus, different organisational processes were linked to normative structures and individual practices on the basis of the research focus how and whether the gender contract is changing according to these restructuring processes. The

following observations on gender summarise the empirical findings of the occupational case studies.

- ***Restructuring processes*** in all countries have an impact on occupational groups. The range of impact on gender relationships shows a broad variety. On the one hand, there is a high persistency; on the other hand there is a high dynamics within gender relationships in occupational groups. Persistency and dynamics are interrelated by different issues like values, institutional framework, income, children etc.

- With regard to ***work culture*** the cluster manufacturing occupations shows a high persistency in the working structure, where traditional gender relationships steadily are reproduced. Dynamic features are offered by the cluster knowledge-based creative occupations. Here, on the one hand, new working fields are explored (IT-branch, design, logistics), on the other hand new organisational patterns demand more and more individual commitment towards work. The increasing proportion of women in these working fields and their high identification with the content of work lead to some extent to a 'cancellation' of the traditional gender contract.

- ***Qualification and skills*** also reflect the picture of persistency and dynamic change within these processes. On the side of the lower-skilled occupations, the demand for further qualification is not high and new tasks are generally learned by doing. In knowledge-based creative occupations, there is significant demand for new (higher) qualification and skills, which also empowers the employees in shaping their own professional biography. It is assumed that qualification and skills play an important role for women in high-skilled occupation to gain substantial and mental independence from traditional role models.

- According to ***work life balance,*** persistency and dynamics are expressed by the mode of increasing flexibilisation of the work structure. In lower-skilled occupations, workers' work life balance relies on a given temporal framework, which strengthens the inequalities in gender relations. Flexibilisation in higher-skilled occupational groups causes a broad range of individual strategies to combine life and work. New work organisation models, as well as the individual commitment towards work, seem to be a precondition in order to enable women realising their individual model of life. Especially in the occupational group of designers, the pressure on the individual job performance is extremely high. As it is described in the monograph, women at an early stage have to decide whether they follow their professional path or the leave the profession. Women in other high-skilled occupational groups also show the tendency to prioritise clearly the job according to work life balance.

- In all occupational groups, the ***power relationship*** between the sexes (structure and agency) was not a major topic in the self-perception of the individual construction of working and living realities. An exception is Bulgaria, where the political change had a fundamental impact on the gender roles in working life. Without doubt, in all occupational groups in all countries, consistency remains in the continuing male attitude towards work and in the lack of involvement in care work. Even in occupational groups where women leave the traditional role model, it seems that men's

attitude does not change significantly. Dynamic development can be observed in female life and work realities especially in higher-skilled occupational groups. In those occupational groups, it seems that the commitment towards the job (and its new chances for the biographical path) changes the attitude of women towards discrimination. Through the empowerment of women in these occupational groups, the feeling of unequal power relationship between the sexes seems to diminish and becomes less explicit. However, the female adaptation process of male biographies is not scrutinised by women, because the existing working structure does not offer alternative ways of living.

- Although the ***international perspective*** in the sample does not allow defining profound differences with regard to gender relations, dynamics can be observed in eroding traditional family structures in the South (Italy, Portugal) and persistency in Scandinavia, where the institutionalised system is the framework for gender relations. The case studies show that gender differences are basically based on institutionalised settings, which can provoke changing processes in gender relationships. However, it seems that values as well as normative frameworks have a huge influence on the gender contract in the different countries.

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Annex
Guidelines for individual interviews

1. Thematic guidelines for individual interviews

The interviews are semi structured; this means that the interviewees have to cover a range of topics. However, the interviews must not be too structured; they have to remain open provided that the five main topics are covered. The interviewees have to be free to express their views more or less extensively in the fields that they find the most relevant from their own situation.

The following guidelines intend to help each team to define their own list of questions. All the questions refer to personal situation, personal work story, personal opinions, personal feelings; not to the situation of other workers or other categories of workers in the organisation.

In the interviews for occupational case studies, the impact of the restructuring process is approached as follows: we select individuals that are concerned by the restructuring process in the organisation and we include in our questions a temporal dimension (before and after the restructuring process in the organisation).

The starting point of the interview is the current job.

1. Work biographies, career construction and choices

Under this topic we ask the interviewees to tell their personal "work story", starting with their current job and looking back to former work experiences. In the perspective of a trajectory we also ask them to talk about their perspectives for the future

The research questions are:

- Does restructuring favour boundaryless careers and contribute to the decline of organisational careers?
- Which personal profiles in each career type? What are the characteristics of the organisational contexts?
- In the context of the restructuring of global value chain, can national policies impact on career trajectories? How?
- Do new career paths have an impact on diversity management (women/ethnicity dimensions)?

Possible questions to interviewees:

- Can you describe your job: position, tasks, skill requirements?
- Did you have other jobs before? Job history in the same organisation/in another organisation/experience of transition periods (unemployment or others). Changes and reasons for them. Good and bad moves.
- What are your perspectives for the future? In the organisation/outside.
- Did you benefit from specific policy measures during your career? Support from national policies along the career trajectory.

2. Changes in occupational identities

The occupational identity is the way different occupational groups at work identify themselves as regards peers, superiors and others groups. Occupational identity is constructed by a community of workers in the light of the responses of others and workplace interaction.
Under this topic we focus on interactions between workers, collective feelings and mutual recognition within an occupational group, personal place in the organisation.

The research questions are:

- Are occupational identities more or less sensitive to restructuring? For whom? In which specific contexts?
- In restructuring organisations, from whom comes recognition in work? Mainly from peers and clients or from the organisation? What are the expressions of recognition in work in changing organisations?
- Do commitment to work and/or tasks become more or less important than commitment to the organisations in restructuring contexts?
- Do restructuring lead to more or less solidarity or collective feeling among workers?

Possible questions to interviewees:

- What kind of interactions do you have with other workers in your organisation? Cooperation? Friendliness? Competition? Etc.
- Do you feel appreciated in your organisation? How is this expressed? By whom (colleagues, managers, clients…)?
- Do you sometimes feel excluded in your organisation? By whom? In which circumstances? Specific events/stories? What are the consequences?
- Do workers have a collective life in the organisation? How is it organised? Do you (your group) have experienced conflicts? Stories of conflicts? Resistance capacities?

3. Quality of work

This topic focuses on the diverse characteristics of the current job situation.

The research questions are:

- Are the working conditions in restructuring organisations more or less inclusive? How? Where? For whom? In which circumstances?
- Do restructuring lead to new approach of working time more or less favourable to conciliation of working time and private time, to ageing at work, to lifelong learning?

Possible questions to interviewees:

- Working hours. What are the working hours? Is there some autonomy as regards time use? Part of choice/constraint in the working hours?
- Working time arrangements, pay, reward system.
- Particular features: discretion/autonomy, flexibility (under which conditions).
- How is social dialogue organised in your organisation? Is there a trade union? How is the negotiation culture in your organisation (cooperation / conflict)? What is your opinion about social relations in your organisation? Do you think that something is changing or have changed with the restructuring?
- Evaluation of the present work situation. Does it feel right in terms of type of work, working conditions, social relationships, working time, pay, etc.?

4. Learning and skills development

Under this topic, we focus on the changes in the knowledge content of the job and the individual relation to learning and skills development.

The research questions are:

- Do the restructuring of organisations lead to upskilling and deskilling processes? Who is concerned? In which contexts? Which knowledge types are concerned by which processes (upskilling, deskilling)?
- What is the role of ICT in these processes?
- How do changing organisations manage learning and skills changes?

Possible questions to interviewees:

- Are there new skill requirements for you and your colleagues in the organisation? What about your skills? Do you consider that your skills are more or less adequate to your job?
- Are there opportunities to learn new things at work? How? Through the job? In the organisation? With colleagues? With clients?
- If learning is part of the job, in which ways?
- Do you have access to formal training? How is it organised? Kinds and purposes of training?
- Uses and place of ICT in the present job?

5. Work life balance

Under this topic, we want to appreciate the impact of restructuring on work life balance. What has change? In which direction? Better, worse or equal?

The research questions are:

- Do organisations develop family friendly policies? Which ones? What are their motivations?
- Does work has an impact on family formation (and dissolution)?
- How work impact on diverse family contexts and women trajectories?
- Does the growing flexibilisation of work result in the dissolution of the boundaries between work and private life (opportunities and risks)?

Possible questions to interviewees:

- Does the interviewee have family – responsibilities for children/household and (lack of) support?
- Are there specific family friendly policies in the organisation? Who benefits from it?
- What are the constraints and wishes about work life balance?
- Does restructuring have an impact on work life balance issues?

2. Key data questionnaire

This small questionnaire must be filled in at the end of each individual interview, making sure that all the key data have been collected. It gathers personal information that is necessary to understand a personal situation.

Personal information	
Name/Code	
Gender	
Age	
Ethnic origin (native, migrant …)	
Family status	
Responsibilities in the family/support (short description)	
Children (number, age)	
Skill profile and trajectory	
Skills profile (degrees, set of skills…)	
Job history (changes, perspectives, experience of unemployment)	
Current job	
Type of organisation (name and short description)	
Present job (job title, position, perspectives)	
Short description of tasks (changes due to restructuring)	
Working hours	
Access to training (formal and informal)	
Experience of restructuring (main changes in personal job situation)	