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Equality and Diversity in the European Steel Industry

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Global Political Economy (GPE) Research Group

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The aims of the project are to:

1. Promote Lifelong Learning within the European Steel Industry
2. Support workers' adjustment to new ways of working.
3. Promote equal opportunities.
4. Support workers' adjustment to new technologies.
5. Provide workers with transferable skills.

In meeting these aims the project undertook the following:

1. Mapped existing qualifications using new and existing research to ascertain the level of need in new and transferable skills.
2. Developed transnational qualification modules comprising new and transferable skills.
3. Developed an on-line training programme.

The duration of the project was three years, from December 2000 to November 2003.

The research for the Reports was undertaken by: Peter Fairbrother, Dean Stroud, Amanda Coffey, Jan Clark, Jenifer Daley, Nikolaus Hammer and Steve Davies, with contributions from all partners.

The Reports are:

1. New Steel Industry Challenges
2. The Internationalisation of the World Steel Industry.
3. The European Steel Industry: From a National to a Regional Industry.
4. The Changing European Steel Workforce.
5. Skills, Qualifications and Training in the German Steel Industry: A Case Study
6. Skills, Qualifications and Training in the Italian Steel Industry: A Case Study
7. Skills, Qualifications and Training in the Netherlands Steel Industry: A Case Study
8. Skills, Qualifications and Training in the Polish Steel Industry: A Case Study
9. Skills, Qualifications and Training in the British Steel Industry: A Case Study
10. Future Skill Needs in the European Steel Industry
11. Training and Qualifications in the European Steel Industry.
12. The Question of pan-European Vocational Qualifications
13. Equality and Diversity in the European Steel Industry

Equality and Diversity in the European Steel Industry

Introduction

The overall aim of the paper is to identify the patterns of (in)equality and diversity in the European Steel Industry and to lay the foundation for equal opportunities policies and practises within the European steel industry[1]. This includes a consideration of current equal opportunities policies and practices, set alongside the demographic composition of the work force. This report specifically addresses the following themes:

- Secondary analysis of existing reports on equal opportunities within the European Steel Industry.

- Primary research to analyse the gender balances at all levels of the industry; an investigation of the number of people employed in the industry from different ethnic and racial backgrounds; and an analysis of the age profile in the industry.

The report is in six sections. Section 1 outlines the methods of investigation relating to work package 5. Section 2 summarises the demographic composition of the European steel industry workforce. Section 3 provides an analysis of gender, ethnic and age balances within the workforce, drawing upon primary, case study materials. Section 4 provides an analytic summary of equal opportunities reports and policies within the European steel industry. Section 5 provides an assessment and considers the implications of the empirical findings.

1. Methods of Investigation

The empirical research was undertaken by the team based at the Cardiff School of Social Sciences. All partners of the project discussed the work package at scheduled meetings. The partners confirmed the research strategy, techniques and instruments; facilitated research access within partner countries; and provided a range of supporting materials and data. The empirical work for this report was undertaken alongside the data collection and analysis for the earlier reports.

The following methods of investigation were used:

- **The systematic collection of aggregate data on the European steel industry workforce**. Particular attention was paid to the social demographics of the workforce, and to a number of dimensions of diversity - specifically gender, race/ ethnicity, age and disability. These aggregate data were gathered from a wide variety of sources at European, national, sector, industry and company level. The unevenness of these data, and hence some of the difficulties of European comparison, has been noted elsewhere (see Fairbrother *et al*., 2003d). However systematic analyses of these data are able to indicate some trends, patterns and areas for further investigation, with regard to equality and diversity.

[1] The research was done with extensive fieldwork and statistical analysis support from Jan Clark and Jenifer Daley.

The aggregate data that we present in this report is based on different definitions of the steel industry. Specifically, Figure 1 uses International Iron and Steel Industry (IISI) data, which is IISI defined. The steel industry aggregate data for Figures 2 and 3 and Table 2 are defined using Standard Industrial Classification UK 92 (UK SIC(92) – (Office of National Statistics update UKSIC2003) code 27 (Basic Metals) excluding 27.4, 27.53 and 27.54). Figures 4 and 5 use UK SIC (92) code 27.1 only. Tables 1 and 3 define the steel industry using UK SIC (92) code 27 and occupations using International Standard Classification of Occupations (ISCO) 88. Figure 6 draws upon Eurostat data, which uses ECSC definitions of the steel industry. This usage reflects the difficulties experienced locating social demographic data for the European steel industry (and the metals industry per se).

- **The collation and analysis of European, national, sector, industry and company policies, materials and reports relating to equal opportunities**. These are able to provide an important policy context to the investigation of equal opportunities within the European steel industry. The materials can also be used to consider the relationships between policy and current practice, as well as identifying examples of good practice.

- **Interviews and site visits, conducted as part of a series of case studies of individual steel plants in five European countries**: Germany, Italy, Netherlands, Poland, and the United Kingdom. For each case study, background and contextual materials were collected, including equal opportunities data and documentation (where this existed). For each case study the research team interviewed a selection of managerial staff, union leaders and workers, drawn from different areas of the steel plant. Both individual and panel interviews were carried out, enabling detailed qualitative data to be gathered from at least twenty-five staff in each case. Where possible individuals with managerial responsibility for equal opportunities were interviewed. Interviews with workers were strategically sampled to include women workers, older workers, young workers and workers from different ethnic backgrounds. All interview schedules used for the case studies included specific questions on equal opportunities. In addition, the research team had extensive tours of each plant and the opportunity to explore, more informally, themes addressed in the research. Hence, for each case study plant there is a cluster of information on the social demographics of the workforce and equal opportunities, as well on equality and diversity issues more generally.

A detailed discussion of the overall research strategy for is provided in the Report, 'New Steel Industry Challenges' (Fairbrother *et al*., 2003a).

2. The European Steel Industry Workforce Composition: Evidence from the Aggregate Data

Aggregate data on the composition of the European steel industry workforce were collated as part of the overall research programme (see appendices for full list of data collected). Fairbrother *et al*. (2003d) reports on this data in full, outlining the social demographic composition of the workforce, as well as identifying patterns and changes to steel occupations. In this section, a summary of the workforce data relating specifically to gender, ethnicity/race and age is provided.

The Aggregate Data

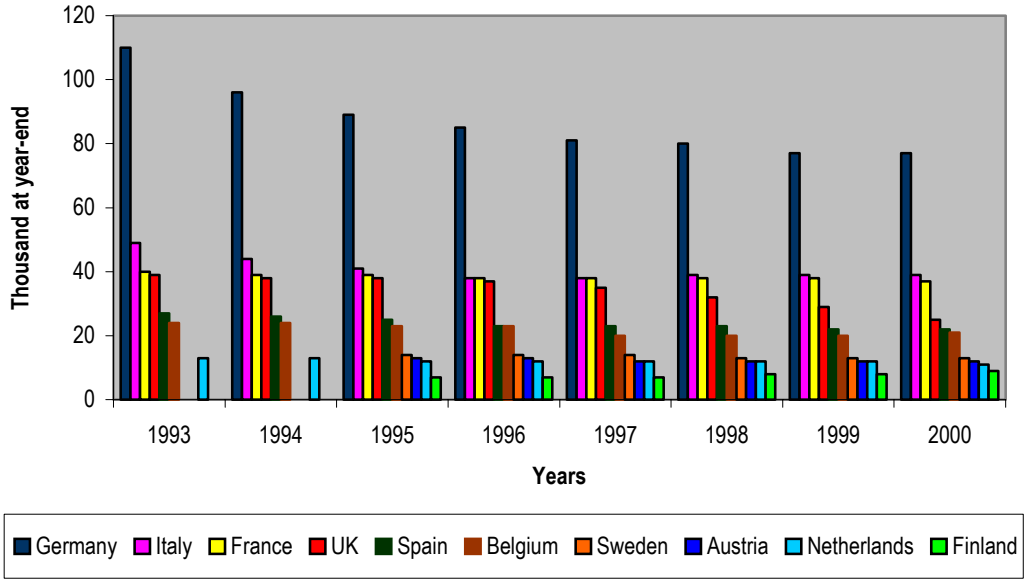
So as to address the themes, European-wide aggregate data were sought, including data pertaining to each of the project partner countries. This process of data gathering was not straightforward. At a European level, there is a body of data, on the steel industry, which permits a general picture to be developed, particularly in relation to numbers, age and occupation. This data can also be presented in relation to country. However, more precise and disaggregated data is less readily available. Data from the UK was more readily available, but this data is not commented on here.

Data were identified from a variety of sources, including national and on line employment databases, industry sources and project partners. Since it was desirable to get any available information, the detail was requested for the 'steel industry' at the company, industry or national level, whatever was available[i]. Although many countries/sources responded to the request, some proved fruitless, as the data were 'not available' or what was available was not useful in this context. As a result, it was not possible to corroborate the authenticity of the data received by comparison from various sources. Data were collected, where available, for all 15 EU countries and the two accession countries, Lithuania and Poland. (See Appendices for full set of data tables.)

Steel Employment

There has been marked decline in employment levels among steel producers in the EU during the 1990s. Historical data suggests that this is part of a long-term decline in employment in the steel industry that effectively began in the late 1970s. In the context of ongoing technological innovation as well as merger and acquisition, not only within the EU but beyond, then this pattern is likely to continue. It also worth noting that steel employment in the EU countries is located principally in six countries, with Germany being the largest location for employment in the steel industry. These patterns are depicted in Figure 1, and it is against this pattern of change that steel employment can be further disaggregated.

Figure 1 *Steel Employment In Ten Major EU Countries ('000), 1993 – 2000*



Source: Sigrid Fickinger @ Eurostat from Questionnaire 231 and 234 New Data Bank Steel (Oracle)

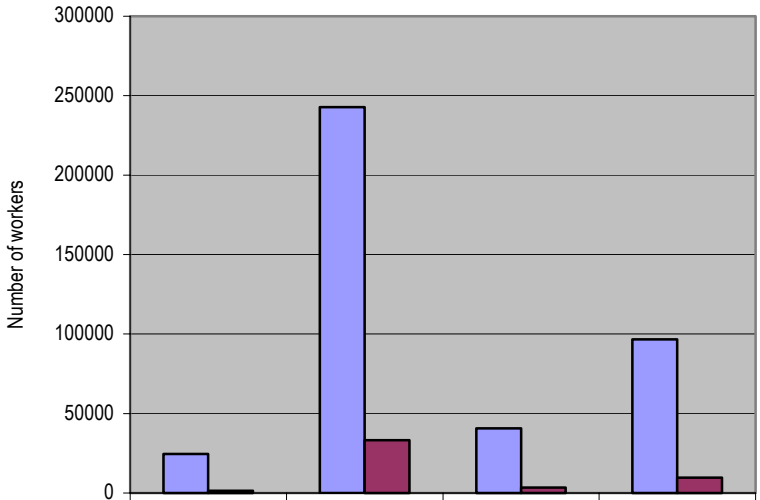
The Socio-demographic Profile of the European Steel Workforce

Three measures of the socio-demographic profile of the European steel industry are used: gender, race/ethnicity and age. Each will be presented in turn.

Gender

In the absence of detailed Eurostat data on the gender distribution of the steel workforce, the starting point is a set of data on the European metals industry (Figures 2 and 3).

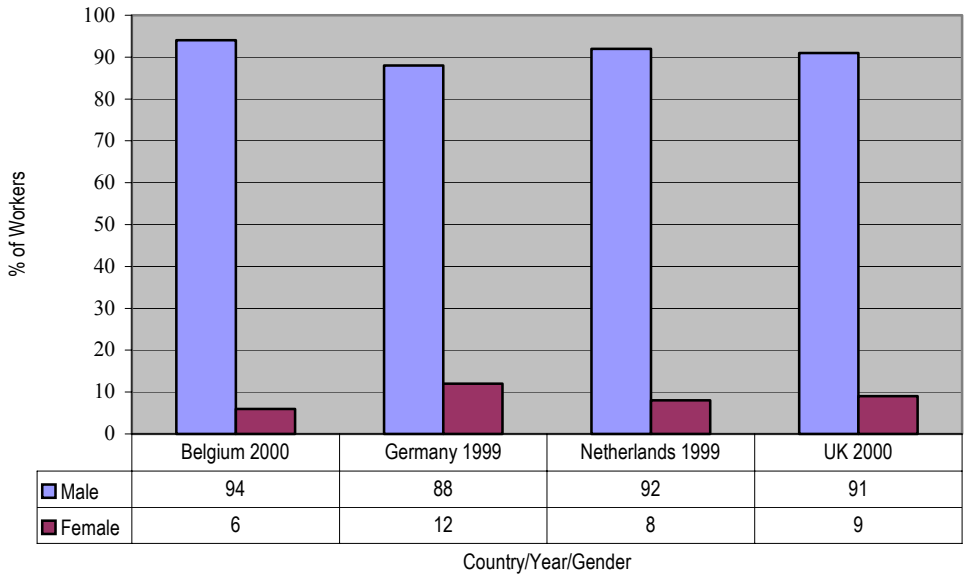
Figure 2 *Total Employed in the Metals Sector by Gender in Various Countries (000s)*



	Belgium 2000	Germany 1999	Netherlands 1999	UK 2000
Male	24609	242871	40700	96638
Female	1479	33188	3400	9705

Sources: UK: Quarterly Labour Force Survey, Belgium: ONS Belgium, Germany: Statistisches bundesamt, Netherlands: CISY-HRS-PSA-IDP Weiland,.

Figure 3 *Total Employed in the Metals Sector by Gender in Various Countries (%s)*



Sources: UK: Quarterly Labour Force Survey, Belgium: ONS Belgium, Germany: Statistisches bundesamt, Netherlands: CISY-HRS-PSA-IDP Weiland.

Overall, women constitute a small proportion of workers in the metals industry, no more than 15 per cent in Sweden, the country with the largest proportion of female workers (statistical office (SCB) based on SIC 27). Belgium, the Netherlands and the UK have a smaller proportion of women employed in the metals sector than Germany On the basis of this data it is likely that the numbers in the steel industry as such will be low and particularly in steel production. The available data is limited but the pattern for the metals industry is confirmed, as indicated in Figures 4 and 5.

Figure 4 Total Employed by Gender in Steel in Belgium, Germany and the UK

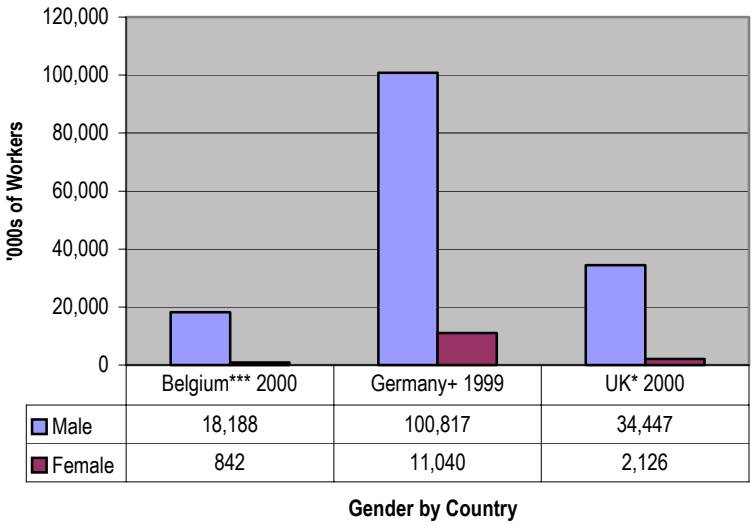
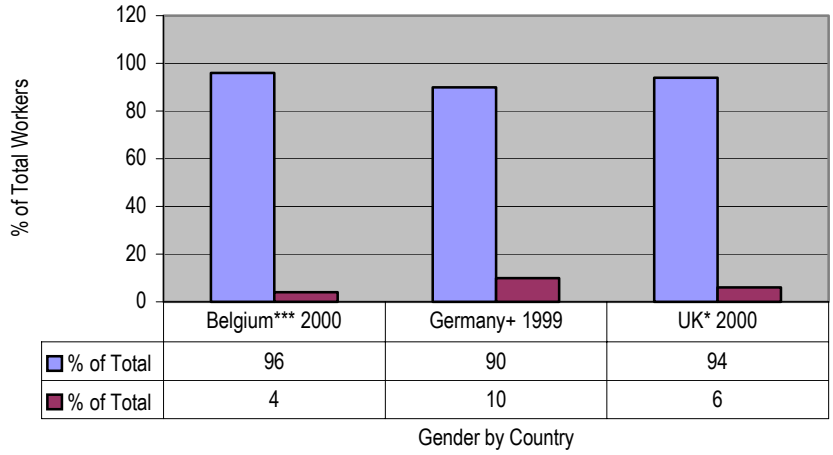


Figure 5 Total Employed by Gender in Steel in Belgium, Germany and the UK



Sources: * Quarterly Labour Force Survey, *** ONS Belgium, + Statistisches bundesamt

The steel industry in Belgium, Germany and the UK employs fewer women than for the metals industry as a whole. Women workers are more likely to appear in the younger age bands, constituting between 10 and 20% of the metals manufacturing workforce. It is thus possible that the gender composition of the metals industry is changing, with implications for sub-sets, such as steel.

On a different measure of steel industry employment it is evident that the development of equal opportunities practice it is more developed in some countries than others, as presented in Table 1.

Table 1 Number of Employees by Occupational Status and Gender in Austria, Sweden and the UK.

Country and Year	Occupational Status[1]	No. Of Workers In Each Category Employed In Steel By Gender	
UK 2000		Male	Female
	Legislators, Senior Officials and Managers	14,310	3,497
	Professionals	4,622	322
	Technicians and Associate Professionals	18,094	1,839
	Clerical	5,651	7,583
	Service and sales workers	355	-
	Crafts and related trades workers	40,387	366
	Plant and Machine Operators, etc.	38,972	869
	Elementary Occupations	9,211	1,802
	TOTAL	131,602	16,278
AUSTRIA 1999		Male	Female
	Working Holder	9	2
	Working Family Member	1	2
	White Collar	6,223	2,016
	Merchant Apprentice	36	106
	Blue Collar	20,221	1,484
	Industrial Apprentice	1,063	18
	Outworker	0	6
	TOTAL	27,553	3,634
SWEDEN 1999		Male	Female
Non-Manual	Legislators, senior officials &managers	1,950	110
	Professionals	1,110	290
	Technicians and similar professionals	2,340	720
	Clerks	420	830
Manual	Service workers and sales workers	-	-
	Craft and related trades workers	1,840	-
	Plant and machine operators	16,950	2,050
	Elementary Occupations	880	350
	TOTAL	25,490	4,350

Notes: UK classifications based on ISCO88.
Working holder: self-employed (owners of enterprises).

Source: UK: Quarterly Labour Force Survey, Austria: Statistik Gov, SCB Statistical Office

Table 1 highlights the fact that in Austria and Sweden women are more likely to be located on the shop-floor than in the UK. Women comprise 7 and 11 per cent of the production workforce respectively in Austria and Sweden. In the UK the percentage of female workers employed in occupations directly related to the production process is merely 3 per cent. Across all three countries female employees comprise similar numbers of those employed in 'professional' and non-manual occupations. We might surmise however, that equal opportunities within the steel industry appear to be developing in uneven ways. This is both in regard to differences between countries and across all countries in the number of women employed in the steel and metals industries.

Ethnicity and Inward Migration

Workers from outside the UK but from within the EU are located in non-manual technical, associate professional and clerical positions. In Sweden workers from members states are located in similar positions. However, Sweden also recruits a significant number of low-grade manual workers from within the EU. If the data is correct the UK recruits no workers from the EU into these positions. More significantly, where Sweden and the UK employ workers born outside the EU, they are much more likely to be placed in low grade manual occupations than elsewhere in the occupational hierarchy. On this basis it is possible to surmise that much migrant labour from outside the EU in the steel industry is either low skilled and/or unable to secure jobs in line with their actual skill levels.

Whilst it is difficult to draw robust conclusions from the data on the ethnic and racial profile of the steel industry workforce, the data suggests that a number of countries employ a significant number of migrant workers to work in the steel industry. Migrant workers thus seem to provide an important and significant contribution to the steel industry in some EU member states. The data also indicates that where ethnic minority groups are employed in the steel industry, they occupy low skilled occupations. Even so, it is reasonable to conclude that because of the way the steel industry is developing (for example, the increased emphasis on technological development and down-stream production and changing forms of work organisation), coupled with increasing legislative intervention promoting equality and diversity, that recruitment patterns will begin to change. In these circumstances, it is possible that migrant communities will begin to benefit from a more open and liberal recruitment approach.

Data on the racial and ethnic composition of the EU steel sector workforce, or indeed for the metals sector, was particularly difficult to locate. The data located however, does give some indication of the number of those employed in the steel industry born outside of the host country. Data were also available on where workers born outside the host country are located in the occupational hierarchy. None of this data is available as a time series however. It is therefore, unclear from the aggregate data in what ways the ethnic composition of the steel workforce across Europe is changing.

One set of data indicates a varied pattern for the racial and ethnic composition of national Basic Metals and Steel industry workforces (Table 2).

Table 2 Number of Employees by Country of Birth (Basic Metals Industry and Steel Industry)

Country	**Number of Workers Employed in the Basic Metals Industry**					
Country of Birth	HOME		EU NATIONAL*		OTHER	
UK (2000)	Male	Female	Male	Female	Male	Female
	126,730	15,261	1,115	0	3,381	1,017
Germany (2000)	287,094		14,222		36,073	
Netherlands (1995 Social Unit)	Not Available		582		81	
	Number of Workers Employed in the Steel Industry					
UK (2000)	Male	Female	Male	Female	Male	Female
	32,702	2,126	547	0	1,198	0
Germany (2000)	96,927		3,801		11,129	

Note: For the UK the steel industry is defined using UK SIC(92) code 27.1 only. The Basic Metals industry is defined using UK SIC(92) code 27.

Source: Source: Netherlands: CISY-HRS-PSA-IDP Weiland, Germany: Statistisches bundesamt, UK: Database – Dataarchive (Quaterly Labour Force Survey)

It is evident from Table 6 that Germany employs significantly more workers from outside Germany and the EU (in the region of 12% for Metals and 9% for Steel) than the UK (in the region of 3% in Metals and Steel) – in both the Basic Metals and Steel industries. This perhaps reflects the large number of Turkish (and other nationality) workers that comprise the German steel industry workforce (Wallraff 1988, Akgündüz 1993, Steinart 1995). The relatively large number of workers from outside the Netherlands (but within the EU) reflects similar patterns of inward migration to work in the basic metals industry. There are historical reasons why the metals and steel industries in particular EU countries, such as Germany and the Netherlands, have attracted more migrant labour than other member states (Akgündüz 1993, Castles and Kosack 1973, Cohen 1987). The puzzle is why the UK steel industry does not reflect the pattems of immigration into the economy during the 1950s, 1960s and into the 1970s. The data confirms these patterns.

More generally, it can be argued that there is an onus on those countries with large numbers of workers whose country of birth is outside a host country to develop policies sensitive to ethnic and racial differences in the workforce. At the same time however, there is also an urgent need to identify more clearly the racial/ethnic profile of steel industry workforces across the EU. Data is urgently required on the number of workers whose *country of origin* is outside the country within which they work and how workers identify ethnically. A clearer picture of the racial and ethnic profile of steel industry workers will allow a greater insight into recruitment patterns (and practices) and the effectiveness of equal opportunities policies – particularly in terms of access to occupations.

When ethnicity and inward migration in relation to occupational profiles in the steel industry, the above patterns are confirmed. If we consider the Basic Metals industry across two countries, the UK and Sweden, a more complex picture emerges (Table 3).

Table 3 Occupational Status by Country of Birth (Basic Metals), 2000

	OCCUPATIONAL STATUS	NATIONALITY OF EMPLOYEES					
		HOME		EU *		OTHER	
UK		Manual	Non-manual	Manual	Non-manual	Manual	Non-manual
	Legislators, Senior Officials, Managers	-	17,807	-	-	-	-
	Professionals	-	4,457	-	-	-	487
	Technicians and Associate Prof.	9,211	9,124	-	547	607	444
	Clerical	3,148	9,108	-	568	-	410
	Service and sales workers	-	355	-	-	-	-
	Crafts and related trades workers	40,753	-	-	-	-	-
	Plant and Machine Operators, etc.	38,072	-	-	-	1,769	-
	Elementary Occupations	9,553	403	-	-	1,057	-
	TOTAL	100,737	41,254	0	1,115	3,433	1,341
SWEDEN	Legislators, senior officials & managers	-	1,880	-	150	-	-
	Professionals	-	1,270	-	60	-	70
	Technicians and similar professionals	-	2,780	-	180	-	80
	Clerks	-	1,180	-	-	-	-
	Service workers and sales workers	-	-	-	-	-	-
	Craft and related trades workers	1,690	-	180	-	30	-
	Plant and machine operators	16,520	-	1,850	-	640	-
	Elementary Occupations	1,030	-	90	-	110	-
	TOTAL	18,970	7,110	2,120	390	780	150

Note: (a) For the UK, the basic metals industry is defined using UK SIC (92) code 27 and occupations using International Standard Classification of Occupations (ISCO) 88.
(b) For Sweden, the basic the basic metals industry is defined using ISIC-Rev.3 code 27 and occupations using SSYK (Standard för svensk yrkesklassificering [Standard for Swedish classification of professions])

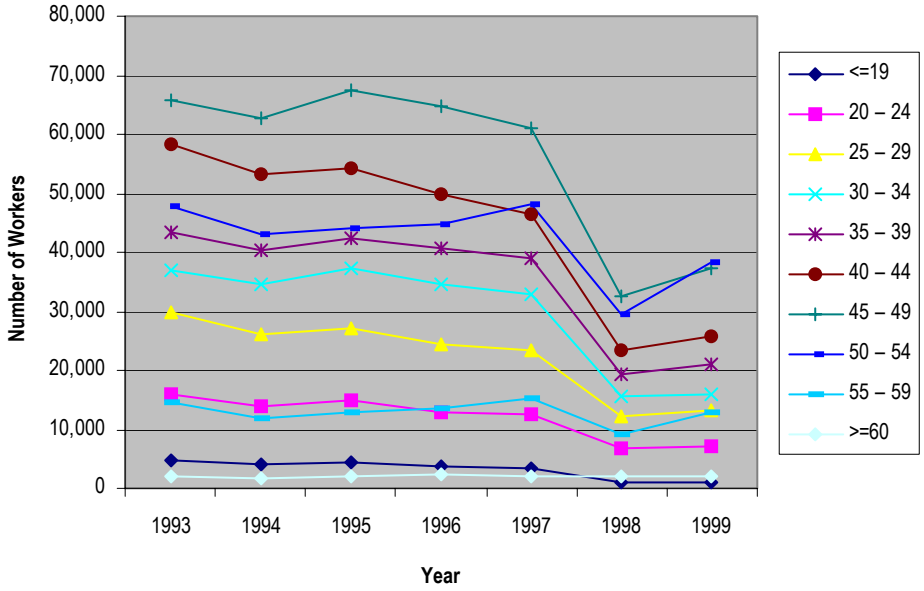
Source: Sweden: SCB Statistical Office, UK: Database – Data-archive (Quarterly Labour Force Survey)

Table 3 gives some indication of the way workers whose country of birth is different from the country they are working within are dispersed across the occupational hierarchy. A contrasting picture is presented for the UK and Sweden, but there are also some similarities too. Workers from outside the UK but from within the EU are located in non-manual technical, associate professional and clerical positions. In Sweden workers from members states are located in similar positions. However, Sweden also recruit a significant number of low-grade manual workers from within the EU. If the data are to be believed the UK recruits no workers from the EU into these positions. More significantly, where Sweden and the UK employ workers born outside the EU they are much more likely to be placed in low grade manual occupations than elsewhere in the occupational hierarchy. We might surmise from this that much migrant labour from outside the EU in the steel industry is either low skilled and/or discriminated against in some way. These assumptions are certainly born out by the case study data. The implications for equality and diversity issues are obvious.

Age

One consequence of major restructuring, involving staff reductions is that the age profile changes, as older workers are encouraged to leave and there is minimal recruitment. In relation to age, the largest concentration of the iron and steel workforce is in the 45-49 year age bracket. More broadly most workers are in the age band 40 – 54 years of age; a relatively old and it can be assumed stable workforce. If the figures are grouped according to ten-year age bands, then it is apparent that there is a shift away from a more evenly distributed workforce, according to age, towards one where the age weighting is towards the higher age brackets (see Figure 6).

Figure 6: The Age Profile of the EU Iron and Steel Workforce, 1993 – 1999 (ECSC)



Source: Questionnaire 234, New Data Bank Steel (Oracle) (Eurostat1)

To the extent that this limited time series is indicative of a trend, then the EU steel companies face a growing problem with the age distribution of the workforce. These patterns are confirmed in the six largest European steel employing countries, Germany, Italy, France, UK, Spain and Belgium. Two points are noteworthy from this data. In every case there has been a major decline in absolute numbers employed in the steel industry, but in each case there has been a marked ageing of the populations as an increasing proportion of the workforce enters the 50-54 age bracket. This is especially marked in Italy. Towards the mid to end 1990s, there has been increased recruitment of workers in the age bracket 20 – 30 age bracket, suggesting that there is a polarisation of the workforce. As time goes by this is likely to become acute, and raises very sharp questions about the replacement of older workers over the next five years and the training of younger workers to take on the jobs currently done. In some instances this may also provide the occasion for employers to seek to reshape the work organisation in steel plants, for example in Germany promoting team working which at present is relatively under-developed. Such developments raise important questions for trade unions, in promoting a worker friendly transformation in work patterns and work organisation.

3. The European Steel Industry: a changing workforce?

The aggregate data suggests that the composition of the European steel industry workforce is in a process of transition, and possibly more long term change. The steel industry, and metals industry more generally, continues to be predominantly male, although there is some evidence that women have been and continue to be a significant minority within the industry. The case study materials provide local contexts for the consideration of gender balance within the industry. More generally a consideration of the case study data enables an exploration of changes in the composition of the workforce alongside a pattern that these workforces have traditionally been located and drawn from established, working class communities, in geographical proximity to the plant. In turn these communities have nurtured particular kinds of male worker identities, located within established and strong patterns of gender and generational (and in some cases ethnic and cultural) relations. In this section evidence from the case studies in the European partner countries is thus considered (alongside the aggregate data) in order to expand upon the observations about the European steel industry workforce in relation to gender, ethnicity and age.

Gender

There have always been, and continue to be, a significant number of women employed within the steel industry, and metals sector more broadly. Women are, and have in the past been, routinely employed in clerical and administrative positions, and in the domestic services attached to the industry. Moreover women have never been completely absent from steel production itself. In the Eastern European steel industry for example, women worked alongside men at the foundry mouth until relatively recently, and continue to form the majority of manual crane operators in some countries (for example Poland **-** *field research 2001***)**. In the Netherlands and Germany young women are now being recruited as technical or production apprentices, although the transition from the training environment to the shop floor is not unproblematic. For example in the ThyssenKrupp Stahl plant in Germany, approximately 170 technical apprentices are recruited annually of which a small proportion (around six percent) are women. However of the fifteen of these apprentices that are eventually taken onto the shop floor, none are routinely women (*field research 2002*).

Aggregate data on the gender composition of the steel production workforce is not routinely collected in many European countries. From data that is available, women seem to make up only a small proportion of all workers. In Germany women make up approximately ten percent of the workforce for the manufacturing of basic iron and steel. Comparable figures for the UK and Belgium are six and four percent respectively. Differentiating within this female workforce is problematic, given the overall paucity of data. UK data for example indicate a relatively middle aged, poorly qualified female steel production workforce, concentrated in a few occupational areas. Hence there is evidence of both vertical and horizontal gender segregation within the workforce. However any comparisons of this kind must be approached cautiously given the low base in terms of numbers of women employed overall. Women are extremely underrepresented in craft and operator positions within steel production, and in managerial positions. (For example, in 2001 there was one female production manager in the UK operations of Corus plc). It is still relatively unusual to see women on the steel production floor in many European countries. Women production and technical managers are exceptions rather than the norm. At the Italian plant visited one female engineer graduate has been promoted to

a managerial position in the production section of the plant (responsible for one line of production), but this promotion should be seen against a more general decline of female employment in production related jobs in the Italian steel industry, so that now there are no more than twenty women employed in the production area, out of a total workforce of 4,500 (*field research 2001*).

Of course local employment conditions and global work force trends complicate this gender picture. There are still some legislative barriers to women working on the shop floor in some countries – for example the Polish labour code forbids women working in certain conditions and on some specific manual tasks; in Germany women are unable to undertake night shift work (a mainstay of steel production and part of the complex shift rota systems that are in place). Women workers themselves often have an ambivalent stance toward these legislative arrangements. Polish women manual workers that were interviewed during the case study research argued that no longer being able to work at the foundry was a positive situation, and indeed a successful outcome of campaigns to improve women's working conditions. It was certainly not perceived in terms of a reduction in their equality. However this development should be set against other equality issues that they articulated. At a steel plant in the south of Poland that was visited, women made up seventeen percent of blue-collar workers. Most of these women were crane operatives (a long standing female occupation within the industry in Eastern Europe). In a group interview, three women crane operators suggested that many of their male counterpart crane operatives had a different job description, which entitled them to higher rates of pay and better holiday allowances. They also regretted the demise of the kindergarten and associated activities within the perimeters of the steel plant, making it difficult for women with young families to combine family life with steelwork.

It is problematic to attempt to predict future trends with regard to the gender composition of the European steel industry workforce. Three specific developments can be readily identified from the case study data. Firstly, the increased use of subcontracting services within the steel industry has possibly served to exacerbate gender segregation of the workforce. Many of those services that have now been subcontracted are in sectors that have traditionally employed women – for example catering, domestic provision and welfare services. The responsibility that the steel plants now have to these workers, most of whom are still engaged on site (though employed by different companies), is at best a mixed one. Subcontracted workers are more-often-than-not outside the remit of plant personnel services, human resource management, training opportunities and equality monitoring. This has consequences for the inclusion within and implementation of any equal opportunity policies and initiatives. There has also been a more general reduction in the provision of welfare and community services located within and sourced by steel plants. While these have consequences for all workers, the implications for women workers who still often take primary responsibility for child care and domestic life, and thus must negotiate the life-work balance, may be particularly acute.

Secondly, the uncertainties of continuous employment, in the face of major industrial restructuring may have consequences for the gender balance of the steel workforce. The disassociation of the steel communities, from which apprentices would have been traditionally drawn, combined with uncertain futures, has led to a paucity of recruitment to craft apprenticeships within the industry. Corus plc in the Netherlands, for example, have been unable to meet their preferred target of 100 apprenticeships per year (*interviews 2001 and 2002*). The potential consequences for this in terms of gender balance are twofold. One, it renders problematic any positive action measure that may be put in place to increase female recruitment. For example the desirability to have women make up at least ten percent of the

yearly apprenticeship entry (as in Corus plc in the Netherlands) has to be set against a reality of difficult recruitment more generally. Two, if recruitment continues to be problematic from the traditional pool of young male school leavers, steel producers may increasingly need to turn to other potential pools of labour, including more women. The changing nature of the steel production process, with a de-emphasis on 'hard' manual labour may also facilitate this development. It would also be somewhat ironic if female recruitment were to rise at the same time as the industry is moving towards requiring a less permanent and more flexible workforce.

Thirdly, there are other changes in the kinds of roles and requirements of the European steel industry workforce that may have gendered implications in the future. While gender can be considered as a variable in current data on qualification and skill levels, the relatively small numbers of women overall make any generalisations difficult. However the increasing emphasis given to marketing, customer service and commercial sales within the industry may bring with it an increase in female employment within the industry (as these are all areas that have traditionally employed more women). In German plants, for example, a majority of marketing and sales apprentices are women (and these are translated into real posts, unlike the production side). The case studies also indicated a shift toward an increased graduate recruitment strategy. While the gender gap in subject choice in further and higher education remains marked, there are some indications that an increasing number of women are pursuing a science and technical education trajectory. In the case study plants, women were being recruited, albeit in small numbers, to graduate trainee positions. However a wide scale move toward the recruitment of a graduate workforce is unlikely to enhance female recruitment significantly while women remain underrepresented in science and technical higher education as a whole. While some obvious forms of discrimination have been removed from pursuing scientific careers, such as marriage and age bars, women remain clustered in certain areas of science, in particular the biological sciences (those most removed from the steel industry) and only make up a small fraction of senior scientists within Europe.

Ethnicity and Inward Migration

The ethnic diversity of the European steel industry workforce and associated trends of inward migration within Europe can also be considered with regard to the case studies. There are some general points that can be made about the composition of the workforce. For example, in the UK, in a basic iron and steel manufacturing workforce of over 36 000, less than three percent of workers are identified as non-white. Moreover, black workers are almost exclusively employed at trade and plant operator levels, and have relatively low levels of formal qualifications. There is also little evidence of cross European recruitment into the UK industry, or of black women employees involved in basic metals production. . These figures can be contrasted with the experience of some other European countries. Around twelve percent of the German metals workforce, for example, has a country of origin outside of Germany. Overall, however, available aggregate data with regard to racial and ethnic status within the European steel industry does not provide a comprehensive picture.

The ethnic composition of the European steel industry workforce can be set within a more general context of mid twentieth century migration trends. In the context of extensive migration in the 1950s and 1960s within and into Europe, the composition of the steel workforces, particularly in the Netherlands and Germany, changed dramatically. For example, with reference to the main steel plant in the Netherlands, there was significant migration of Spanish nationals into steelwork during this period. These workers came with few skills and found work at the lower skill levels, particularly in the foundry and coking areas of the steel plant. They

settled in the residential areas directly adjacent to the plant and developed into Spanish speaking communities that remain in place to this day. Moves within the plant to establish multi-skilled work teams in all areas of production have meant that the location and identity of these workers as low skilled single task workers has become increasingly problematic. The formal credentials now required for job allocation within the steel plant further complicate this situation. Multi-skilled workers hold Level 3 or above qualifications, while the majority of non-Dutch origin workers are located at Levels 1 and 2. To address this requirement the company is in the process of addressing the training implications for existing workers, and developing learning programmes, around language and technical skills for this (older, male) section of the workforce.

In Germany, there is also a diverse immigrant steel population within the workforce. At the plant we visited this currently comprises between twenty and twenty-five percent of the total workforce of 13,500. The majority population among this group is Turkish, but also includes relatively small numbers from Spain, Italy, Greece and Northern Africa. These populations are long-standing and, certainly in the Turkish case, there are now second and third generation workers in the plant. This Turkish population lives in a relatively closed residential area adjacent to the plant, in a company owned housing area. This is a community with its own shopping areas, community facilities and schools (with estimated intakes of up to 90 percent Turkish - *interviews 2002*). The paradox is that in organising and encouraging housing in a segmented way, the company has created the conditions that can be viewed as problematic within an industry undergoing change; namely communities that develop and maintain distinctive identities, including the use of the 'native' language at work. This raises a number of dilemmas. For example in the German plant we visited, with a significant Turkish group of workers, there was only one Turkish-speaking trainer in the technical section of the Training Centre at the plant (out of a total training staff in excess of 120). When Turkish-speaking students spoke to him in Turkish there were complaints from German speaking students. Following discussion amongst the training staff, the Turkish-speaking trainer declined to speak Turkish at work with the Turkish-speaking students. He was then challenged by students to the effect that he was rejecting his Turkish identity (*field research 2002*).

From the case studies in general, we are able to speculate about the future ethnic composition of the European steel workforce, and the consequences of the transformations that are taking place. Again it is possible to develop these in three general ways. Firstly the move toward a globalized steel industry, including the reconfiguration of production within a smaller number of companies and at a smaller number of plants has already had an impact on international recruitment strategies, particularly at the managerial and higher skills grades. The internationalization of steel ownership already means, for some companies, the sharing of expertise, training and personnel across national boundaries, at least within mainland Europe. Hence there will almost certainly an increasingly international dimension within the upper echelons of the industry.

Secondly the development of new work practices such as team working and multi-skilling has consequences for existing workers within plants, and their capacity to meet these new challenges. Steel communities of particular ethnic groups are located within specific historical, economic and cultural moments. Ethnic workers tend to be older workers, brought to the plants at particular times of sustained recruitment. These workers are, on the whole, singularly rather than multi-skilled, and hence not able to readily meet the challenges of team working practices, without substantial re-training provision (by no means universally in place). Of course the other dimension of this is that the downsizing of the steel workforce also has profound consequences

for these ethnic communities that have developed as a result of stable, steel based employment, as well as geographical proximity to steel plants. This is clearly evident in the Netherlands case where the company is attempting to generalise team working throughout the plant.

Thirdly, the issue of new recruitment has ethnic as well as gender dimensions. The increased reliance on graduate recruitment as a strategy may well exacerbate ethnic inequalities within the industry. We are already aware that current black and ethnic workers are clustered in the lower levels of qualification (and hence are less likely to be engaged in professional and managerial labour exchange). Furthermore race and ethnicity continue to provide a predictor of access to, and performance in, education at all levels. This can be contrasted by real recruitment problems in some countries, which could result on the widening of the recruitment strategy to other pools of workers. In Northern Italy for example, a significant number of steel workers have been recruited from Northern Africa (*field research 2001)*. This differential recruitment brings with it considerable problems, including the potential to result in a polarization of the work force, with a highly qualified, white recruitment on the one hand, and a greater reliance on ethnic and migrant labour for more casualised (or flexible) labour on the other hand.

Age

One of the most marked shifts within the European steel workforce is in terms of the overall age profile. The general reduction of recruitment, combined with the difficulties experienced in attracting apprentices, will of course have an impact on the youth of the workforce. The aggregate data already suggests a paucity of workers in the younger age groups. This is a trend that may be partially explained in terms of anticipated future workforce needs, given advances in technology and workplace practices. At the other end of the age scale, voluntary or enforced redundancy and associated packages (such as the Polish social contract) have also had an impact, with relatively few workers over 55 years remaining in the industry.

A polarisation in terms of age is beginning to emerge in steel plants. On the one hand, throughout the 1980s and 1990s, there was a massive reduction of the European steel industry workforce, and minimal recruitment. Thus the industry is relatively middle aged, and ageing. On the other hand, in the context of the reorganisation of work processes in the steel industry, and particularly the establishment of team-based working and the increased automation of the steel plants, there is a perceived demand for highly qualified graduates and apprentices. Thus where recruitment does continue into the steel industry, it is mainly in terms of younger qualified (and graduate) workers. A predictable result is an age-segmented workforce. This was most sharply presented in the Italian plant that was visited as one of the case study sites. There literally had been no recruitment into the plant for a decade, from the mid-1980s to the mid-1990s. This, combined with the absence of effective training programmes for younger workers had resulted in a problem of knowledge transmission emerging - how to pass on 'steel production knowledge' from older workers to the small numbers of younger workers. One solution was to ask older workers to write down their experiences and competencies, which were then archived, and presented to younger workers in training sessions (*field research 2001*). Unfortunately for the company, younger workers, used to school and college education, had not fruitfully engaged with this arrangement as either a practical or appropriate way of imparting occupational knowledge (*field research 2001*). More generally, there was a segmentation between older and younger workers emerging in all of the plant studied, thus challenging the residues of hierarchy and seniority on the shop-floor and elsewhere. In the German plant, the

age profile comprised two clusters of workers: the first, larger group was in the age bracket thirty five to fifty five, with an average age of forty three; the second, much smaller group (expanding at the present moment to meet the changing requirements of the plant) clustering in the age band twenty to thirty. The company staff responsible for the recruitment of the workforce recognised the emergence of these two distinct clusters of workers, separated by age but also by other factors such as qualifications, skills, competencies and work organisation (*interviews* 2002).

It is somewhat difficult to speculate about the future consequences of these changing age profiles. However if the trends identified were to continue, there is potentially going to be a significant generational polarization of the workforce. The present paucity of young workers could readily translate into a future shortage of skilled steelworkers in the middle age brackets, at the same time as those presently in their middle years approach retirement age. The employment consequences for younger generations that have grown up within the steel communities, in the shadow of the plant and in the expectation of a predictable occupational future are certainly not as hopeful as they would once have been. Moreover, the perceived changes in recruitment strategy within the European steel industry, an increased emphasis on (graduate) qualifications, combined with new approaches to training that emphasize multi-skilling, team working and technological advancement could exacerbate age differences in terms of function, qualification and kinds of skills. If negative consequences of these trends are to be avoided, renewed emphasis will need to be given to lifelong education and training within the industry, and to the balance between downsizing the workforce, knowledge reproduction and ensuring future capacity.

4. Equal Opportunity Policies within the European Steel Industry

Documents relating to equality of opportunity within the European steel industry were collected as part of the policy context for this Report. These included materials relating to the European metals sector as a whole, to trade unions and to individual companies[ii]. There was some variation in the extent to which these materials defined equality of opportunity, and it is difficult to ascertain the extent to which policies are used to inform everyday practice. However it is possible to make some general observations about the policy approach to equality of opportunity within the European steel industry.

Formal recognition of equality of opportunity

There is certainly a formal recognition of equality of opportunity within the European steel industry and metals sector more generally. Steel companies, sector associations and trade unions formally recognise equality of opportunity as part of their mission. All have an Equal Opportunity Policy, drawing on directives from the European Union. Equal opportunities policy is usually cast in legislative and individualised terms, recognising proven discrimination as unlawful. Gender, ethnicity and disability are most frequently mentioned in equal opportunity policies. Some are more inclusive – listing variables such as marital status, age, sexual orientation, conviction, religion and political beliefs that should not be used to exclude or discriminate.

Discourses of diversity and dignity

There is a general emphasis on the benefits of a diverse workforce from within the industry, and sector more generally. Company statements include being committed to providing an environment that 'maximises the benefits available from a diverse workforce'. Trade union statements include valuing and welcoming 'the perspectives that a diverse membership brings into the union'. The language of equal opportunity policies and statements includes significant use of terms such as dignity, respect and tolerance. Thus, there is a rhetorical emphasis on moral responsibility and the rights of individual workers to be treated with dignity. This again presents an individualised approach, focusing on rights and personal treatment, rather than addressing more structural concerns.

Positive action measures

There is little evidence in the formal documentation that positive measures are being taken to enforce or enhance equality of opportunity (although that does not necessarily mean that such measures are not in place). On the contrary, there is a lack of information with regard to the active implementation of policies of equality of opportunity. While companies 'recognised that effective practices to promote work-life balance will benefit the organisation and its employees' there is little information as to what such effective practices might look like. Similarly, a company statement that 'recruitment and judgement are based on objective criteria' does not detail any measures in place to ensure compliance. Outside specific companies, there is some evidence of positive action, for example women's committees within trade union organisations. The European Metalworkers Federation has a women's committee with an ambitious agenda to support women's opportunities and perspectives within the metals industry. Among other things they have identified gender pay gaps within the industry, and that women generally have less access to training. The under-representation of women on trade union decision-making bodies is also recognised.

Structural change

The policy statements are more concerned with recognising and working with existing diversity, rather than attempting to identify or address any structural inequalities that might exist within the industry – for example in terms of qualifications, skills, status or managerial position. This is certainly the case at company level. The European Metalworkers Federation does have a more general commitment to (gender) mainstreaming, but recognises that there is a lack of guidance on implementing this course of action, beyond a commitment to equal and balanced participation by men and women.

5. Assessment and Implications for the European Steel Industry

There are a number of possible implications for the European Steel Industry based on an assessment of the materials and data that have been collected on equality and diversity. These can be considered at the company and industry levels; as well as at the trade union and worker association levels. There are also some methodological implications for future work that might be carried out in this area.

Methodological implications

The aggregate data on the socio-demographic composition of the European steel industry workforce is far from comprehensive. Data on gender and ethnicity (and indeed disability – not

the focus of this work package) are certainly incomplete at all levels. Thus an urgent consideration must be a more comprehensive approach to the systematic collection and collation of workforce data, at company, national and European levels. A formal commitment to equality of opportunity does not necessarily translate into action for change. There is a need for further research that explores the ways in which policies of equality of opportunity are implemented at company and industry levels, and the challenges that this implementation may present.

Implications at industry and company levels

While it may be difficult to predict the full trajectories and consequences of demographic shifts in the workforce, there will almost certainly be implications for equal opportunities policies within the industry. An obvious question would be whether the reconfigured gender, ethnic and age patterning of future workforces will serve to reduce or increase dimensions of inequality throughout the industry. There are a number of different ways of defining equality of opportunity. Perhaps the most accepted of these is the model drawing on a liberal approach to equality and justice. This does not seek to change or challenge structures or institutions, but attempts to ensure equal access to and representation within these structures. An initial assessment of current equal opportunities commitments within the industry suggest that this model is being adopted, and that commitment itself is to be welcomed. However, while predictions based on current trends might presume a significant diversification of the steel workforce, there is as yet little evidence to suggest that established gender and ethnic distinctions/ inequalities might be challenged. While the numbers of women employed within the industry may well rise, in response to local circumstances, there is no expectation that there will be (anywhere near) equal numbers of new entrants (in terms of men and women). Nor can it be presumed that increased ethnic diversity of the workforce will ensure equal access and representation. What is more likely is a continuation of differentiation in terms of skills, qualifications and status. From an equal opportunities perspective, this gives rise to some concerns. The case study research revealed little qualitative evidence of significant attention being paid to the recruitment, employment experiences, training or retention patterns of women and ethnic employees, or older workers.

The emergent patterns highlight the distinctive challenges for the steel industry in terms of equality. There were relatively few examples from our case study research of measures systematically adopted, to counter these basic inequalities, and remove (direct and indirect) barriers to access and progression within the industry. Initial and ongoing training is rarely organized to accommodate domestic commitments or language requirements; there is little evidence of more general equal opportunities training within the industry; there do not appear to systematic strategies in place to address areas of under representation by particular groups. More generally, despite the formal commitment to policies of equal opportunities, there does not appear to be a prioritizing of equality issues. At the most basic level of equality monitoring (a precursor to most equality measures/initiatives) there are significant gaps, as suggested by the overall paucity of data (at industry, company and plant levels). More generally equal opportunities do not appear as a permeated and grounded aspect of company or plant ethos, and is not reflected in the power structures and general institutional activities of the industry. This does not imply that examples of good practice are completely absent, but does support a general observation that equality is not high on the steel agenda. The formal commitment to equality of opportunity and recognition of the benefits of a diverse workforce are, however, an encouraging start. The benefits of effective equality mainstreaming (of women, ethnic minority workers, older and younger workers) may be significant.

Implications for trade unions and worker associations

There are also challenges to be addressed by those who seek to represent steel workers and give voice to their concerns and experiences. On a Europe-wide basis, trade unions representing steelworkers have not prioritised issues of equality and diversity. To some extent, this reflects the agendas within which the trade unions have traditionally operated, and the communities within which they have *de facto* been located. Male unemployment and redundancy, basic conditions and rights of the employee, pay negotiations, the maintenance of apprenticeship work and future work opportunities and conditions are all important and appropriate concerns for trade unions, especially in a time of significant industry upheaval. However this has marginalized other, equally important, issues – for example around family friendly working arrangements, sexual harassment, equal access to training and opportunities to gain qualifications, recruitment and promotion processes, and equality of opportunity issues more generally. Those unions that have sought to develop a community focus may have to some extent recognized the gender, generational and ethnic dimensions of steel communities, but have still failed to systematically connect the issues with what goes on inside, as opposed to outside, the plant gates.

It may be understandable that the industry and indeed the trade unions have not prioritized equality at a time of significant national, European and global change. There have perhaps been other, even more pressing concerns, to be addressed. However, issues of gender, ethnicity and age are central to our understanding of the steel workforce, and the communities in which steel workers live and steel plants are situated. We are already aware for example, of the gendered and generational impacts of wide scale redundancies on local communities – in terms of the repositioning of familial roles and relationships, and the potential disruptions to conventional expectations of the transition from school to work within such communities(Dicks, 1996; Fairbrother, 2001; Fairbrother and Morgan, 2001; Waddington *et al*., 2001). There has been less concentration on the diverse composition of present and future workforces, and the extent to which these are workforces that can or will reproduce or challenge inequality in the face of diversity. Our initial analyses have revealed a workforce that continues to show differentiation and segregation, and an industry in transformation, but thus far unable or unwilling to meet these significant challenges.

[i] Comprehensive aggregate data on the steel or basic metals industry are not consistently available across Europe. For some countries there appears to be a paucity of data, making it difficult to draw worthwhile comparisons. This will remain a salient factor in any systematic attempt to comprehensively map qualifications (and thereby skills) across the (European) steel industry as a whole. Data varies in terms of time coverage, detail, and classifications/definitions employed. In the process of preparing the data, it became apparent that significant differences between the countries related more to different definitions of similar concepts and different ways of reclassifying national data rather than true differences in the economies. However there remains uncertainties about the extent to which the industry classifications and/or definitions employed are comparable across countries.

[ii] Materials consulted include *Sector materials:* Martinelli, Paola (1995) Report on positive actions in the European metal sector, European Metalworkers' Federation; EMF policy statements on gender/ women; EMF equal opportunities statements; EMF Women's Committee minutes ISTC Equal Opportunities Policy for Members. *Policy context:* EU directives on equal opportunities, equal treatment and mainstreaming; International Labour Organization – information base on equal employment opportunities for men and women; gender promotion programme; gender equality tool. *Company materials*: Company statements on equality/ diversity/ equal opportunities (including CORUS; ARCELOR). *Comparative materials:* Newsletters: Women in Science, Engineering and Technology (WiTEC); Fonow, Mary Margaret and Ehrardt, Karen (2001)Women of Steel Survey, The United Steelworkers of America; Statement of Policy on Sexual Harassment, The United Steelworkers of America.

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Appendices

Appendix 1 – List of Aggregate Data Collected on Gender, Race/Ethnicity and Age.

Aggregate data on the European steel industry workforce is reported in full in work package 1, Report 4 (The European Steel Workforce). Case study materials can also be used to provide detailed and contextualised examples.

Data on gender and the European steel industry

Specific aggregate data on gender includes:

- Total employed by gender (European Metals Industry)
- Total Employed by Gender (in Steel in Belgium, Germany and the UK)
- Age profile by gender (European Metals Industry)
- Qualification profiles by gender(European Metals Industry)
- Occupational Status by Gender (Austria, Sweden and UK only)

UK Exemplar

- Gender and occupational status
- Qualifications by age and gender
- Qualifications by occupational status and gender

Data on ethnicity and the European steel industry

Specific aggregate data on ethnicity includes:

- Number of employees by country of birth (Sweden, Netherlands, UK and Germany only).
- Occupational Status by Country of Birth (UK and Sweden only).

UK Exemplar

- Occupational status by country of birth
- Occupational status by qualification and ethnicity

Data on age and the European steel industry

Specific aggregate data on age includes:

- Age profiles by gender (EU Iron and steel workforce, and by country)

UK Exemplar

- Occupational status by age
- Qualifications by age and gender

- Occupational status by qualification and age

Appendix 2: Aggregate Data Tables

Aggregate Data Tables - Steel (and Metals) Industry Definitions

- Table 1 uses International Iron and Steel Industry (IISI) data, which is IISI defined.
- Table 2 uses Standard Industrial Classification UK 92 (UK SIC(92) – (Office of National Statistics update UKSIC2003) code 27 (Basic Metals) excluding 27.4, 27.53 and 27.54).
- Table 3 uses UK SIC (92) code 27.1 only.
- Tables 4 uses UK SIC (92) code 27 and occupations using International Standard Classification of Occupations (ISCO) 88.
- Table 5 uses Standard Industrial Classification UK 92 (UK SIC(92) – (Office of National Statistics update UKSIC2003) code 27 (Basic Metals) excluding 27.4, 27.53 and 27.54).
- Table 6 uses UK SIC (92) code 27 and occupations using International Standard Classification of Occupations (ISCO) 88.
- Table 7 draws upon Eurostat data, which uses ECSC definitions of the steel industry.
- Table 8 draws upon Eurostat data, which uses ECSC definitions of the steel industry.

Table 1 Steel Employment In Ten Major EU Countries ('000), 1993 – 2000

Country	Year							
	1993	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*	*2000*
Germany	110	96	89	85	81	80	77	77
Italy	49	44	41	38	38	39	39	39
France	40	39	39	38	38	38	38	37
UK	39	38	38	37	35	32	29	25
Spain	27	26	25	23	23	23	22	22
Belgium	24	24	23	23	20	20	20	21
Sweden	-	-	14	14	14	13	13	13
Austria	-	-	13	13	12	12	12	12
Netherlands	13	13	12	12	12	12	12	11
Finland	-	-	7	7	7	8	8	9
Total EU	**317**	**293**	**314**	**301**	**290**	**287**	**280**	**275**

Source: Sigrid Fickinger @ Eurostat from Questionnaire 231 and 234 New Data Bank Steel (Oracle)

Table 2 Total Employed in the Metals Sector by Gender in Various Countries (000s and %s)

Country	Year	Male	% of Total	Female	% of Total	Total
Austria**	*1999*	27,553	88	3,634	12	31,187
Belgium***	*2000*	24,609	94	1,479	6	26,088
Denmark	-	-	-	-	-	-
France	-	-	-	-	-	-
Germany+	*1999*	294,758	87	42, 631	13	337,389
Greece	-	-	-	-	-	-
Italy	-	-	-	-	-	-
Lithuania++	*1999*	136,100	88	18,600	12	154,700
Luxembourg	-	-	-	-	-	-
Netherlands+++	*1999*	47,800	92	4,100	8	51,900
Poland##	*2000*	-	-	-	-	48,503
Portugal	-	-	-	-	-	-
Spain	-	-	-	-	-	-
Sweden#	*2000*	25,990	85	4,590	15	30,580
UK*	*2000*	131,602	89	16,278	11	147,880

Notes: Totals shown are the maximum valid totals (that is, excluding missing values).

Sources: * Quarterly Labour Force Survey, ** Statistik Gov, *** ONS Belgium, + Statistisches bundesamt, ++ Astra Machinery – Vidmantas Tutlys, +++ CISY-HRS-PSA-IDP Weiland, # statistical office (SCB), ## Sekretariat Metalowcøw (Adam Ditmer).

Table 3 Total Employed by Gender in Steel in Belgium, Germany and the UK

Country	Year	Male	% of Total	Female	% of Total	Total
Belgium***	*2000*	18,188	96	842	4	19,030
Germany+	*1999*	100,817	90	11,040	10	111,857
UK*	*2000*	34,447	94	2,126	6	36,573

Notes: Totals shown are the maximum valid totals (that is, excluding missing values).

Sources: * Quarterly Labour Force Survey, *** ONS Belgium, + Statistisches bundesamt

Table 4 Number of Employees by Occupational Status and Gender in Austria, Sweden and the UK.

Country and Year	Occupational Status[1]	No. Of Workers In Each Category Employed In Steel By Gender	
UK 2000		Male	Female
	Legislators, Senior Officials and Managers	14,310	3,497
	Professionals	4,622	322
	Technicians and Associate Professionals	18,094	1,839
	Clerical	5,651	7,583
	Service and sales workers	355	-
	Crafts and related trades workers	40,387	366
	Plant and Machine Operators, etc.	38,972	869
	Elementary Occupations	9,211	1,802
	TOTAL	131,602	16,278
AUSTRIA 1999		Male	Female
	Working Holder	9	2
	Working Family Member	1	2
	White Collar	6,223	2,016
	Merchant Apprentice	36	106
	Blue Collar	20,221	1,484
	Industrial Apprentice	1,063	18
	Outworker	0	6
	TOTAL	27,553	3,634
SWEDEN 1999		Male	Female
Non-Manual	Legislators, senior officials &managers	1,950	110
	Professionals	1,110	290
	Technicians and similar professionals	2,340	720
	Clerks	420	830
Manual	Service workers and sales workers	-	-
	Craft and related trades workers	1,840	-
	Plant and machine operators	16,950	2,050
	Elementary Occupations	880	350
	TOTAL	25,490	4,350

Notes: UK classifications based on ISCO88.
WORKING HOLDER: self-employed (owners of enterprises).

Source: UK: Quarterly Labour Force Survey, Austria: Statistik Gov, SCB Statistical Office

Table 5 Number of Employees by Country of Birth

Country	Number of Workers Employed in the Steel Industry					
Country of Birth	HOME		EU NATIONAL*		OTHER	
UK	Male	Female	Male	Female	Male	Female
	126,730	15,261	1,115	0	3,381	1,017
Germany	287,094		14,222		36,073	
Netherlands (1995 Social Unit)	Not Available		582		81	

Source: Source: Netherlands: CISY-HRS-PSA-IDP Weiland, Germany: Statistisches bundesamt, Sweden: SCB Statistical Office, UK: Database – Dataarchive (Quaterly Labour Force Survey)

Table 6 Occupational Status by Country of Birth

	OCCUPATIONAL STATUS	NATIONALITY OF EMPLOYEES					
		HOME		EU *		OTHER	
UK		Manual	Non-manual	Manual	Non-manual	Manual	Non-manual
	Legislators, Senior Officials, Managers	-	17,807	-	-	-	-
	Professionals	-	4,457	-	-	-	487
	Technicians and Associate Prof.	9,211	9,124	-	547	607	444
	Clerical	3,148	9,108	-	568	-	410
	Service and sales workers	-	355	-	-	-	-
	Crafts and related trades workers	40,753	-	-	-	-	-
	Plant and Machine Operators, etc.	38,072	-	-	-	1,769	-
	Elementary Occupations	9,553	403	-	-	1,057	-
	TOTAL	100,737	41,254	0	1,115	3,433	1,341
SWEDEN	Legislators, senior officials &managers	-	1,880	-	150	-	-
	Professionals	-	1,270	-	60	-	70
	Technicians and similar professionals	-	2,780	-	180	-	80
	Clerks	-	1,180	-	-	-	-
	Service workers and sales workers	-	-	-	-	-	-
	Craft and related trades workers	1,690	-	180	-	30	-
	Plant and machine operators	16,520	-	1,850	-	640	-
	Elementary Occupations	1,030	-	90	-	110	-
	TOTAL	18,970	7,110	2,120	390	780	150

Note: For Sweden, this is Nordic countries excluding Sweden. Note: This is one instance where the inconsistency in Swedish data is highlighted.

Source: Sweden: SCB Statistical Office, UK: Database – Dataarchive (Quaterly Labour Force Survey)

Table 7 The Age Profile of the EU Iron and Steel Workforce, 1993 – 1999 (ECSC)

Age	Year						
	1993	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*
<=19	4,758	4,099	4,238	3,747	3,502	1,024	1,082
20 – 24	15,855	13,976	14,878	12,931	12,483	6,924	7,226
25 – 29	29,756	26,239	27,210	24,549	23,496	12,343	13,196
30 – 34	36,782	34,564	37,273	34,740	32,890	15,672	15,987
35 – 39	43,408	40,400	42,378	40,601	38,948	19,202	20,997
40 – 44	58,257	53,203	54,076	49,676	46,280	23,327	25,653
45 – 49	65,672	62,861	67,479	64,809	61,158	32,516	37,265
50 – 54	47,881	43,054	43,969	44,676	48,258	29,362	38,208
55 – 59	14,502	11,882	12,830	13,633	15,353	9,100	12,881
>=60	2,055	1,740	2,095	2,502	2,198	1,879	1,878
Total	**318,926**	**292,018**	**306,426**	**291,864**	**284,566**	**151,349**	**174,373**

Source: Questionnaire 234, New Data Bank Steel (Oracle) (Eurostat1)

Table 8 Proportion of EU Iron and Steel Workforce in Ten Year Age Brackets, 1993 – 1999 (% Total EU)

Age Bands	Year						
	1993	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*
<=19	1+	1+	1+	1+	1+	1-	1-
20 – 29	14	14	14	13	13	13	12
30 – 39	25	26	26	26	25	23	21
40 – 49	39	40	40	39	38	37	36
50 – 59	20	19	19	20	22	25	29
>=60	1-	1-	1-	1-	1-	1+	1+
Total	**318,926**	**292,018**	**306,426**	**291,864**	**284,566**	**151,349**	**174,373**

Source: Questionnaire 234, New Data Bank Steel (Oracle) (Eurostat1 – excel)

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