

## **Minority employment patterns in the 1990s Germany**

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## I. Introduction

This paper explores the ethnic dimension of structural change, i.e. the shift towards service sector employment in Germany. To some extent structural change in OECD countries is a reflection of differences in relative productivity growth rates, and should thus be regarded as a sign of successful economic development (Rowthorn and Ramaswamy(1997)). On the other hand, it can be associated with the reorganisation and 'casualisation' of the work process, and the generation of a large number of low skill jobs, in which minorities are more likely to be found for a variety of reasons. As Sassen puts it in her analysis of the urban US economy:

[N]ew employment regimes are becoming apparent in these services-dominated urban economies which create low-wage jobs and do not require particularly high levels of education.<sup>1</sup>

This paper examines whether a process similar to the one described by Sassen applies to either Southern European minority<sup>2</sup>, or ethnic German immigrant employment in services in Germany. Using data from the German Socio-economic Panel (GSOEP), we analyse (1) the impact of the shift towards service employment on minority employment patterns, (2) the employment patterns of ethnic German immigrants who settled in Germany in the 1990s.

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<sup>1</sup> Sassen(1996), p.581.

<sup>2</sup> The term Southern European minority comprises immigrants from Turkey, (ex-)Yugoslavia, Italy, Greece and Spain, and their descendants.

## II. Minority service employment in Germany: the context

### II.I Migration

Germany experienced mass labour immigration during the economic boom of the 1960s and early 1970s, as labour shortage in low skill jobs in industry led to substantial recruitment from Southern European countries.<sup>3</sup> At the same time, recruitment was strictly regulated by the German authorities and was restricted to positions for which no native workers were available at the going wage<sup>4</sup>. It was also more or less limited to countries with whom bilateral agreements had been signed for this purpose, namely Turkey, Yugoslavia, Italy, Greece, Spain and Portugal.<sup>5</sup>

After the first oil shock in 1973, fears of unemployment ended the recruitment program and any further immigration was restricted to family members of migrants already residing in the country. Despite Germany having difficulty in accepting its status as a country of immigration, sizeable communities of ethnic minorities of Southern European origin came to exist, as the oil crisis had reduced, but far from eliminated the demand for migrant workers. In 1997, the Turkish community in Germany comprised 2.1 million people, the (ex-)Yugoslav 1.3 million, the Italian 608,000, the Greek 363,000 and the Spanish 132,000.<sup>6</sup> This paper concentrates on these five groups (collectively referred to as 'Southern European minorities')

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<sup>3</sup> While workers recruited from Turkey, Italy, Greece, Spain and Portugal tended not to possess high skill levels, a significantly larger share of those recruited from Yugoslavia were skilled workers. A representative survey of migrant employees conducted in 1972 found that 55% of Yugoslav men employed in industry were skilled workers or salaried employees, whereas the corresponding figures for the other groups were much lower: 16% for Turkish, 23% for Italian and 8% for Greek men. For women the figures were: 14% for Yugoslavs and 0% for the other three groups (reported in Koenig, Schultze and Wessel(1986), Table 55/I, p.85).

<sup>4</sup> At the time, only Italians, as full members of the European Economic Community had free access to the labour market in Germany.

<sup>5</sup> An agreement was also signed with Marocco, but recruitment remained at a negligible level (Bundesanstalt fuer Arbeit(1974)).

<sup>6</sup> Statistisches Bundesamt(1999). These figures exclude persons who have acquired German citizenship.

because they come from the main labour recruitment countries, and today account for roughly 60 per cent of non-German citizens resident in Germany.<sup>7</sup>

While immigration levels remained relatively low up to the late 1980s, Germany experienced somewhat of a 'migration shock'<sup>8</sup> in the period after that as large numbers of ethnic Germans from Central and Eastern Europe exercised their constitutional right to settle in Germany after these countries eased barriers to emigration. Restrictive measures introduced by the German authorities succeeded in bringing immigration down to around 100,000 per annum towards the end of the decade. Nevertheless, in the 1990-1998 period a total of over 1.9 million persons of ethnic German origin (or close family members) settled in Germany, thus substantially increasing labour supply.<sup>9</sup>

### *II.II Employment*

The case of minority service sector workers in Germany is especially interesting since it reflects sectoral mobility on the part of members of migrant communities who were mainly recruited for jobs in mining, manufacturing and construction. In 1972, for example, 90.2 per cent of employed Southern European men worked in industry. Even for women the corresponding figure was as high as 74.2 per cent. By contrast, in the same year the share of goods employment was 60.2 per cent for German men and 36.5 per cent for German women.

From the 1980s onwards though, structural change began to be reflected in the shift of minority employment towards

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<sup>7</sup> We use the terms 'Southern Europeans' and 'minorities' interchangeably throughout.

<sup>8</sup> my thanks to Andrew Glyn who suggested this term.

<sup>9</sup> see Erdem(2000) for a detailed analysis of immigration patterns in the 1990s.

services. For both minority men and women the share of services in total dependent employment doubled between 1979 and 1997 (up from 16.2% to 31.9% for men; up from 32.7% to 66.7% for women) (Figure 1a, 1b). These figures somewhat underestimate minority employment in services, as they exclude self employment.<sup>10</sup> Nevertheless, the general pattern illustrates that even by 1997 industrial employment continued to be disproportionately more important for Southern Europeans (especially for men) than for Germany as a whole.

This shift in employment took place within the context of falling overall employment rates for Southern Europeans. As Figure 2a shows for the period 1979-1997, in Germany as a whole the percentage of men of working age (i.e. aged 15-64) in dependent employment roughly followed the business cycle, and a slight downward trend was discernible. For Southern European men on the other hand, the trend has clearly been downward since 1979. And as Figure 2b shows, a similar trend holds for Southern European women at a time when women's employment rate in Germany has been increasing. In other words, in the second half of the 1990s a smaller proportion of minorities than ever before were in paid employment, and an increasing share of those who had jobs worked in services.

The high concentration of Southern European immigrants in goods employment has been mirrored in the literature, which for a long time has neglected the analysis of minority service sector employment trends.<sup>11</sup> And although there are by now a number of important studies on the flourishing ethnic businesses, there is still relatively little analysis of the large number of service workers outside this subsection of the labour market.<sup>12</sup>

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<sup>10</sup> Published statistics by nationality and industry only record dependent employment.

<sup>11</sup> Jones(1994), Fellberg, Neumann, Stahl(1980), and Fassman, Nuenz, Seifert(1997), to name a few, all look at either aggregate employment or goods employment.

<sup>12</sup> Helma Lutz's interesting case study of skilled Turkish women working in social services is a rare exception (summarised in

This paper tries to redress the balance through an industry level analysis of Southern European service employment. It uses the GSOEP database to look at the distribution of minority employment across service industries. It compares this to the pattern for the 'non-immigrant' population as well as the ethnic German immigrant population. In fact, the GSOEP database is one of the few data sources that allows for an analysis of ethnic German employment trends. Official statistics, in contrast, do not differentiate between ethnic Germans (who immediately receive German citizenship) and other German citizens.<sup>13</sup> Yet, the labour market impact of 1.2 million persons aged 18-64 immigrating between 1990 to 1998 should not be neglected.

### **III. The industrial and ethnic composition of service employment in Germany**

As Figures 1a and 1 b show, employment in Germany is predominantly in services. But as laid out in Table 1, even in 1997 Southern European minorities accounted for less than 5 per cent of total dependent employment in the tertiary sector. Relative to their share in aggregate dependent employment this means that they continued to be under-represented in services.

The service industries accounting for the highest share of employment in Germany are community, social and personal services, followed by wholesale and retail trade (Table 2). Somewhat more disaggregated data shows that the Southern European presence in services varies substantially across industries, but did not exceed 7% in any sector during the period under consideration (Table 3a and 3b). Compared to

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Lutz(1994)). Some of the pioneer works on ethnic businesses are Blaschke and Ersoz(1986), Hillman(1997) and Sen(1996).

services as a whole minority male employment is relatively high in transport, storage, communication and in 'other services'. The same holds true for minority female employment in 'other services'. In contrast, both groups were relatively less likely to be found in jobs in finance or public administration.

Tables 4a and 4b show the similarities between Southern Europeans with respect to the distribution of workers across service industries. For the purposes of this paper, for both men and women the distribution and the trends are similar enough to justify treating them as a single group.

Unfortunately, published statistics on employment by nationality and gender do not provide information at a more disaggregated level, and exclude the self employed, civil servants and low income part-time workers<sup>14</sup>. Furthermore, it is particularly disconcerting that the 'other services' category is an aggregation of quite diverse and large industries.

In the rest of the paper, therefore we utilise the German Socio-economic Panel (GSOEP) to gain more detailed information about service sector jobs held by minorities, including the qualificational requirements of these jobs. We use this latter variable in preference to the educational attainments of the worker, since the link between the two may be weakened through discrimination against minorities, or the inability to fully utilise human capital accumulated in the country of origin. In GSOEP, the variable that evaluates what type of occupational qualification is required for the job is coded to take on the values 'no skills', 'some induction', 'on-the-job training', 'courses', 'vocational qualification' and 'higher occupational qualification'.<sup>15</sup> In this paper we regard the

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<sup>13</sup> see Koller(1997) for one of the few survey based labour market analyses of ethnic German employment.

<sup>14</sup> Only employees making social security payments are recorded.

<sup>15</sup> The definition of occupational degree comprises course certificates and vocational or higher education degrees. The question in the panel is in the German original 'erforderliche Ausbildung im Beruf', and the answers are coded as 'keine Ausbildung', 'Einweisung', 'Einarbeitung', 'Kurse', 'Berufsausbildung', 'Fachschule/Studium'.

latter three as representative of a formal occupational qualification.<sup>16</sup> Below we briefly discuss the characteristics of the dataset that underlies the rest of our analysis.

#### **IV. The data**

The German Socio-economic Panel (GSOEP) is a representative household panel of the resident population in Germany. The contributions of GSOEP to this paper lie in the fact that we actually get a more complete picture of the labour market because of the following features of the dataset:

- (1) It includes the self employed, civil servants, part-time workers and family workers;
- (2) we can disaggregate the hybrid industry 'other services';
- (3) it allows us to look at detailed labour market information such as qualificalational requirements of service sector jobs;
- (4) it allows us to identify ethnic German immigrants.

GSOEP data is available for the 1984-1997 period. We have confined our analysis to groups for which the panel guarantees representativeness. These are citizens of Germany (including ethnic Germans), Turkey, (ex-)Yugoslavia, Greece, Spain and Italy. The similarities between the employment structure among these minority ethnic groups (see Table 4a and 4b) suggest that the procedure of aggregating them into the category 'Southern European minorities' would not seriously bias the results. Later on we add an analysis of ethnic German immigrants by splitting the German sample.

The sample has been restricted to the 15-64 age group. Persons with missing values for relevant labour market characteristics were excluded from the panel. All data has been weighted, but

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<sup>16</sup> Fassman, Nuenz, Seifert(1997), for example, distinguish between unskilled, semi-skilled, skilled workers, low skill and medium/high skill salaried employees, civil servants and the self employed. But they do not disaggregate by industry and occupation simultaneously.



the relatively small size of the panel<sup>17</sup> makes some fluctuation in the data inevitable. We concentrate our analysis on data for 1984, 1992 and 1997.<sup>18</sup> The rather small ethnic German sample means that results for this group should be interpreted with some caution. The characteristics of the resulting sample are summarised in Table 5.

#### **V. Characteristics of minority service sector jobs in the GSOEP sample**

Table 6a confirms that in the 1984-1997 period a large share of minority men worked in wholesale and retail trade, and in transport and communication. Furthermore, disaggregating what in these statistics was compiled under 'other services', we find that hotels and restaurants were an important source of employment for minority men, followed by education and health care.<sup>19</sup> This suggests a highly concentrated employment pattern for men. As column 3 shows, compared to German men, Southern Europeans were strongly over-represented in hotels and restaurants (which employed less than 4% of Germans). They were particularly strongly underrepresented in finance, public administration<sup>20</sup> and in personal and legal services.<sup>21</sup>

For minority women the disaggregation of 'other services' reveals that alongside wholesale and retail trade, the sectors hotels and restaurants, health care and education are important sources of employment (Table 6b). Compared to the

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<sup>17</sup> There are 8500-11000 Germans - of which 230 ethnic German immigrants- in the panel and 1800-2800 minorities depending on the year.

<sup>18</sup> see Haisken-De New and Frick(1998) regarding weighting.

<sup>19</sup> We put the tiny category of social security in with public administration.

<sup>20</sup> The low share of minorities in public administration may partly be linked to the fact that some civil servant positions require German citizenship.

<sup>21</sup> It should be kept in mind that since the German population is vastly larger than the minority population, overrepresentation does not mean that in these industries anything like the majority of workers belong to the Southern European minority.

sample of German women (column 3), minority women were found to be significantly over-represented in hotels and restaurants and cleaning in particular. In contrast, they were under-represented in finance, public administration, and to some extent in trade and education.

Table 7 splits the sample of service sector workers in terms of the qualificational requirements of the jobs they hold. What strikes the eye immediately is the difference between Germans and Southern Europeans in terms of the percentage of workers holding a job that requires an occupational qualification (summarised in the last rows respectively). While more than 80% of German men employed in services have 'skilled' jobs, less than half of minority men do. The gap appears to have narrowed only slightly, more so during the 1984-1992 boom than in the late 1990s' recession.

Minority women in services, on the other hand, exhibited substantial occupational mobility. While in 1984 only 28% had jobs requiring a formal occupational qualification (as against 66% of German women in services), by 1997 it was 49%. This performance is all the more impressive as the proportion of German women in skilled jobs increased during the same time (to 78%). The table shows that the result is entirely due to the doubling of the share of minority women in jobs requiring a vocational degree rather than a sizeable increase in the proportion with higher education degrees. The qualificational gap in jobs between German and minority women has therefore narrowed substantially, with most of the progress being made during the 1984-1992 boom.

To summarise the findings of Table 7: There indeed exists a large qualificational gap between the Southern European minority and Germans, with the majority of Southern Europeans holding jobs that do not require formal occupational training. And as Figures 3a and 3b demonstrate, industries with high shares of minority employment also exhibit relatively high

shares of jobs that do not require a formal qualification. In this sense, we can speak of an ethnic division in the service sector that also corresponds to a skill divide. On the other hand, by 1997 the share of minorities in low skill jobs was clearly lower than in 1984, at the same time as the share of minorities in total service employment increased (as we know from Figure 1). In this sense, we find no evidence within our sample for a disproportionate expansion of the low skill end of services as minority employment in the sector has expanded.

The second question concerning the ethnic structure of services employment is whether the employment patterns of ethnic German immigrants who settled in Germany in the last decade exhibit a trend similar to the one described by Sassen. From Table 8, which displays the industry distribution of ethnic German immigrants in 1997, it is clear that goods employment plays a very significant role for male employment (accounting for 68% of total employment), but not much for women (only 10% in goods employment). Within services, transport and communication, public administration and education employ most ethnic German men. For women, there appears to be a high concentration in health care (31%) and trade (26%).<sup>22</sup>

Koller(1997) found that ethnic German immigrants are often unable to work in occupations for which they have been trained in their home country. This is due to the fact that many skilled jobs require extensive language skills, and it is often difficult to transfer occupational skills to the German work environment. Looking at the skill requirements of the jobs in Table 9a, we find that at 73% the share of ethnic German men occupying skilled jobs in services is very high. For women, the share is 51%. Thus, while the situation of Southern European and ethnic German female workers in services appears to be somewhat similar, in the case of men there is a substantial gap and the discrepancy vis-à-vis non-immigrant

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<sup>22</sup> Given the small sample size these figures should be interpreted somewhat carefully despite the weighting procedure.

Germans is much smaller.<sup>23</sup> But if, as in Table 9b, we look at the job structure in goods and services together, it becomes clear that a significant proportion of jobs held by ethnic German men in the goods producing sector have lower qualificational requirements.

In other words, according to our sample ethnic German immigrants are clearly not concentrated in low skill jobs in services, but are more likely to do so in goods employment (especially men). For men, the high concentration of employment in low skill jobs in the manufacturing and construction sectors bears strong resemblance with the pattern of employment of Southern European male workers in the 1970s.

## **VI. Conclusions**

In the 1960s and early 1970s large numbers of workers were recruited from Turkey, Yugoslavia, Italy and Greece to work in the mining, manufacturing and construction industries in Germany. This paper has examined whether the shift towards service sector employment has been associated with a rise in the proportion of low skill jobs occupied by minority or ethnic German immigrant workers in services.

The main findings of the paper are as follows:

(1) Structural change has been associated with a rise in the share of minority workers employed in services. Nevertheless, compared to their share in employment economy-wide, Southern Europeans continue to be somewhat underrepresented in services.

(2) The majority of Southern Europeans working in services do indeed occupy low-skill jobs, and a large qualificational gap vis-à-vis the German population persists, especially in industries with high shares of skilled jobs. But evidence also

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<sup>23</sup> This situation is summarised in Figures 4a and 4b.

suggests that minorities -especially women- are increasingly occupying positions that require formal qualifications. And these trends are occurring while the overall employment rate for minorities is falling.

(3) Ethnic German men appear to be particularly concentrated in low skill jobs in the goods producing sector, whereas those who work in services are likely to hold high skill jobs. Ethnic German women's employment patterns resemble those of minority women more closely.

Based on our sample we find no evidence that the expansion in service employment has been accompanied by a rise in the share of low skilled service jobs held by minority or ethnic German immigrant workers in the 1984-1997 period. Our analysis has not considered non-manual jobs in the goods producing sector (e.g. secretaries in a car manufacturing plant), and it would be interesting to look at trends in those jobs as well.

Two more areas emerge from this paper as requiring substantial further research. First, the skill content of jobs occupied by minorities has to be compared to their educational attainments to quantify the extent of skill mismatch and discrimination in the labour market. Secondly, the declining employment rate among Southern Europeans is highly disconcerting. Apart from the question of discrimination and skill mismatch, this may well be linked to the inability of the German service sector to create jobs for persons with low skill levels who would formerly have found jobs in goods production. This points to differences in the structure of the labour market in Germany vis-à-vis the labour market in the USA or Britain.

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**Table 1: The share of Southern European minorities in dependent employment in Germany, 1972-1997**

	share in total dependent employment (%)		share in dependent services employment (%)	
	men	women	men	women
1972	8.2	6.2	2.3	2.6
1979	7.3	5.2	3.3	2.5
1984	6.4	4.2	3.3	2.5
1992	6.4	4.3	3.9	3.3
1997	6.5	4.3	4.7	3.8

*Note:* Social security contributions paying employees only.

*Source:* see data appendix

**Table 2: The distribution of employment across service sector industries, Germany 1980-1997 (%)**

	1980	1997
<i>Men</i>		
Wholesale and retail trade	22.8	26.3
Transport, storage, communication	19.7	16.5
Finance, insurance, real estate, business services	10.8	16.1
Community, social and personal services	46.6	41.1
<i>Women</i>		
Wholesale and retail trade	30.9	27.3
Transport, storage, communication	5.2	5.3
Finance, insurance, real estate, business services	10.8	15.2
Community, social and personal services	53.2	52.1

Source: calculations based on OECD Labour Force Statistics, 1998



**Table 3a: Distribution of Southern european services employment in Germany, men 1984-1997**

<i>Share in total employment in industry(%)</i>	
<i>1984</i>	
<i>Services in total</i>	3.5
Wholesale and retail trade	3.1
Transport, storage and communication	4.9
Finance and insurance	0.4
Non-profit and private household services	2.4
Public administration	1.7
Other services	5.5
<i>1997</i>	
<i>Services in total</i>	4.9
Wholesale and retail trade	4.5
Transport, storage and communication	6.1
Finance and insurance	0.8
Non-profit and private household services	3.3
Public administration	1.7
Other services	6.6
<p><i>Notes:</i> Social security contributions paying employees only. Yugoslavia includes Bosnia-Herzegovina, Croatia, Slovenia, Macedonia.</p> <p><i>Source:</i> see data appendix.</p>	

**Table 3b: Distribution of Southern European services employment in Germany, women 1984-1997**

<i>Share in total employment in industry(%)</i>	
<i>1984</i>	
<i>Services in total</i>	2.5
Wholesale and retail trade	1.5
Transport, storage and communication	1.5
Finance and insurance	0.7
Non-profit and private household services	1.6
Public administration	1.1
Other services	4.1
<i>1997</i>	
<i>Services in total</i>	3.9
Wholesale and retail trade	3.2
Transport, storage and communication	3.5
Finance and insurance	1.4
Non-profit and private household services	2.4
Public administration	1.9
Other services	5.2
<p><i>Notes:</i> Social security contributions paying employees only.  Yugoslavia includes Bosnia-Herzegovina, Croatia, Slovenia, Macedonia.</p> <p><i>Source:</i> see data appendix.</p>	

<b>Table 4a: The sectoral distribution of service sector employment among Southern European minorities by country of origin, men 1997</b>						
<i>(%) total service employment</i>	Wholesale and retail trade	Transport, storage and communication	Finance and insurance	Non-profit and private household services	Public administration	Other services
Turkey	25.9	21.6	0.9	3.0	4.7	43.9
(ex-) Yugoslavia	26.0	16.5	1.3	2.7	3.0	50.6
Italy	21.0	12.0	1.6	1.7	3.9	59.9
Greece	20.2	14.6	1.8	1.6	2.6	59.2
Spain	26.5	20.8	3.9	2.7	4.6	41.5
<i>Southern Europe</i>	24.4	17.7	1.3	2.5	3.9	50.2
<p><i>Notes:</i> Social security contributions paying employees only. Yugoslavia includes Bosnia-Herzegovina, Croatia, Slovenia, Macedonia.</p> <p><i>Source:</i> see data appendix.</p>						

<b>Table 4b: The sectoral distribution of service sector employment among Southern European minorities by country of origin, women 1984-1997</b>						
<i>(%) total service employment</i>	Wholesale and retail trade	Transport, storage and communication	Finance and insurance	Non-profit and private household services	Public administration	Other services
Turkey	20.8	4.2	1.7	3.1	5.3	65.0
(ex-) Yugoslavia	16.6	2.5	2.7	3.7	4.4	70.2
Italy	20.3	4.5	2.9	3.3	5.4	63.6
Greece	16.5	6.0	3.4	3.0	5.0	66.2
Spain	20.4	7.3	4.9	6.0	6.0	55.4
<i>Southern Europe</i>	18.8	3.9	2.5	3.5	5.0	66.4
<p><i>Notes:</i> Social security contributions paying employees only. Yugoslavia includes Bosnia-Herzegovina, Croatia, Slovenia, Macedonia.</p> <p><i>Source:</i> see data appendix.</p>						

<b>Table 5: GSOEP sample characteristics, 1984-1997</b>				
	Men aged 15-64		Women aged 15-64	
(%)	<i>Share of service employment in total employment</i>	<i>Share of employed in sample</i>	<i>Share of service employment in total employment</i>	<i>Share of employed in sample</i>
1984				
German	43.9	78.7	73.9	46.4
Southern European	18.7	82.5	42.0	47.5
1992				
German	45.2	75.5	76.0	53.4
Southern European	16.8	73.6	53.6	42.1
1997				
German	45.2	77.6	79.3	56.3
Southern European	22.7	65.5	68.1	41.1
Ethnic German immigrants	32.2	67.5	89.2	48.1
	Men		Women	
	Self employed as % of total employment	Self employed as % of service employment	Self employed as % of total employment	Self employed as % of service employment
1984-1997				
German	10.4	12.7	9.2	9.0
Southern European	4.3	17.2	4.0	6.3
Source: calculations based on GSOEP database				

<b>Table 6a: The distribution of employment across service sector industries in the GSOEP sample, men 1984-1997</b>		
	<b>Southern European</b> <i>(Share in total service employmen, % average 1984-1997)</i>	column(2) for German men / column(2)
Wholesale and retail trade	22.8	0.8
Transport, storage and communication	23.7	0.6
Finance	1.8	4.0
Hotels & restaurants*	21.9	0.2
Cleaning and maintenance*	1.1	0.6
Education, research, media*	9.4	1.4
Health care*	7.4	0.8
Public administration	5.1	4.7
Personal, legal and private household and other services*	3.8	2.0
Non-profit organisations	3.0	1.6
*) classified under 'other services' in published statistics. Source: calculations based on GSOEP database		

**Table 6b: The distribution of employment across service sector industries in the GSOEP sample, women 1984-1997**

	<b>Southern European</b> <i>(Share in total service employment, % average 1984-1997)</i>	column(2) for German women / column(2)
Wholesale and retail trade	18.4	1.3
Transport, storage and communication	2.2	2.0
Finance	3.3	1.8
Hotels & restaurants*	17.8	0.2
Cleaning and maintenance*	4.9	0.2
Education, research, media*	10.6	1.3
Health care*	24.1	0.8
Public administration	5.3	2.3
Personal, legal and private household and other services*	9.8	1.0
Non-profit organisations	3.5	1.6
*) classified under 'other services' in published statistics. Source: calculations based on GSOEP database		

<b>Table 7: GSOEP sample, percentage of service sector workers aged 15-64 by qualificational requirements of the job, 1984-1997</b>						
	German			Southern European		
<i>Men (%)</i>	1984	1992	1997	1984	1992	1997
No induction	5.5	5.3	5.4	17.0	11.8	14.3
Some induction	4.8	6.4	4.4	20.7	23.2	20.3
On-the-job training	7.2	7.1	6.2	22.6	14.5	22.6
Course diploma	13.0	12.2	11.6	7.8	14.2	4.7
Vocational qualification	49.3	44.6	46.3	24.1	25.9	29.5
Higher occupational qualification	20.3	24.4	26.1	7.8	10.3	8.6
<i>% in jobs requiring a formal qualification</i>	<i>82.6</i>	<i>81.2</i>	<i>83.9</i>	<i>39.7</i>	<i>50.5</i>	<i>42.8</i>
<i>Women (%)</i>						
No induction	9.2	8.2	6.0	43.0	18.8	17.8
Some induction	13.1	9.5	9.8	22.1	26.5	25.8
On-the-job training	11.5	8.1	6.9	7.5	10.7	7.9
Course diploma	5.8	5.0	7.0	1.4	3.0	2.9
Vocational qualification	51.7	54.1	57.0	21.6	37.0	43.2
Higher occupational qualification	8.7	15.2	13.3	4.4	4.0	2.5
<i>% in jobs requiring a formal qualification</i>	<i>66.2</i>	<i>74.2</i>	<i>77.3</i>	<i>27.5</i>	<i>44.1</i>	<i>48.5</i>
Source: calculations based on GSOEP database. Formal qualification refers to course diploma, vocational qualification, higher occupational qualification.						

**Table 8: The distribution of employment across industries in the GSOEP sample, ethnic German immigrants 1997**

	Men	Women
<i>Goods employment share in total employment (%)</i>	67.8	10.8
<i>Distribution of service employment (% share of industry in total service employment)</i>		
Wholesale and retail trade	14.4	25.5
Transport, storage and communication	20.9	-
Finance	-	2.8
Hotels & restaurants*	5.2	6.9
Cleaning and maintenance*	-	5.6
Education, research, media*	16.0	14.4
Health care*	11.2	30.6
Public administration	21.7	6.2
Personal, legal and private household and other services*	-	2.6
Non-profit organisations	10.6	5.4
*) classified under 'other services' in published statistics. Source: calculations based on GSOEP database		



<b>Table 9a: GSOEP sample, percentage of service sector workers aged 15-64 by qualificational requirements of the job, ethnic German immigrants 1997</b>		
(%)	Men	Women
No induction	11.4	11.6
Some induction	15.4	26.6
On-the-job training	-	10.8
Course diploma	10.1	9.4
Vocational qualification	47.5	39.0
Higher occupational qualification	15.7	2.6
<i>% in jobs requiring a formal qualification</i>	73.3	51.0
Source: calculations based on GSOEP database. Formal qualification refers to course diploma, vocational qualification, higher occupational qualification.		

<b>Table 9b: GSOEP sample, percentage of all workers aged 15-64 by qualificational requirements of the job, ethnic German immigrants 1997</b>		
(%)	Men	Women
No induction	8.5	12.7
Some induction	19.0	31.0
On-the-job training	15.9	9.7
Course diploma	11.9	8.4
Vocational qualification	38.1	35.9
Higher occupational qualification	6.7	2.3
<i>% in jobs requiring a formal qualification</i>	56.7	46.7
Source: calculations based on GSOEP database. Formal qualification refers to course diploma, vocational qualification, higher occupational qualification.		

## **Data Appendix:**

Employment figures for Germany are from *OECD Labour Force Statistics*, *Bundesanstalt fuer Arbeit*, and *Amtliche Nachrichten der Bundesanstalt fur Arbeit*. These employment figures refer to employees only.

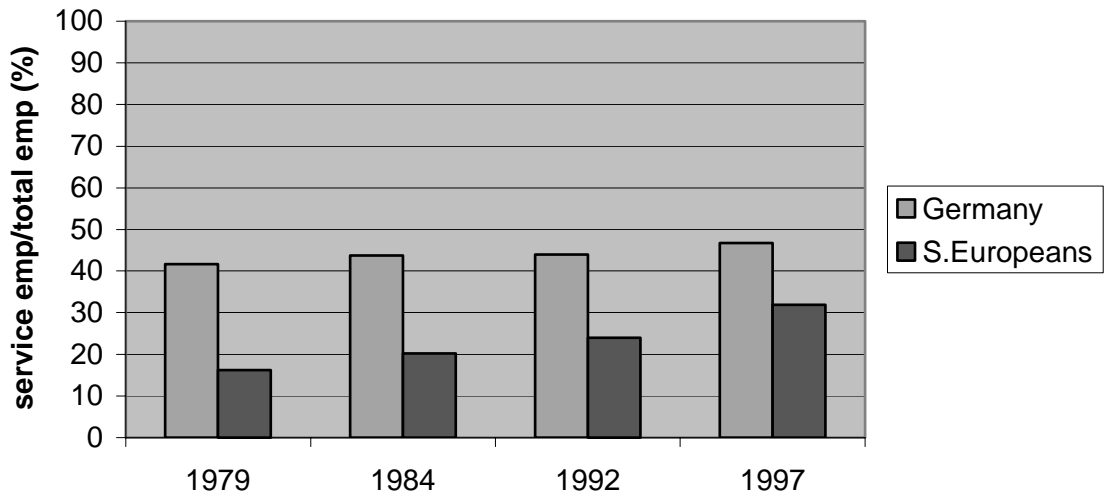
Figures for non-German employees by sector, nationality and gender are from *Statistisches Bundesamt, Fachserie 1, Reihe 4.2.,1* and *Bundesanstalt fuer Arbeit, Amtliche Nachrichten der Bundesanstalt fur Arbeit*.

Population figures are from *Statistisches Bundesamt, Fachserie 1, Reihe 2* for minorities, and *Statistisches Bundesamt, Statistisches Jahrbuch* for Germany. Where population of working age (i.e. 15-64) figures by gender and nationality were not available for a given year, the share in total population in the nearest available year was applied.

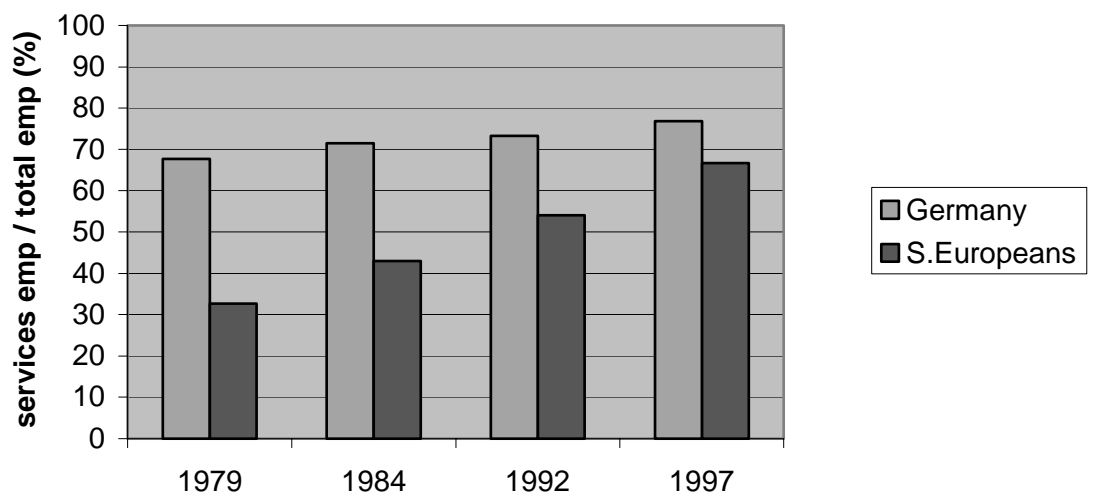
For the 1990s, all figures referring to (ex-)Yugoslavia, Slovenia, Macedonia, Croatia and Bosnia-Herzegovina were added to achieve comparability.

All other data is from the German Socio-economic Panel, provided by the Deutsches Wirtschaftsinstitut (DIW).

**Figure 1a The share of services in dependent employment, men 1979-1997**



**Figure 1b The share of services in dependent employment, women 1979-1997**

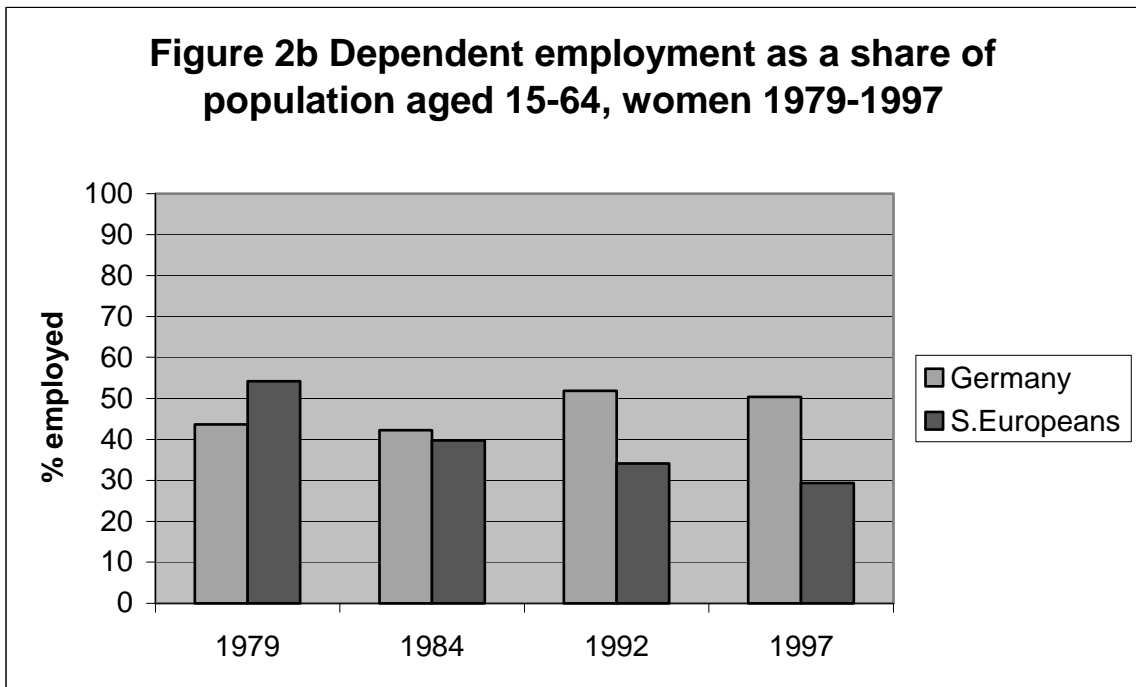


**Figure 2a Dependent employment as a share of population aged 15-64, men 1979-1997**



Note: Data for Germany refers to 1980.

**Figure 2b Dependent employment as a share of population aged 15-64, women 1979-1997**



Note: Data for Germany refers to 1980.

Figure 3a: Ethnic and qualificaltional structure of industries, men 1984-1997 average



Figure 3b: Ethnic and qualifical structure of industries, women 1984-1997 average

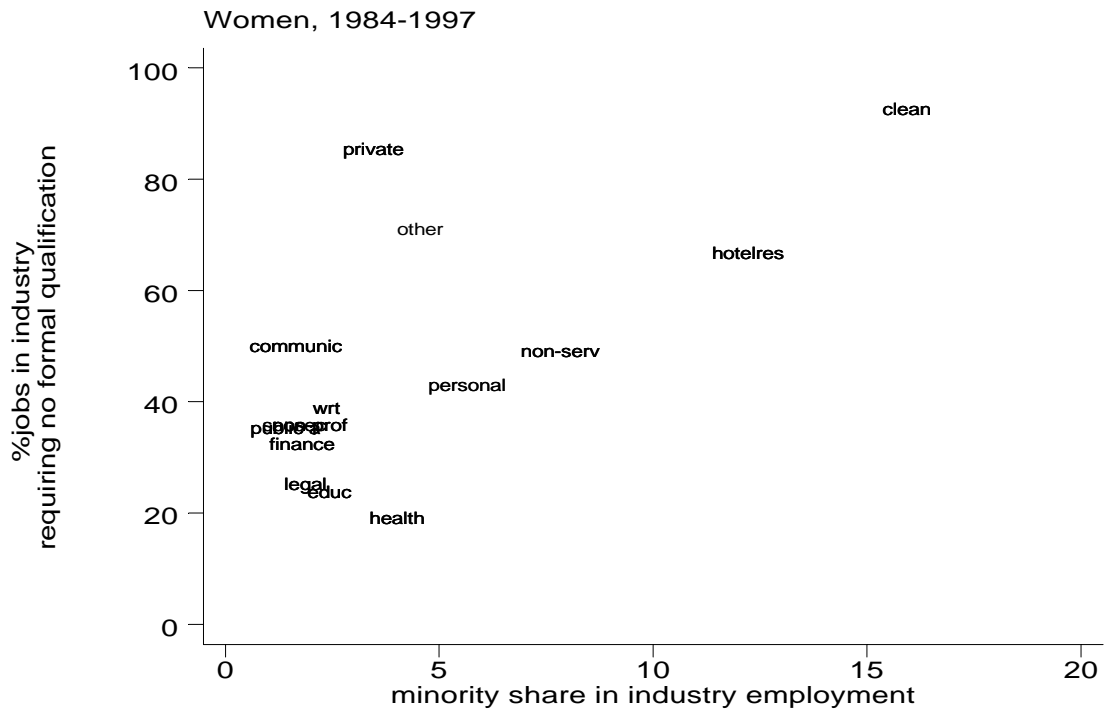


Figure 4a: The skill and ethnic pattern in services, men 1984 and 1997

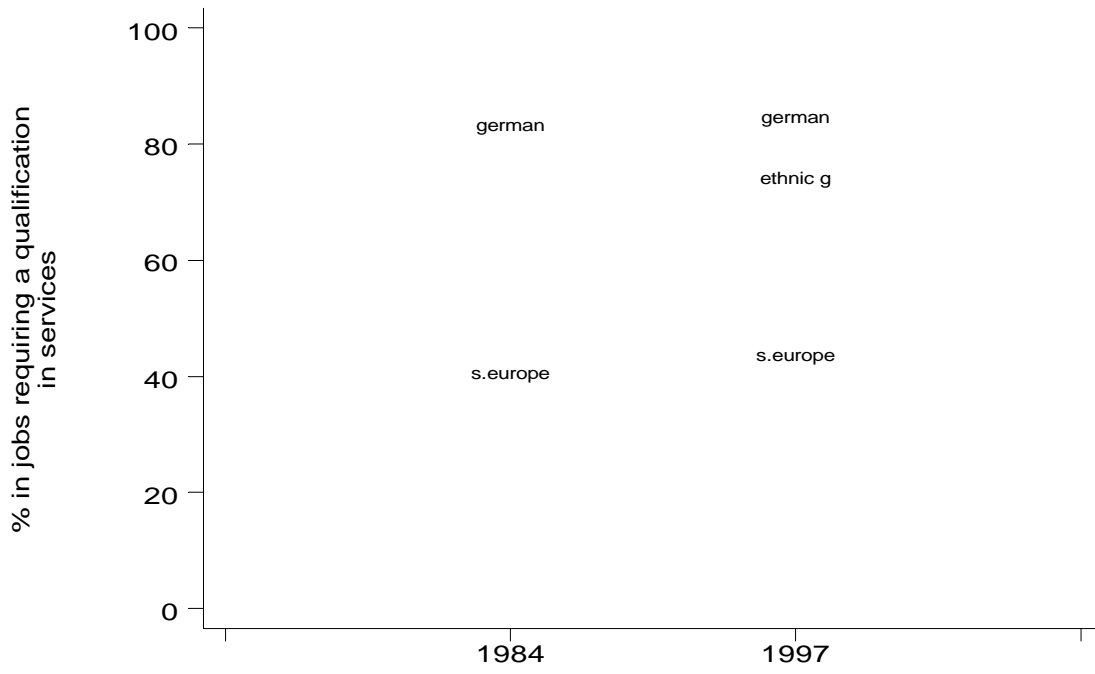


Figure 4b: The skill and ethnic pattern in services, women  
1984 and 1997

