

# To Go or Not to Go: Emigration from Germany

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**Abstract.** *This study analyses the qualitative aspects of emigration from Germany, taking account of economic and non-economic reasons. The reported willingness to emigrate from Germany in the German Socio-Economic Panel (GSOEP) is explained for men and women by three groups of variables: individual characteristics, household characteristics and regional characteristics. It transpires that the educational background and West German residency positively affect the willingness to emigrate, whereas German nationality, age and the family situation are mostly negatively correlated with it.*

**JEL classification:** F22, C20, H55.

**Keywords:** Emigration; intention variable; probit estimation; German Socio-Economic Panel (GSOEP).

## 1. INTRODUCTION

For John Hicks (1932), there was no doubt about why individuals would migrate. It is '[d]ifferences in net economic advantages, chiefly differences in wages, [which] are the main causes of migration'. According to this view economic differences induce migration from disadvantaged countries or regions to places where wages are higher, unemployment is lower and economic prospects in general are better. But how, then, can there be any emigration from high-wage countries like Germany, given that the German wages are in the range of other industrialized countries and the general economic situation is also comparable?

These observations indicate that not only differences in earnings but also other, non-earnings-related factors affect the propensity to migrate. In order to gauge the quantitative and qualitative evolution of net migration, it is important to know more about immigration *and* emigration and about the characteristics and motivations of the migrants. This paper deals with emigration in order to shed some light on factors which induce people to think about leaving their country of residence. Although emigration and

immigration are only two different sides of the same coin, the migration literature is mostly about immigration. Various studies have looked into the social and economic integration of immigrants in countries like the United States, Canada, Australia and Israel benefiting from an exhaustive collection of data. These analyses focus on who immigrates (e.g. Borjas, 1987, 1994) and on how immigrants coming from different countries of origin and arriving at different points in time adapt to the new environment (e.g. Chiswick, 1978; Borjas, 1994, for a survey).<sup>1</sup> Emigration, on the contrary, has not been much examined with the exception of emigration from industrialized countries in the form of return migration (e.g. DaVanzo, 1983; Dustmann, 1996, for a survey) and emigration from developing countries linked to the brain-drain problem (e.g. Hamada, 1996; Stark *et al.*, 1997). The educational level of emigrants is also at the centre of the small literature analysing emigration by natives from industrialized countries (e.g. Iqbal, 2000; Becker *et al.*, 2004). These studies, however, exclude many groups of (potential) emigrants by focusing on highly educated individuals.<sup>2</sup> Hunt (2000) looks at emigration patterns for a larger sample, but restricts her analysis to migration of East Germans to West Germany.

This paper complements these studies and analyses emigration from Germany with data from the German Socio-Economic Panel (GSOEP) by using the reported attitude towards emigration. The dataset enables the consideration of detailed information at the individual, household and regional level which helps to determine the characteristics of those who intend to emigrate relative to those who stay in Germany and the most important reasons for emigration.

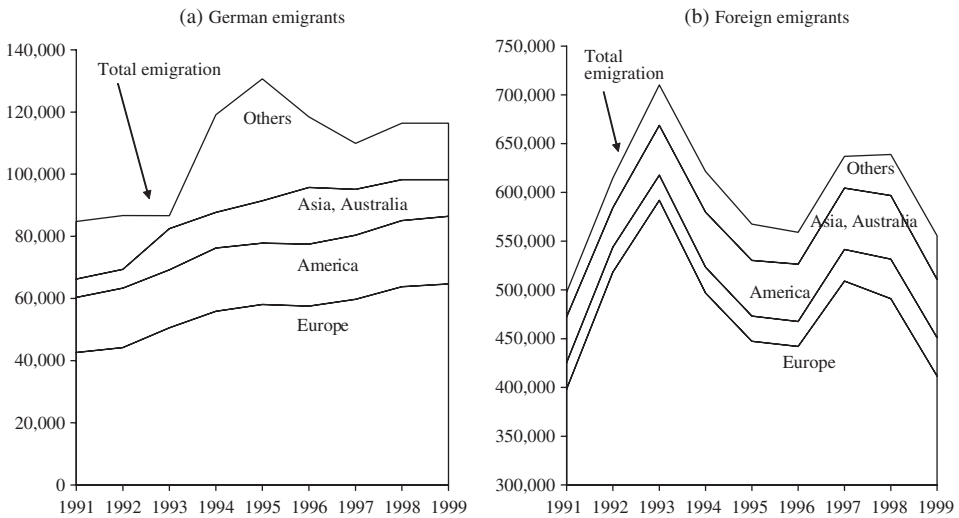
The next section presents some facts about emigration from Germany. In Section 3, the dataset is described. Section 4 develops the econometric framework and presents the results for the willingness to emigrate. Section 5 concludes.

## 2. EMIGRATION FROM GERMANY

Before concentrating on the econometric analysis, we describe the volume of emigration from Germany. Figure 1 shows the number of emigrants by region of destination from 1991–99.<sup>3</sup> Up to now, the volume of emigration of Germans from Germany is rather negligible, whereas the number of foreigners

1. Examples of empirical analyses can be found in Chiswick and Miller (1985), Beggs and Chapman (1988, 1990, 1991), Greenwood and McDowell (1991), Dustmann (1993), Schmidt (1997) and Mayer and Riphahn (2000).
2. See also EEAG (2003) for a discussion of highly skilled and highly talented emigrants from Europe to the United States.
3. As we are interested in emigration on the basis of the rules now in force, i.e. after the establishment of the freedom of movement within the European Union, we focus on emigration in recent years. For an analysis of emigration from and immigration to Germany from 1945–94, see Münz and Ulrich (1996).

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**Figure 1** Total emigration from Germany by region of destination

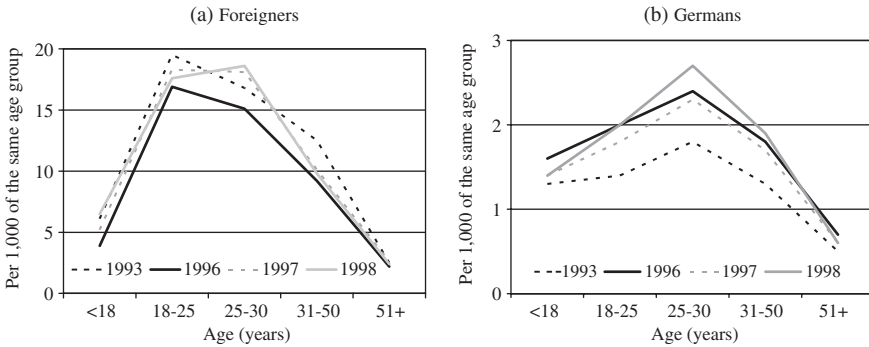
Source: Federal Statistical Office Germany (different volumes).

who leave Germany to return or to move to another country is much higher. In 1998, for example, 638,955 foreigners left, but only 116,403 Germans emigrated. Over the period from 1991 to 1999, less than 0.15% of the German population left Germany each year according to official data compared to between 7.5% and 10.5% of the foreigners. The majority of both groups have chosen another European country as their destination while about 20% of the Germans and 5% of the foreigners have moved to the United States and about 10% of both groups have left Germany for Asia or Australia.

Figure 2 shows a breakdown by age groups for the years 1993, 1996, 1997 and 1998 which we will focus on in the analysis. For all four years, one can observe that the share of individuals who emigrate increases with age up to 25–30 years for Germans and up to 18–25 years for foreigners in 1993, 1996 and 1997, and up to the age of 25–30 years in 1998. The share declines for older individuals. These data give a first idea of the quantity and quality of emigration from Germany. This will be helpful later when evaluating the plausibility of the data which we will use for the estimations. But note that the number of emigrants is probably underestimated due to problems of registration.

### 3. DATA

The data for this analysis stem from the German Socio-Economic Panel (GSOEP) – samples A, B, C, D and E. We use the waves 10 (1993), 13 (1996), 14



**Figure 2** Emigration from Germany, 1993, 1996, 1997 and 1998

Source: Federal Statistical Office Germany (various volumes).

(1997) and 15 (1998) because these waves are the only ones where individuals are asked about their intentions to emigrate. Wave 13, in addition, comprises information about the reasons if the intention to move is positive.

Individuals in the sample are between 16 and 95 years old. As the gender can be expected to influence the propensity to move in different ways – e.g. through stronger family ties for women (Naskoteen and Zimmer, 1980) and through different educational and professional careers – the sample will be subdivided into a female and a male subsample. We excluded individuals with missing values for relevant variables – mostly concerning the propensity to migrate and the schooling and work history. For the four waves considered, the sample consists of 4,354 men and 4,424 women, leading to 10,332 male observations and 10,557 female observations due to repeated answers from given individuals in subsequent years.<sup>4</sup> Table A.1 in the Appendix describes sample characteristics for the variables used in the empirical analysis.

### 3.1. Propensity to emigrate

We use the answers to the question ‘Would you consider moving to another country?’ of the GSOEP as the dependent variable. Table 1 presents sample statistics for this variable (‘move’). Women have a slightly smaller propensity to migrate than men. While 52% of the men consider migrating ‘easily’ or ‘if necessary’, the share in the female subsample is only 47%.

Tables 2 and 3 show the breakdown of the responses for women and men according to a number of personal, household and regional characteristics. Various patterns are immediately apparent. For men and women, the

4. See Section 4 for information about how the potential correlations in the error term which arise from repeated answers from given individuals are taken into account.

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**Table 1** Description of the dependent variable and sample statistics

	Women		Men	
	Mean	SD	Mean	SD
	2.408	0.917	2.519	0.876
Move	Cases	Per cent	Cases	Per cent
No	(1) 1,882	17.83	1,344	13.01
Rather not	(2) 3,766	35.67	3,610	34.94
Yes, if necessary	(3) 3,629	34.38	4,048	39.18
Yes, easily	(4) 1,280	12.12	1,330	12.87
Sum	10,557	100.00	10,332	100.00

*Source:* Waves of 1993, 1996, 1997 and 1998 (GSOEP).

propensity to emigrate decreases with age – with few exceptions – while it is positively affected by a higher school qualification. A university degree, however, does not further increase the probability compared to a higher secondary school qualification; neither does occupational training compared to an elementary or secondary school qualification.<sup>5</sup> Employed men and women display a higher propensity to emigrate than unemployed and retired. For the specific occupations considered, we find high probabilities for most of them – including self-employed and civil servants. The probability of thinking about migrating increases with income levels – even though not by much.<sup>6</sup>

Not surprisingly, Germans do not intend to emigrate as much as foreigners who already have special ties to a foreign country. Being single is correlated with a higher propensity to consider emigrating relative to being married to a German, while those with a foreign partner display the highest propensity. Children do not play an important role, but the propensity is higher for individuals living in West Germany.

As the motivation to emigrate might differ significantly between men and women and for individuals with different characteristics, we complement the

5. In Germany, young individuals with a completed educational – mostly elementary or secondary – school qualification have the opportunity to continue their education after having left school by opting for occupational training which combines vocational on-the-job training with formal education in vocational schools (*Berufsschulen*).
6. For non-retired individuals without any (information about) net wages – 1,761 out of 9,415 men and 3,358 out of 9,403 women – we simulate net wages using the Heckman (1979) procedure. The predicted net wages allow us to judge the ‘earnings potential’ for these individuals in Germany and enable us to analyse any correlation between (potential) earnings in Germany and the propensity to migrate. The estimation results are available from the author.

**Table 2** Intention of emigration (women)

Variable	Yes, easily	Yes, if necessary	Rather not	No	Total sample
Age <20	110 24.72%	172 38.65%	118 26.52%	45 10.11%	445
Age 20–29	458 16.03%	1,062 37.17%	1,017 35.60%	320 11.20%	2,857
Age 30–39	359 11.76%	1,094 35.85%	1,178 38.60%	421 13.79%	3,052
Age 40–49	185 9.06%	754 36.92%	799 39.13%	304 14.89%	2,042
Age 50–59	128 10.36%	391 31.63%	418 33.82%	299 24.19%	1,236
Age 60+	40 4.32%	156 16.86%	236 25.51%	493 53.30%	925
<b>Education (highest qualification)</b>					
Elementary	382 10.91%	1,002 28.61%	1,129 32.24%	989 28.24%	3,502
Secondary	493 10.77%	1,558 34.04%	1,818 39.73%	707 15.45%	4,576
Higher secondary	238 17.84%	559 41.90%	433 32.46%	104 7.80%	1,334
University degree	167 14.59%	510 44.54%	386 33.71%	82 7.16%	1,145
Occupational training	757 10.35%	2,413 32.99%	2,776 37.95%	1,368 18.70%	7,314
<b>Occupation</b>					
Employed	1,108 13.08%	3,135 37.02%	3,127 36.92%	1,099 12.98%	8,469
Blue-collar worker	124 12.68%	288 29.45%	365 37.32%	201 20.55%	978
Self-employed	48 14.81%	139 42.90%	98 30.25%	39 12.04%	324
Trainee	90 18.56%	201 41.44%	146 30.10%	49 9.90%	485
White-collar worker	495 12.26%	1,490 36.92%	1,606 39.79%	445 11.03%	4,036
Civil servant	35 11.25%	139 44.69%	115 36.98%	22 7.07%	311
Other	316 13.53%	878 37.60%	797 34.13%	344 14.73%	2,335
Unemployed	112 11.99%	259 27.73%	347 37.15%	216 23.13%	934
<b>Individual data</b>					
German nationality	1,112 11.12%	3,403 34.02%	3,643 36.42%	1,845 18.44%	10,003
Other nationality	168 30.32%	226 40.79%	123 22.20%	37 6.68%	554
Not married	685 15.97%	1,522 35.44%	1,365 31.78%	722 16.81%	4,295
Married	594 9.49%	2,107 33.65%	2,401 38.34%	1,160 18.52%	6,262
Foreign partner	28 19.18%	74 50.68%	34 23.29%	10 6.85%	146
German partner	566 9.25%	2,033 33.24%	2,367 38.70%	1,150 18.80%	6,116
Children under 16	509 11.02%	1,583 34.28%	1,804 39.06%	722 15.63%	4,618
No children under 16	771 12.98%	2,046 34.45%	1,962 33.04%	1,160 19.53%	5,939
West German residence	1,075 14.69%	2,780 37.98%	2,396 32.73%	1,069 14.60%	7,320
East German residence	205 6.33%	849 26.23%	1,370 42.32%	813 24.12%	3,237
<b>Labour income</b>					
Yes <sup>a</sup>	1,220 12.97%	3,394 36.09%	3,474 36.95%	1,315 13.98%	9,403
Low net income	303 12.69%	802 33.60%	860 36.03%	422 17.68%	2,387
Middle net income	604 13.00%	1,601 34.46%	1,756 37.80%	685 14.74%	4,646
High net income	313 13.21%	991 41.81%	858 36.20%	208 8.78%	2,370
No (retired)	60 5.20%	235 20.36%	292 25.30%	567 49.13%	1,154

<sup>a</sup> Actual or simulated labour income (cf. footnote 6) – with low net income referring to the first quartile of the wage distribution and high net income to the fourth quartile.

Source: Waves of 1993, 1996, 1997 and 1998 (GSOEP).

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**Table 3** Intention of emigration (men)

Variable	Yes, easily	Yes, if necessary	Rather not	No	Total sample
Age <20	81 17.84%	155 34.14%	169 37.22%	49 10.79%	454
Age 20–29	481 17.54%	1,198 43.69%	863 31.47%	200 7.29%	2,742
Age 30–39	397 12.77%	1,280 41.17%	1,098 35.32%	334 10.74%	3,109
Age 40–49	180 9.24%	770 39.53%	763 39.17%	235 12.06%	1,948
Age 50–59	144 10.67%	477 35.36%	486 36.03%	242 17.94%	1,349
Age 60+	47 6.44%	168 23.01%	231 31.64%	284 38.90%	730
<b>Education (highest qualification)</b>					
Elementary	466 12.56%	1,242 33.47%	1,261 33.98%	742 19.99%	3,711
Secondary	490 11.69%	1,246 37.36%	1,304 39.10%	395 11.84%	3,335
Higher secondary	236 16.92%	659 47.24%	428 30.68%	72 5.16%	1,395
University degree	238 12.59%	901 47.65%	617 32.63%	135 7.14%	1,891
Occupational training	841 11.56%	2,673 36.74%	2,694 37.03%	1,067 14.67%	7,275
<b>Occupation</b>					
With job	1,145 13.26%	3,552 41.13%	3,044 35.25%	895 10.36%	8,636
Blue-collar worker	317 11.12%	986 34.60%	1,082 37.96%	465 16.32%	2,850
Self-employed	108 16.69%	284 43.89%	201 31.07%	54 8.35%	647
Trainee	85 15.77%	208 38.59%	192 35.62%	54 10.02%	539
White-collar worker	379 12.33%	1,385 45.07%	1,098 35.73%	211 6.87%	3,073
Civil servant	84 12.35%	288 42.35%	238 35.00%	70 10.29%	680
Other	172 21.31%	401 47.34%	233 27.51%	41 4.84%	847
Unemployed	100 12.84%	263 33.76%	280 35.94%	136 17.46%	779
<b>Individual data</b>					
German nationality	1,166 12.05%	3,759 38.84%	3,444 35.59%	1,309 13.53%	9,678
Other nationality	164 25.08%	289 44.19%	166 25.38%	35 5.35%	654
Not married	706 16.11%	1,860 42.44%	1,401 31.96%	416 9.49%	4,383
Married	624 10.49%	2,188 36.78%	2,209 37.13%	928 15.60%	5,949
Foreign partner	33 27.97%	54 45.76%	25 21.19%	6 5.08%	118
German partner	591 10.14%	2,134 36.60%	2,184 37.45%	922 15.81%	5,831
Children under 16	493 12.04%	1,578 38.54%	1,521 37.15%	502 12.26%	4,094
No children under 16	837 13.42%	2,470 39.60%	2,089 33.49%	842 13.50%	6,238
West German residence	1,094 15.23%	3,007 41.86%	2,305 32.09%	777 10.82%	7,183
East German residence	236 7.49%	1,041 33.06%	1,305 41.44%	567 18.01%	3,149
<b>Labour income</b>					
Yes <sup>a</sup>	1,245 13.22%	3,815 40.52%	3,324 35.31%	1,031 10.95%	9,415
Low net income	293 12.31%	848 35.62%	895 37.59%	345 14.49%	2,381
Middle net income	595 12.78%	1,838 39.48%	1,699 36.50%	523 11.24%	4,655
High net income	357 15.01%	1,129 47.46%	730 30.69%	163 6.85%	2,379
No (retired)	85 9.27%	233 25.41%	286 31.19%	313 34.13%	917

<sup>a</sup> Actual or simulated labour income (cf. footnote 6) – with low net income referring to the first quartile of the wage distribution and high net income to the fourth quartile.

Source: Waves of 1993, 1996, 1997 and 1998 (GSOEP).

**Table 4** Reasons for emigration (women)

Variable	Training/ education	Better job	Retirement	Family/ friends	Total
Total	84 12.35%	269 39.56%	180 26.47%	147 21.61%	680
Age <20	18 40.91%	16 36.36%	0 0.00%	10 22.73%	44
Age 20–29	60 27.65%	104 47.93%	10 4.61%	43 19.82%	217
Age 30–39	3 1.74%	99 57.56%	26 15.12%	44 25.58%	172
Age 40–49	2 1.56%	41 32.03%	64 50.00%	21 16.41%	128
Age 50–59	1 1.18%	8 9.41%	59 69.41%	17 20.00%	85
Age 60+	0 0.00%	1 2.94%	21 61.76%	12 35.29%	34
<b>Education</b>					
Elementary	10 4.46%	74 33.04%	81 36.16%	59 26.34%	224
Secondary	27 10.15%	111 41.73%	69 25.94%	59 22.18%	266
Higher secondary	42 37.50%	43 38.39%	10 8.93%	17 15.18%	112
University degree	5 6.41%	41 52.56%	20 25.64%	12 15.38%	78
Occupational training	24 5.54%	182 42.03%	128 29.56%	99 22.86%	433
<b>Occupation</b>					
Employed	77 13.37%	231 40.10%	150 26.04%	118 20.49%	576
Unemployed	5 8.77%	31 54.39%	7 12.28%	14 24.56%	57
Retired	2 4.26%	7 14.89%	23 48.94%	15 31.91%	47
<b>Individual data</b>					
Not married	73 24.58%	120 40.40%	37 12.46%	67 22.56%	297
Married	11 2.87%	149 38.90%	143 37.34%	80 20.89%	383
Children under 16	23 8.52%	134 49.63%	50 18.52%	63 23.33%	270
No children under 16	61 14.88%	135 32.93%	130 31.71%	84 20.49%	410
West German residence	50 9.62%	198 38.08%	150 28.85%	122 23.46%	520
East German residence	34 21.25%	71 44.38%	30 18.75%	25 15.63%	160

Source: Wave 1993 of the GSOEP.

description by making use of information available in the 1993 wave of the GSOEP about the potential reasons. Tables 4 and 5 provide an overview of the reasons for migration stated by those who show a positive propensity.<sup>7</sup>

Better professional opportunities are important for 60% of the men and for 40% of the women. For those individuals, relevant differences in wages and/or employment probabilities seem to exist. However, reasons which are not directly linked to economic differences also play a significant role. Twenty-two per cent of the men and 26% of the women want to spend their

7. For this, we focus on those individuals with a positive propensity to migrate who name 'training/education', 'better job', 'retirement' or 'friends/family' as the main reason. Individuals who choose 'other reason' (372 women and 321 men) or 'no answer' (73 women and 70 men) are excluded.



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**Table 5** Reasons for emigration (men)

Variable	Training/ education		Better job		Retirement		Family/ friends		Total
Total	116	13.20%	531	60.41%	194	22.07%	38	4.32%	879
Age <20	19	46.34%	18	43.90%	2	4.88%	2	4.88%	41
Age 20–29	80	26.14%	206	67.32%	12	3.92%	8	2.61%	306
Age 30–39	13	5.78%	177	78.67%	27	12.00%	8	3.56%	225
Age 40–49	2	1.31%	92	60.13%	52	33.99%	7	4.58%	153
Age 50–59	2	1.72%	38	32.76%	72	62.07%	4	3.45%	116
Age 60+	0	0.00%	0	0.00%	29	76.32%	9	23.68%	38
<b>Education</b>									
Elementary	8	2.75%	173	59.45%	93	31.96%	17	5.84%	291
Secondary	41	15.07%	174	63.97%	46	16.91%	11	4.04%	272
Higher secondary	53	36.81%	75	52.08%	11	7.64%	5	3.47%	144
University degree	14	8.14%	109	63.37%	44	25.58%	5	2.91%	172
Occupational training	43	7.33%	369	62.86%	144	24.53%	31	5.28%	587
<b>Occupation</b>									
Employed	111	14.25%	482	61.87%	161	20.67%	25	3.21%	779
Unemployed	3	6.12%	41	83.67%	2	4.08%	3	6.12%	49
Retired	2	3.92%	8	15.69%	31	60.78%	10	19.61%	51
<b>Individual data</b>									
Not married	102	24.70%	265	64.16%	30	7.26%	16	3.87%	413
Married	14	3.00%	266	57.08%	164	35.19%	22	4.72%	466
Children under 16	34	10.21%	228	68.47%	62	18.62%	9	2.70%	333
No children under 16	82	15.02%	303	55.49%	132	24.18%	29	5.31%	546
West German residence	71	11.34%	359	57.35%	170	27.16%	26	4.15%	626
East German residence	45	17.79%	172	67.98%	24	9.49%	12	4.74%	253

Source: Wave 1993 of the GSOEP.

retirement period abroad. The motivation to migrate is thus not directly related to wage/employment differentials, although the economic situation in the destination country is important to judge the purchasing power of the pension benefits. Better institutions for training and education are the reason given by 13% of the men and 12% of the women. Again, the economic situation only plays an indirect role if these individuals reckon on better job opportunities abroad – or at home – after having completed their studies abroad.<sup>8</sup> Family reasons are mentioned by men in 4% of the cases and by women in 21%. Here, the economic situation only indirectly influences the

8. We do not have information about the intention of individuals to return after having completed their education. See Dustmann (1995, 1997) for an analysis of the long-run effects of return migrants.

decision to migrate if these individuals follow family members who might have migrated for economic reasons.

These general patterns can also be found when looking at women and men in more detail. The higher importance of better job opportunities abroad for the migration intention of men compared to women can be observed throughout, independent of individual or household characteristics. Women, on the other hand, think about migration to a much larger extent because of friends and family members who live abroad whereas this plays a negligible role for men, with the exception of the old and the retired.

Thus, the economic situation in the destination country compared to Germany plays a role for the propensity to migrate, as can be seen when looking at the importance of 'training/education' and 'better job' opportunities. But also reasons which are not directly related to economic aspects like spending the retirement period abroad or joining friends and family members are of importance. It is therefore necessary to choose an approach which is flexible enough to allow for different motivations.

### 3.2. *Intention variable*

Given the few actual emigrants in the GSOEP, and given the fact that in general information about emigration – in contrast to immigration – is hard to find,<sup>9</sup> the variable on the intention to move allows an approximation of realized migration. As Manski (1990, p. 935) states, 'intentions data do potentially convey information about behavior'.

To get a feeling for the reliability of the dataset of the GSOEP, we compare it with similar data from the study 'Performance of the European Union Labour Market' by the European Commission (1995). In this study, individuals are asked whether they would be willing to work in an EC member state different from the one of which they are a national. Thirty-four per cent of the men and 21% of the women answered the question with yes. With data from the tenth wave (1993) of the GSOEP, we find that 22% of the men and 11% of the women name better job opportunities abroad as a possible reason to think about emigrating.<sup>10</sup> In both datasets, men are more willing to migrate for professional reasons than women. It is not surprising that the numbers from the GSOEP are smaller given the fact that in the GSOEP individuals have to choose the most likely reason among several reasons.<sup>11</sup> Overall, the answers are comparable.

9. The US Census Bureau has recently developed some techniques to estimate the number of emigrants, which underlines the difficulty to obtain reliable emigration data. See Bashir and Robinson (1994) for the foreign-born population and Fernandez (1995) for the US-born population. In Germany, on the contrary, emigrants are legally obliged to give notice when leaving the country. However, the number of emigrants is probably under-reported due to registration problems, and information about the destination country is very limited.
10. Ratio of those who name 'better job opportunities' as the reason to move (Tables 4 and 5) to the 2,491 women or 2,440 men respectively in the dataset (wave 13).
11. Cf. Tables 4 and 5 for the other reasons.

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It is, however, still necessary to reconcile the different orders of magnitude of the statistical information of the Federal Statistical Office Germany and the responses in the GSOEP. From Figure 2 and Tables 2 and 3 we see that the data from the Federal Statistical Office Germany are quantitatively different but not qualitatively. The absolute number of emigrants is much lower than what one would expect from the answers to the willingness-to-migrate question. But the general picture with an increase in emigration up to the age group 25–30 for Germans and up to 18–25 (25–30 in 1998) for foreigners and a decline thereafter can be found again.<sup>12</sup>

We thus follow Burda *et al.* (1998) in assuming that intentions are a monotonic function of the variables which motivate migration. We will therefore concentrate on identifying those characteristics which affect the propensity to emigrate. We will interpret the results of the estimation accordingly, namely that individuals with these characteristics will be over-proportionally represented among the emigrants.<sup>13</sup>

### 4. ESTIMATION OF THE PROPENSITY TO MIGRATE

According to the standard human capital model,<sup>14</sup> the mobility decision of an individual is guided by the comparison of the present value of lifetime earnings – labour income and pension benefits – in the home country and in the foreign country, net of migration costs for migration at a certain age. As with all decisions, the individual chooses the alternative that maximizes utility. Thus, within this framework, migration occurs when utility with migration exceeds utility without migration. The human capital model suggests comparing the economic situation in the source and in the destination country taking migration costs into account.

However, this modelling has two shortcomings in our context. First, it neglects any reasons which are not earnings-related, but which play an important role when thinking about migration, as illustrated in Tables 4 and 5. Second, it requires that the destination country with its specific characteristics is known. However, information about the volume of emigration in general and about characteristics of the destination country in particular is mostly lacking.

Our approach alleviates both problems. We assume that the emigration decision is a function of individual characteristics, characteristics of the household and characteristics of the (home) region. We thus include economic but also non-economic factors which can be important for the (potential) migration decision and aim at identifying their effects. In addition, we abstract

12. This is confirmed by the study of the European Commission (1995). The willingness to work abroad is highest for those below 31 years (39%) and decreases to 27% for the 31–49-year-old and to 15% for the 50-year-old and older.

13. See also Papapanagos and Sanfey (2001) who use intention data to analyse emigration from Albania.

14. See Sjaastad (1962) for an early version of this model.

from variables concerning the destination countries for the analysis which can be justified as we are only interested in the attitude towards migration and not in the probability of migrating to a specific country. It is reasonable to assume that there is at least one country for individuals with a positive propensity to migrate for which the utility exceeds the utility without migration.

We focus on a systematic analysis of the data. We assume that the decision to emigrate can be approximated by the variables describing the individual characteristics, the characteristics of the household and the characteristics of the (home) region.<sup>15</sup> As the dependent variable, we use the reported propensity to move to another country which can be viewed as an ordered response with four categories: (1) 'no', (2) 'rather not', (3) 'yes, if necessary' and (4) 'yes, easily'.

As a statistical model for this categorical data we use an order probit model (maximum-likelihood estimation). Potential correlations in the error terms due to the fact that the sample includes repeated answers from given individuals in subsequent years are taken into account. For this, the repeated observations of given individuals are clustered and the assumption of independence of observations within the different clusters is relaxed while it is still required for observations across clusters.

We first estimate the model. The estimation results for the male and female subsample are given in Tables A.2 and A.3 in the Appendix, with column 1 presenting results of the basic specification and columns 2 and 3 adding measures of the occupational situation and the environment respectively. We then predict the probabilities for each outcome on the basis of the estimated coefficients for the case that the independent variables are at their sample means. In what follows we will refer to these probabilities as 'baseline probabilities'.

As the interpretation of the estimated coefficients in an ordered probit model is not straightforward, we proceed as follows. For the marginal effects, we consider marginal variations of the continuous variables and 0–1 variations of the dummy variables focusing on men or women with characteristics according to the sample means. In order to make the marginal impact of a variable on the propensity to migrate comparable across the two subsamples, we modify the marginal effects by dividing them by the baseline probabilities. This gives us the marginal impact of changes in the independent variables on the migration propensity measured in per cent of the baseline probabilities. Table 6 presents these (modified) marginal effects<sup>16</sup> where, for easier interpretation, we only display the results for categories 3

15. Burda *et al.* (1998) follow a similar approach in analysing the intention to migrate from East to West Germany.

16. The reported effects describe the marginal effects relative to the baseline probability:

$$\text{(Modified) marginal effect} = \frac{\text{marginal effect}}{\text{baseline probability}} \text{ for continuous variables (e.g. age)}$$

$$\text{(Modified) marginal effect} = \frac{\text{dummy set to 1} - \text{dummy set to 0}}{\text{baseline probability}} \text{ for dummy variables (e.g. nationality).}$$

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**Table 6** (Modified) marginal effects

Variable	Women		Men	
	Yes, easily	Yes, if necessary	Yes, easily	Yes, if necessary
Baseline probability	0.100	0.355	0.114	0.404
Age	-0.079*	-0.028*	-0.016	-0.005
	(0.005)	(0.006)	(0.005)	(0.005)
<b>Education</b>				
Secondary vs. elementary	0.353**	0.121**	0.270**	0.076**
	(0.007)	(0.008)	(0.008)	(0.008)
Higher secondary vs. elementary	0.841**	0.208**	0.544**	0.124**
	(0.013)	(0.008)	(0.012)	(0.007)
University degree vs. elementary	1.120**	0.243**	0.571**	0.133**
	(0.016)	(0.007)	(0.013)	(0.008)
Occupational training vs. not	-0.041	-0.014	-0.049	-0.015
	(0.007)	(0.009)	(0.008)	(0.008)
<b>Occupation</b>				
Unemployment rate	-0.013	-0.005	0.011	0.003
	(0.001)	(0.002)	(0.002)	(0.002)
Trainee vs. blue-collar worker	0.176	0.056	0.087	0.025
	(0.015)	(0.015)	(0.014)	(0.014)
Other vs. blue-collar worker	0.153	0.052	0.410**	0.097**
	(0.010)	(0.012)	(0.014)	(0.009)
Self-employed vs. blue-collar worker	0.435**	0.122**	0.565**	0.121**
	(0.020)	(0.015)	(0.016)	(0.008)
Civil servant vs. blue-collar worker	-0.069	-0.025	0.114	0.032
	(0.015)	(0.020)	(0.013)	(0.012)
White-collar vs. blue-collar worker	0.164*	0.057*	0.296**	0.082**
	(0.009)	(0.011)	(0.008)	(0.007)
Unemployed vs. not	0.044	0.015	0.051	0.015
	(0.011)	(0.013)	(0.010)	(0.010)
<b>Individual data</b>				
Nationality: German vs. non-German	-1.013**	-0.218**	-0.735**	-0.142**
	(0.019)	(0.008)	(0.016)	(0.007)
Residence: West German vs. East German	0.673**	0.275**	0.619**	0.219**
	(0.011)	(0.017)	(0.012)	(0.016)
Married to German partner vs. single	-0.208**	-0.072**	-0.186**	-0.055**
	(0.007)	(0.008)	(0.008)	(0.008)
Married to foreign partner vs. single	0.484*	0.131**	0.653**	0.127**
	(0.026)	(0.019)	(0.036)	(0.014)
Children under 3 vs. not	-0.393**	-0.168**	-0.141**	-0.046*
	(0.006)	(0.011)	(0.008)	(0.010)
Children from 4-6 vs. not	-0.163**	-0.063**	-0.159**	-0.053**
	(0.007)	(0.011)	(0.008)	(0.010)
<b>Income</b>				
Net hourly wage (in DM)	0.001	0.000	0.002**	0.000**
	(0.000)	(0.000)	(0.000)	(0.000)
No (retired) vs. not	-0.424**	-0.185**	0.261	0.068*
	(0.011)	(0.021)	(0.019)	(0.015)

Notes: \*\*, \* indicate statistical significance at the 5%, 10% level of the simulated effects, respectively. Standard errors (in parentheses) are calculated by using the Delta method. 1 DM = €0.51.

(‘yes, if necessary’) and 4 (‘yes, easily’).<sup>17</sup> The results confirm mostly what one would expect. We only comment on some of them.

The coefficients for the age variables are significant at the 10% level in the female subsample and insignificant in the male subsample. With a human capital theory *à la* Sjaastad (1962) in mind, we would expect the propensity to move to decrease with age as the shorter period abroad decreases the net gains of migration – at least if migration is considered for economic reasons. The very small marginal effects hint at other potential reasons which are not captured by the human capital theory, e.g. joining friends and family members or emigrating in order to spend the years as retiree abroad.

The propensity to migrate should increase with the years of education and training (Borjas, 1996). First of all, highly educated individuals might be more efficient at learning about employment opportunities abroad, thus reducing migration costs. Second, the geographic region which makes up the relevant labour market is larger for highly educated individuals than for less educated individuals. Last but not least, higher education implies better knowledge of foreign languages which is an essential prerequisite for economic and social integration.<sup>18</sup> The marginal effects show that the significant school and university variables have large effects in the expected direction. With a ‘secondary school qualification’ the probability for the ‘yes, easily’ alternative increases by 35% (27%) in the female (male) subsample and the alternative ‘yes, if necessary’ increases by 12% (8%) for women (men). The effect of a ‘higher secondary school qualification’ and a ‘university degree’ on the propensity to migrate is even larger for both men and women. In general, the marginal effect of a higher educational qualification is more pronounced for women than for men while occupational training does not have any significant effect in either subsample.

The occupation plays a significant role for a ‘self-employed’ and for a ‘white-collar worker’ in the female subsample and for a ‘self-employed’, a ‘white-collar worker’ and ‘other’ forms of occupation in the male subsample relative to an individual who is a ‘blue-collar worker’. Being self-employed is positively correlated with a higher probability to migrate for men and women. It seems therefore that the entrepreneurial spirit of a self-employed outweighs the counter-argument brought forward by Naskoteen and Zimmer (1980) that self-employment should lead to a smaller propensity to move as the self-employed are less susceptible to promotion opportunities. ‘White-collar workers’ also display a higher propensity to migrate in both subsamples.

The level of net hourly wages shows a positive and significant effect in the male subsample, but is not significantly different from zero in the female

17. The results for categories 1 (‘no’) and 2 (‘rather not’) are available from the author.

18. For example, for the relevance of language skills for social integration, see Chiswick and Miller (1995) and for economic integration Dustmann (1994).

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sample.<sup>19</sup> Retirement, i.e. no wage income, increases the propensity to migrate (+ 26% and + 7%, respectively) for men, but not for women (– 42% and – 19%, respectively).

As to the private environment, the partner variable for those who are married to a German should be negatively correlated with the propensity to move abroad as it is both partners together or the family as a whole who must gain by migrating.<sup>20</sup> Moving with the partner or the family – especially when there are children – induces higher migration costs as all members of the family incur monetary and non-monetary costs when trying to adapt to a foreign environment. Those with a foreign partner should show a higher propensity to emigrate implying that for those couples the migration costs are lower. We find that with a German partner, women and men display a significantly lower propensity to migrate compared to being single while, with a foreign partner, the propensity is higher. Children in the household have a significantly negative effect in both subsamples – though this effect is twice as large for ‘children under 3’ in the female subsample. This underlines that the mobility of women is more affected by family ties.

What is quite surprising at first sight is the significance of living in the western part of Germany in both subsamples and the impact this variable has on the propensity to migrate. Individuals who live in West Germany display a probability for the alternative ‘yes, easily’ (‘yes, if necessary’) which is 66% (28%) higher for women and 60% (22%) higher for men than for East Germans. One explanation for this phenomenon could be that more mobile individuals from East Germany have already migrated either to the West or to a foreign country or – to put it differently – that there is a negative selection regarding the mobility of individuals who still live in East Germany. The state unemployment rate, however, has no significant effect.

## 5. CONCLUSIONS

In order to shed some light on a thus far rather neglected aspect of migration, namely emigration from an industrialized country in particular by natives, this paper determines the characteristics of an individual and his or her environment which positively or negatively influence the propensity to migrate. Especially when discussing the economic consequences of the demographic development, it is important to complement the insights about the projected evolution of life expectancy and fertility with insights about migration in general. This paper aims at providing some indications about the qualitative aspects of emigration – who is most likely to emigrate and for which reasons – from an industrialized country illustrated by the case of Germany.

19. This does not change in an important way if we estimate the effect for given educational qualifications.

20. See Mincer (1978) for an analysis of migration decisions of families.

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As the analysis has shown, the probable emigrants are young, with an above-average school level and without small children. They are white-collar workers or self-employed. The propensity to emigrate is higher for individuals with a foreign nationality as well as for those residing in West Germany and increases with the wage income. It has also become clear that migration is not exclusively economically motivated. Other reasons like better training or educational opportunities, friends or family abroad or the wish to spend the retirement years in another country also play an important role.

The next step would then be to complement this qualitative study with quantitative analyses provided that the necessary data of actual migration flows are available. Information about the composition *and* the volume of emigrants could then be combined with the immigration data for better founded projections of net migration flows. This is, however, left for future research.



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### APPENDIX

**Table A.1** Descriptive statistics

Variable	Dummy	Women		Men	
		Mean	SD	Mean	SD
Age		38.30	14.05	37.81	13.32
<b>Education (highest qualification)</b>					
Elementary <sup>a</sup>	x	0.33	0.47	0.36	0.48
Secondary	x	0.43	0.50	0.32	0.47
Higher secondary	x	0.13	0.33	0.14	0.34
University degree	x	0.11	0.31	0.18	0.39
Occupational training	x	0.69	0.46	0.70	0.46
<b>Occupation</b>					
Blue-collar worker <sup>a</sup>	x	0.09	0.29	0.28	0.45
Self-employed	x	0.03	0.17	0.06	0.24
Trainee	x	0.05	0.21	0.06	0.22
White-collar worker	x	0.38	0.49	0.30	0.46
Civil servant	x	0.03	0.17	0.07	0.25
Other	x	0.22	0.42	0.08	0.28
Unemployed	x	0.09	0.28	0.08	0.26
<b>Individual data</b>					
Nationality: German	x	0.95	0.22	0.94	0.24
Residence: West German	x	0.69	0.46	0.70	0.46
Married to German partner	x	0.58	0.49	0.56	0.50
Married to foreign partner	x	0.01	0.12	0.01	0.11
Children $\leq$ 3 years	x	0.12	0.33	0.11	0.32
Children 4–6 years	x	0.08	0.27	0.07	0.26
<b>Income</b>					
Net hourly wages (in DM)		49.18	51.33	73.45	50.56
No (retired)	x	0.11	0.31	0.09	0.29
Unemployment rate (state level)		12.33		4.18	
Number of observations		10,557		10,332	

<sup>a</sup> Omitted in the estimation to avoid multicollinearity.

Source: Waves of 1993, 1996, 1997 and 1998 of the GSOEP – except for the unemployment rate which is from Federal Statistical Office Germany (various volumes).

**Table A.2** Parameter estimates (women)

Variable	Std		Std		Std	
	Coefficient	error	Coefficient	error	Coefficient	error
Age	-0.066	0.025**	-0.074	0.026**	-0.045	0.026*
Age <sup>2</sup>	0.001	0.001**	0.002	0.001**	0.001	0.001*
Age <sup>3</sup>	-0.000	0.000**	-0.000	0.000**	0.000	0.000**
<b>Education (qualification)</b>						
Secondary	0.181	0.038**	0.191	0.039**	0.198	0.039**
Higher secondary	0.410	0.050**	0.412	0.051**	0.400	0.051**
University degree	0.498	0.056**	0.493	0.059**	0.505	0.059**
Occupational training	-0.051	0.039	-0.043	0.040	-0.023	0.040
<b>Occupation</b>						
Unemployment rate (state level)	-0.052	0.004**	-0.006	0.008	-0.007	0.008
Unemployed			0.113	0.055**	0.025	0.061
Trainee			0.186	0.073**	0.095	0.076
Other			0.080	0.048*	0.085	0.055
Self-employed			0.332	0.085**	0.218	0.088**
Civil servant			0.093	0.084	-0.040	0.088
White-collar worker			0.209	0.044**	0.093	0.050*
<b>Individual data</b>						
German citizenship			-0.465	0.069**	-0.454	0.069**
West German residency			0.433	0.072**	0.425	0.072**
Married to foreign partner					0.239	0.112**
Married to German partner					-0.117	0.037**
Children ≤ 3 years					-0.255	0.045**
Children 4–6 years					-0.098	0.046**
<b>Income</b>						
Net hourly wage (in DM)					0.000	0.000
Retired					-0.279	0.086**
$\lambda_1$ : threshold for probit	-2.488	0.331	-2.127	0.366	-1.881	0.364
$\lambda_2$ : threshold for probit	-1.383	0.329	-1.001	0.365	-0.755	0.363
$\lambda_3$ : threshold for probit	-0.239	0.329	0.150	0.365	0.411	0.363
Pseudo- $R^2$	0.052		0.061		0.065	
Log-likelihood	-12,984.894		-12,874.744		-12,803.992	

Notes: Results for the constant and the 'year of survey' dummies are not reported. Reference categories are: elementary school qualification for secondary and higher secondary school qualification, blue-collar worker for trainee, other, self-employed, civil servant and white-collar worker, and not married for married to a foreign/German partner.

\*\*, \* indicate statistical significance at the 5%, 10% level, respectively, for the ordered probit estimation.

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**Table A.3** Parameter estimates (men)

Variable	Std		Std		Std	
	Coefficient	error	Coefficient	error	Coefficient	error
Age	-0.027	0.023	-0.033	0.025	-0.009	0.026
Age <sup>2</sup>	0.001	0.001	0.001	0.001	0.000	0.001
Age <sup>3</sup>	-0.000	0.000	-0.000	0.000	-0.000	0.000
<b>Education (qualification)</b>						
Secondary	0.152	0.039**	0.161	0.039**	0.154	0.040**
Higher secondary	0.363	0.046**	0.311	0.049**	0.285	0.049**
University degree	0.361	0.049**	0.335	0.052**	0.302	0.053**
Occupational training	-0.077	0.040*	-0.034	0.041	-0.029	0.041
<b>Occupation</b>						
Unemployment rate (state level)	-0.040	0.004**	0.006	0.008	0.007	0.008
Unemployed			0.040	0.052	0.029	0.052
Trainee			0.014	0.069	0.050	0.071
Other			0.258	0.058**	0.218	0.060**
Self-employed			0.290	0.063**	0.289	0.064**
Civil servant			0.064	0.063	0.065	0.065
White-collar worker			0.162	0.038**	0.168	0.039**
<b>Individual data</b>						
German citizenship			-0.362	0.057**	-0.363	0.059**
West German residency			0.423	0.071**	0.401	0.072**
Married to foreign partner					0.323	0.134**
Married to German partner					-0.109	0.038**
Children ≤ 3 years					-0.087	0.043**
Children 4–6 years					-0.099	0.046**
<b>Income</b>						
Net hourly wage (in DM)					0.001	0.000**
Retired					0.144	0.086*
$\lambda_1$ : threshold for probit	-2.075	0.308	-1.637	0.358	-1.303	0.367
$\lambda_2$ : threshold for probit	-0.927	0.308	-0.477	0.357	-0.139	0.367
$\lambda_3$ : threshold for probit	0.304	0.308	0.770	0.357	1.112	0.367
Pseudo- $R^2$	0.037		0.045		0.047	
Log-likelihood	-12,578.985		-12,474.521		-12,445.710	

*Notes:* Results for the constant and the 'year of survey' dummies are not reported. Reference categories are: elementary school qualification for secondary and higher secondary school qualification, blue-collar worker for trainee, other, self-employed, civil servant and white-collar worker, and not married for married to a foreign/German partner.

\*\* , \* indicate statistical significance at the 5%, 10% level, respectively, for the ordered probit estimation.

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## REFERENCES

- Bashir, A. and G. J. Robinson (1994), 'Estimates of Emigration of the Foreign-Born Population: 1980–1990', Population Division Working Paper No. 9, Washington, DC.
- Becker, S. O., A. Ichino and G. Peri (2004), 'How Large is the "Brain Drain" from Italy?', *Giornale degli Economisti e Annali di Economia* 63, 1–32.
- Beggs, J. J. and B. J. Chapman (1988), 'Immigrant Wage Adjustment in Australia: Cross Section and Time-Series Estimates', *Economic Record* 64, 161–167.
- Beggs, J. J. and B. J. Chapman (1990), 'Search Efficiency, Skill Transferability and Immigrant Relative Unemployment Rate in Australia', *Applied Economics* 22, 249–260.
- Beggs, J. J. and B. J. Chapman (1991), 'Male Immigrant Wage and Unemployment Experience in Australia', in: J. M. Abowd and R. B. Freeman (eds.), *Immigration, Trade, and Labor Market*, University of Chicago Press, Chicago.
- Borjas, G. J. (1987), 'Self-Selection and the Earnings of Immigrants', *American Economic Review* 77, 531–533.
- Borjas, G. J. (1994), 'The Economics of Immigration', *Journal of Economic Literature* 32, 1667–1717.
- Borjas, G. J. (1996), *Labor Economics*, McGraw-Hill, New York.
- Burda, M. C., W. Härdle, M. Müller and A. Werwatz (1998), 'Semiparametric Analysis of German East–West Migration Intentions: Facts and History', *Journal of Applied Econometrics* 13, 525–541.
- Chiswick, B. R. (1978), 'The Effect of Americanization on the Earnings of Foreign-Born Men', *Journal of Political Economy* 86, 897–921.
- Chiswick, B. R. and P. W. Miller (1985), 'Immigrant Generation and Income in Australia', *Economic Record* 61, 540–553.
- Chiswick, B. R. and P. W. Miller (1995), 'The Endogeneity between Language and Earnings: International Analyses', *Journal of Labor Economics* 13, 246–288.
- DaVanzo, J. (1983), 'Repeat Migration in the United States: Who Moves Back and Who Moves On?', *Review of Economics and Statistics* 65, 552–559.
- Dustmann, C. (1993), 'Earnings Adjustments of Temporary Migrants', *Journal of Population Economics* 6, 153–168.
- Dustmann, C. (1994), 'Speaking Fluency, Writing Fluency and Earnings of Immigrants', *Journal of Population Economics* 7, 133–156.
- Dustmann, C. (1995), 'Savings Behavior of Return Migrants', *Zeitschrift für Wirtschafts- und Sozialwissenschaften* 115, 511–533.
- Dustmann, C. (1996), 'Return Migration: The European Experience', *Economic Policy* 11, 215–250.

## To Go or Not to Go: Emigration from Germany

- Dustmann, C. (1997), 'Return Migration, Uncertainty and Precautionary Savings', *Journal of Development and Economics* 52, 295–316.
- EEAG (2003), *Report on the European Economy 2003*, European Economic Advisory Group at CESifo, Munich.
- European Commission Directorate-General for Economic and Finance Affairs (1995) 'Performance of the European Union Labour Market', *European Economy* 3, Brussels.
- Federal Statistical Office Germany (various volumes), *Statistisches Jahrbuch für die Bundesrepublik Deutschland*, Metzler & Poeschel, Wiesbaden.
- Fernandez, E. W. (1995), 'Estimation of the Annual Emigration of U.S. Born Persons by Using Foreign Censuses and Selected Administrative Data: Circa 1980', Population Division Working Paper No. 10, Washington, DC.
- Greenwood, M. J. and J. M. McDowell (1991), 'Differential Economic Opportunity. Transferability of Skills, and Immigration to the United States and Canada', *Review of Economics and Statistics* 73, 612–623.
- Hamada, K. (1996), *Strategic Approaches to the International Economy: Selected Essays of Koichi Hamada*, Edward Elgar, Cheltenham.
- Heckman, J. J. (1979), 'Sample Selection Bias as a Specification Error', *Econometrica* 47, 153–161.
- Hicks, J. R. (1932), *The Theory of Wages*, Macmillan, London.
- Hunt, J. (2000), 'Why do People still Live in East Germany?', NBER Working Paper No. 7564, Cambridge, MA.
- Iqbal, M. (2000), 'Brain Drain: Empirical Evidence of Emigration of Canadian Professionals to the United States', *Canadian Tax Journal* 48, 674–688.
- Manski, C. F. (1990), 'The Use of Intentions Data to Predict Behaviour: A Best-Case Analysis', *Journal of the American Statistical Association* 85, 934–940.
- Mayer, J. and R. Riphahn (2000), 'Fertility Assimilation of Immigrants: Evidence from Count Data Models', *Journal of Population Economics* 13, 241–261.
- Mincer, J. (1978), 'Family Migration Decision', *Journal of Political Economy* 86, 749–773.
- Münz, R. and R. Ulrich (1996), 'Internationale Wanderungen von und nach Deutschland, 1945–1994', *Allgemeines Statistisches Archiv* 80, 5–35.
- Naskoteen, R. A. and M. Zimmer (1980), 'Migration and Income: The Question of Self-Selection', *Southern Economic Journal* 46, 840–851.
- Papapanagos, H. and P. Sanfey (2001), 'Intention to Emigrate in Transition Countries: The Case of Albania', *Journal of Population Economics* 14, 491–504.
- Schmidt, C. M. (1997), 'Immigrant Performance in Germany: Labor Earnings of Ethnic German Migrants and Foreign Guest-Workers', *Quarterly Review of Economics and Finance* 37, 379–397.
- Sjaastad, L. A. (1962), 'The Costs and Returns of Human Capital Migration', *Journal of Political Economy, Supplement* 70, 80–93.
- Stark, O., H. Christian and A. Prskawetz (1997), 'A Brain Gain with a Brain Drain', *Economics Letters* 55, 227–234.