FACTORS INFLUENCING EARNINGS MOBILITY IN USA AND GERMANY (1985-87) - A BIVARIATE PROBIT MODEL

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ABSTRACT

This paper draws from the evidence that there are similar levels of mobility in USA and Germany and tries to compare whether they are accompanied by similar impacts of changes in labor market outcomes as well as individual and family characteristics on earnings mobility. We employ methodology developed by Finnie and Gray (1998) who used binominal probit model and split analysis into study of advancing and degrading individuals on the relative earnings distribution (quintiles). We find that any changes in self-employment status (relatively to being employed in both periods) increase both probability of moving up and down in two countries, with much higher effects for moving down in Germany. Higher education has both protective and "prospective" effects with higher magnitudes for Germany. Individuals aged 35-44 in Germany, and 25-34 have highest probability of moving up.

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1 Introduction

Changes in earnings distribution received considerable attention mainly due to its general increase in industrialized countries during recent decades (Gottschalk and Smeeding 1997 and in USA: Levy and Murname 1992). Since according to generally accepted methodology developed by Atkinson (1970) higher levels of inequality decrease welfare (this notion is based on stochastic dominance and excludes case where Lorenz curves cross), this trend is still a concern for policy makers.

However, this tendency might not be as harmful if we take into account another aspect of earnings distribution which has slightly different impact on welfare, namely - earnings mobility. One of the interesting aspects of mobility is that, as showed by Shorrocks (1978), long run inequality can be only lower than short run inequality. He also proved that when we assume usual social welfare function, then higher mobility increases welfare. This has implications on international comparisons of inequality since even though one country might have higher cross-sectional inequality, it can be offset by higher mobility level and actually exhibit lower long-run inequality. Also, another aspect of dynamics of earnings distribution is related to the fact that society might prefer higher probabilities of transitions out from poverty. If we view "equalizing transformations" (Ok and Kranich, 1998) as movements on income scale such that individuals leave poverty, we can claim that certain patterns of mobility decrease inequality of opportunity.

Interestingly, as levels of earnings inequality differ considerably between countries, there seems to be relatively little variation in earnings mobility. One of the well studied cases (which is also used in this paper), compares USA and Germany. Studies show that inequality in USA is greater regardless of measure of income (Burkhauser, Frick and Schwarze 1997), selection of equivalence scales (Burkhauser, Smeeding and Merz 1996), and that even taking into account

mobility, long run inequality is also greater in USA (Burkhauser and Poupore 1997). However, besides well documented differences in earnings inequality, Burkhauser, Holz-Eakin and Rhody (1997) showed that earnings mobility was relatively very similar between these two countries during 1980s. Thus, this paper tries to make another step in this analysis and see whether determinants of earnings mobility were different in those two countries in the years 1985-87.

Studies examining factors that can influence mobility were done for USA by Duncan and Morgan (1981) who examined the influence of labor market outcomes and changes in family composition on family income mobility during 70s, and by Gittelman and Joyce (1999) during 80s. Also, Burkhauser et al. (1991) studied changes of economic status by men and women after marital split in United States and Germany. Finally, Finnie and Gray (1998) examined influence of demographic characteristics of individuals on earnings mobility in Canada.

This paper employs methodology developed by Finnie and Gray (1998) who used binominal probit model and split analysis into study of advancing and degrading individuals on the relative earnings distribution (quintiles). We find that any changes in self-employment status (relatively to being employed in both periods) increase both probability of moving up and down in two countries, with much higher effects for moving down in Germany. Higher education has both protective and "prospective" effects with higher magnitudes for Germany. Individuals aged 35-44 in Germany, and 25-34 have highest probability of moving up.

2. Data and Methods

DATA

In this study we use harmonized datasets prepared by Panel Comparability (PACO) project (Shaber et al. 1993); available countries and years are presented in table 1. These

databases have been created from national surveys (USA - PSID, Germany - GSOEP) by transforming original files into format desired by PACO. The aim of this project is to provide compatible data sets with standardized variables to allow for international comparisons. Each file contains extensive set of income variables with selected demographic characteristics on individual and household levels (Schmaus 1994).

In this project we select years 1985-1987 for our analysis since for that time period we have records for both Germany and USA. In creation of panels we select individuals who had positive earnings in both years 85/86 and 86/87. Then, we "add" those two panels and thus we analyze in this work average one-year mobility in period 85-87.

Moreover, we select to our analysis only individuals aged between 25 and 64 in adjacent years (thus, in first year we would not have included individual aged 64, and in second year individual aged 25). This selection is dictated by possible differences in age of individuals entering labor market, and the ones who retire in two countries.

Our major dependent variable is difference in quintiles in two subsequent years (85/86 and 86/87). In order to construct it, we first compute quintiles for each year using all individuals who had positive total earnings in each single year. Even though some individuals are be dropped in matching the files (missing records in one of the panel years), we decided to use "full" files in order to be able use proper weights - in this way assignment to quintiles is correct relative to other demographic groups. Thus, because of this attrition our transition matrix does not necessarily show that there are 20% in each group.

As in Gittlerman and Joyce (1999) we concentrate on four classes of variables: (1) labor market experience; (2) changes in family composition; (3) family characteristics; and (4) characteristics of the individual. We also compute distance from quintile's boundaries - from

lower and upper, as well as dummies for starting quintile. An innovation of our specification is inclusion of transition between self-employment and other employment.

METHODS

In order to compare levels of mobility we first compute transition matrices for all individuals for whom we were able to compute quintiles in both years. Note that not all of those individuals might be later used in econometric study due to missing values.

Then we compute difference in quintiles in adjacent years and compute means for 1's in dummy variables used in econometric model. We also perform ANOVA of selected group vs. others. Such basic results might give us some indication for predictions in our probit models.

We use probit model for studying influence on probability of movements up and down. For movement up we have individuals who either stayed in quintile or moved up, and the same for movers down. Thus, we use stayers as comparison group in those two cases.

Thus, we will estimate two models for moving up and down using standard probit specification:

$$Pr(m)=\Phi(\alpha+\beta X_i+\gamma \Delta Z_{ij})$$

where Φ is a standard normal cumulative distribution function, *i* indexes first period and *j* second period; *m* denotes "choice" indicator of whether individual moved up or stayed, or whether moved down or stayed; X_I represents characteristics of an individual/household which do not change over time and are taken at first period; ΔZ_{Ij} represent characteristics of an individual/household which do change over time.

We report probit coefficients along with marginal effects. For continous variables marginal effects are computed at mean values of all variables with:

$$\partial\Phi(a + b\underline{X}_i + c\Delta\underline{Z}_{ij})/\partial x_k = \phi(a + b\underline{X}_i + c\Delta\underline{Z}_{ij})\, b_k$$

where ϕ is standard normal density function; k indexes independent variable; a,b,c are estimates of α, β, γ; and $\underline{X}_i$, $\underline{Z}_{ij}$ are sample means of $\underline{X}_i$, $\underline{Z}_{ij}$.

For discrete variables we compute difference in probability (those are indicated with stars in output tables) with all other variables being evaluated at mean values:

$$\Phi\,[(a + b\underline{X}_i + c\Delta\underline{Z}_{ij})]\,|_{x(k)=1} - \Phi\,[(a + b\underline{X}_i + c\Delta\underline{Z}_{ij})]\,|_{x(k)=0}$$

where x_k is being set to 0 and 1 respectively.

Since we "add" files, we select the same individuals and there is clear correlation between individuals since these are the same individuals whenever they are in the consecutive year. Since in this case standard errors are incorrect, we computed robust standard errors as suggested by Huber (1967) (we use available option in Stata 5.0).

In all estimations we use analytical weights which use original weights from first year (we always use them), but preserve the same number of observations.

3. Results

We present transition matrices for each country in tables 2a and 2b. These results let us compare level (or extent) of mobility between countries. Even though transition matrices are not

completely correct (percentages in quintiles do not add up to 20%), the pattern of "attrition" is very similar for USA and Germany. Both have lower percentages of individuals in the first quintiles (below 18%).

As a first step in our analysis we want to compare relative mobility between countries. We use very simple measure of immobility which is just a proportion of individuals on the diagonal (results are summarized in table 2c). For Germany it is 68.86%, while for USA we have 68.03%. Also, we can compute proportion of individuals moving by one quintile and by more than two (any direction) - this might indicate patterns of the dynamics. For Germany move by one (up or down) is 25.2%, while for USA we have 26.51%. For moves higher than two quintiles we have for Germany 5.95%, and for USA we obtain 5.44%. Thus, from those very robust numbers we can conclude that unconditional relative mobility was very similar in those countries between 1985 and 1987. This confirms findings of Burkhauser, Holtz-Eakin and Rhody (1997).

Before we estimate our econometric model we want first to have a very general view of how mobility changes across our discrete independent variables. Thus, we create variable which indicates jump (difference between being in quintile of first year and quintile in the second year), and compute mean of this variable for different independent variables. Then we perform ANOVA tests of whether mean of difference in quintiles for selected group (1 for dummy variable) is different from the mean of everyone else. One should note that this measure assumes linear relationship between mobility and any independent variable, and does not control for possible covariates. We present results in table 3.

The only significant variables indicating changes between employment and self-employment are changes from self-employment to employment for both countries. They have positive effect in either country suggesting that workers might anticipate change in the working

status, or take the jobs which give them at least as high gains as when they were self-employed, but with less risk. However, it is worth noting that the means for all changes related to self-employment have relatively big variances, which might suggest that there is a lot of movement related to changes of those characteristics, though the direction is undetermined. Thus, our probit model might reveal information (and it does) about how those changes influence separately move up, or move down.

Effects of age seems the same in two countries, however, it is worth noting that category with the lowest statistical and absolute difference in movement between quintiles (lowest mean and standard deviation), is 45-54 in Germany, and 35-44 in USA. That might be related to the fact that either experience has higher rent in Germany than in USA, and that the former country has much more protective system which prevents high drops of earnings for older workers, even though they might be less productive.

Means of quintile differences by education also seem similar as signs are the same for the same categories. However, it is interesting to note that earners in USA with only primary education have much higher downward movement than other categories and this tendency is also statistically significant. That might be related to the fact that in USA there is higher rent to education, and as college education becomes much more common and desired, those with only basic educational achievement fall very short in their relative earnings.

Demographic changes seems not to have big effects on the mean difference in quintiles, and this phenomenon is most probably result of selection of earnings as our income variable. It is possible that using equivalent income on household level, as employed by Gittelman and Joyce (1999), those family changes would have higher impact on overall mobility.

PROBIT RESULTS

We present results of marginal effects from our estimated probit models for moving up and moving down in tables 4a and 4b, respectively. All estimates are computed at sample means, while for dichotomous variables we compute difference in probability between variable having value 1 or 0, with other variables being at sample means.

Results for changes in employment status seem to reveal some effects which were not apparent when we only looked at the means of difference in quintiles presented in table 3. The effect of leaving self-employment, which was positive on relative earnings position in table 3, becomes less transparent - it both influences positively move up and down in two countries. In USA it increases probability of moving up by 14% and probability of moving down by 11%. Conversely, in Germany it does not have significant effect on moving up, although it increases probability of moving down by around 19% (we need to be careful with this interpretation since this coefficient has relatively high standard error).

One interesting result is that being self-employed in two periods increases both probability of moving up and down in two countries, with much higher positive effect on moving down. This may suggest that this group have in general higher mobility due to high risk of being an entrepreneur, so that those individuals always move on a relative income scale: either up or down - and rarely stay in the same position (this might explain high variance of this variable in table 3). This tendency is general for any changes related to self-employment status.

The highest effect on moving down is experienced by individuals who change from employment to self-employment, as this increases probability of degradation by 56% in Germany, and 33% in USA. That is most probably related to the effect of incurring a lot of fixed

costs when individuals start a new business as the risk of success of an enterprise is the highest at its beginning.

The effects of age are very similar (although not statistically significant) in both countries, with higher probability of moving up by the youngest group (25-34) in USA, and by prime age individuals (35-44) in Germany. Also, positive effect of moving down is the higher for individuals 35-44 in both countries, and averages around 3.5-4%.

Higher education in Germany is promoting move up on the relative earnings scale by almost 22%, while in USA by 13%, and it is protecting movement down by 15% in Germany and 6% in USA. This result might suggest higher value of only highest education in Germany. We can also see that high-school education does not help to promote positive mobility in Germany, but it does so in USA by 9%. On the other hand, high-school education decreases probability of degradation in Germany by 8%, although it has no significant effect in USA.

4. Discussion

The motivation of this paper is the evidence that even though inequality in Germany is much lower than in USA, both countries experience very similar levels of mobility. Thus, we tried to investigate whether factors influencing earnings mobility are different between two countries. In general, patterns seems to be similar. We find that any changes in self-employment status (relatively to being employed in both periods) increase both probability of moving up and down in two countries, with much higher effects for moving down in Germany. Higher education has both protective and "prospective" effects with higher magnitudes for Germany. Individuals aged 35-44 in Germany, and 25-34 have highest probability of moving up.

Moreover, methodology developed by Finnie and Gray (1998) appeared to be relatively successful in analyzing phenomenon of earnings mobility and it seems to be promising approach in comparing earnings mobility between countries, or changes in one country over time. We were able to find certain differences in determinants of earnings mobility between countries which have different levels of inequality even though they happened to have very similar levels of mobility.

Finally, this research might be improved by better specification of the set of independent variables. For example, barely significant differences of impact by age and education groups might reveal more information when interacted with gender (as suggested by Finnie and Gray 1998). Also, certain specification checks, like inclusion of changes in labor market characteristics of spouses, year dummies and duration in quintiles, might improve results obtained in this work. However, future research should probably be continued on longer periods of time as that might reveal more stable patterns. There are already available other equivalent datasets of Germany and USA which cover more years (Burkhauser et al, 1995).

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Table 1: List of available countries and years in the PACO Data Base

	Reference year											
Country	83	84	85	86	87	88	89	90	91	92	93	94
France (Lorraine)												
Germany												
Hungary												
Luxembourg												
Poland												
UK												
USA												

Table 2a. Transition matrix for Germany.

Beginning year	End year 1	2	3	4	5	Total
	12.45	2.78	0.78	0.28	0.21	16.50
1	*873*	*236*	*56*	*26*	*15*	*1206*
	2.79	12.24	3.57	0.96	0.44	20.00
2	*204*	*1072*	*333*	*79*	*27*	*1715*
	0.67	3.46	12.23	4.30	0.44	21.10
3	*63*	*316*	*1134*	*364*	*36*	*1913*
	0.47	0.71	3.60	13.88	2.56	21.22
4	*29*	*66*	*348*	*1072*	*192*	*1707*
	0.22	0.36	0.41	2.14	18.06	21.19
5	*11*	*20*	*30*	*167*	*1105*	*1333*
	16.60	19.54	20.59	21.57	21.71	100.00
Total	*1180*	*1710*	*1901*	*1708*	*1375*	*7874*

Note1: percentages are computed from weighted numbers of obs., while we report unweighted no. of obs. in italics.

Table 2a. Transition matrix for USA.

Beginning year	End year 1	2	3	4	5	Total
	12.80	3.89	0.96	0.22	0.06	17.93
1	*1868*	*563*	*127*	*27*	*5*	*2590*
	3.44	11.93	4.06	0.64	0.18	20.25
2	*545*	*1801*	*587*	*93*	*16*	*3042*
	0.97	3.02	12.62	3.49	0.44	20.55
3	*121*	*471*	*1690*	*443*	*55*	*2780*
	0.33	0.70	3.31	12.73	2.95	20.02
4	*56*	*102*	*429*	*1595*	*387*	*2569*
	0.22	0.24	0.48	2.35	17.95	21.25
5	*18*	*27*	*62*	*295*	*1837*	*2239*
	17.76	19.79	21.44	19.44	21.57	100.00
Total	*2608*	*2964*	*2895*	*2453*	*2300*	*13220*

Note1: percentages are computed from weighted numbers of obs., while we report unweighted no. of obs. in italics.

Table 2c Transition matrix for USA.

difference in quintile in the second year and first year	Germany Percent	USA Percent
-4	0.22	0.22
-3	0.83	0.57
-2	1.78	2.16
-1	11.99	12.13
0	68.86	68.03
1	13.21	14.39
2	2.18	2.04
3	0.72	0.40
4	0.21	0.06
Total	100.00	100.00

VARIABLES:

Dependent:

```
Difssee  | difference between quintile in last and the first year
Upfrany  | move up from any quintile:1, otherwise:0
Dwfrany  | move down from any quintile:1, otherwise:0
```

Independent:

```
peess306 | Change in total working hours weekly
  gender | male:1, female:0
emsseme1 | employed in the first year, and employed in the second year:1, otherwise:0
sesssee1 | self-employed in the first year, and self-employed in the second year:1, oth:0
emsssee1 | employed in the first year, and self-employed in the second year:1, oth:0
sesseme1 | self-employed in the first year, and employed in the second year:1, oth:0
  quint1 | beginning at 1 quintile:1, otherwise:0
  quint2 | beginning at 2 quintile:1, otherwise:0
  quint3 | beginning at 3 quintile:1, otherwise:0
  quint4 | beginning at 4 quintile:1, otherwise:0
  quint5 | beginning at 5 quintile:1, otherwise:0
 pssdbii | distance from bottom of quintile
 pssdtii | distance from top of quintile
agss2534 | age group 25-34:1, otherwise:0
agss3544 | age group 35-44:1, otherwise:0
agss4554 | age group 45-54:1, otherwise:0
agss5564 | age group 55-64:1, otherwise:0
 edss_01 | First level (primary):1, otherwise:0
 edss_02 | Second level --- first stage:1, otherwise:0
 edss_03 | Second level --- second stage:1, otherwise:0
 edss_04 | Third level ( tertiary education):1, otherwise:0
marriage | married between first and second year: 1, otherwise:0
 divorce | divorced between first and second year: 1, otherwise:0
   widow | widowed between first and second year: 1, otherwise:0
   birth | birth of a child in the second year: 1, otherwise:0
  maless | male head only in the first year: 1, otherwise:0
  femass | female head only in the first year: 1, otherwise:0
chid6pss | Child under 6 is present in first year: 1, otherwise:0
 childss | number of children in household in first year
```

Table 3. Weighted means and ANOVA results for difference in quintiles (Difssee).

	GERMANY		USA	
	Mean	Std. Dev.	Mean	Std. Dev.
female 0	-.01575124*	.69721136	.03550115**	.63318262
male 1	.01578231*	.77948136	-.01465191**	.73763412
emsseme1	.00320617	.70371739	.00775313	.63124491
sesssee1	-.01824707	1.0117611	.03420616	.95883816
emsssee1	.09988189	1.5310205	-.26238915	1.0373472
sesseme1	.25727122**	1.0540527	.12652219**	.89452653
quintile:1	.30858306**	.70775382	.36413106**	.63045777
quintile:2	.21183891**	.8082092	.12357031**	.71470439
quintile:3	.03278746*	.74591174	.01019639	.71261164
quintile:4	-.16513666**	.7462724	-.08887001**	.70367693
quintile:5	-.21199135**	.60975741	-.19769271**	.57092814
agss2534	.03063017*	.76308308	.03699577**	.7229981
agss3544	.03962004**	.73807299	.02796978*	.63958912
agss4554	-.00522437	.727209	-.02860186**	.65382191
agss5564	-.10274557**	.79696213	-.06445824**	.76505364
edss_01	-.03815178	.69833228	-.13425081**	.78045675
edss_02	-.00298755	.72503025	-.03254249*	.71282698
edss_03	.00060595	.75895557	.01391444	.69609091
edss_04	.03196327	.74781357	.02544591*	.67033454
marriage	-.03923182	.95815776	-.04521919	.96517717
divorce	.08394271	.98036514	.01406402	.52526535
widow	-.48809544*	1.1430536	-.38202247	.82627253
birth	.02335784	.88533628	-.01655198	.65482884
maless	.07235406*	.82289337	.01019772	.83796508
femass	.02111548	.77395058	.02661687	.63385524
chid6pss	.01375094	.69391759	.01515701	.67385667
Total	.00456588	.75135391	.00832047	.69215941

* - mean of individuals with specific characteristic is different on 5%-10% significance level than the mean of all other groups.
** - mean of individuals with specific characteristic is different on less than 5% significance level than the mean of all other groups.

Table 4a. Marginal effects in probit model for moving up.

(standard errors adjusted for clustering on individual indentifier)

	Germany			USA		
upfrany	dF/dx	Robust Std. Err.	P>|z|	dF/dx	Robust Std. Err.	P>|z|
peess306	.0013312	.0008146	0.102	.0029144	.0009839	0.003
gender*	.2044868	.0241741	0.000	.1105534	.0198584	0.000
sesssee1*	.0750983	.0444124	0.069	.1614047	.0294491	0.000
emsssee1*	.1363557	.1125899	0.177	.133361	.0693889	0.034
sesseme1*	.029031	.101902	0.768	.1431835	.0531995	0.003
quint1*	.4146756	.0466768	0.000	.3873061	.034205	0.000
quint2*	-.0006102	.0395335	0.988	-.042111	.0253556	0.107
quint3*	.1528349	.0248432	0.000	.049699	.021654	0.019
pssdbii	-.9352646	.110885	0.000	-.7782504	.0663824	0.000
agss3544*	.0368366	.0231153	0.104	-.010636	.0182062	0.561
agss4554*	-.0128346	.0228137	0.577	-.06061	.0198645	0.004
agss5564*	-.0216141	.0322908	0.515	-.0630736	.0229749	0.011
edss_02*	.0135676	.0416149	0.741	.0174914	.040462	0.661
edss_03*	.0350672	.0351234	0.328	.0914358	.0361813	0.012
edss_04*	.2177964	.0588336	0.000	.131198	.0412552	0.001
marriage*	.0102497	.0543352	0.848	.0239527	.0630712	0.696
divorce*	.0085147	.1039091	0.934	-.1068171	.0464886	0.068
widow*	-.0346474	.1195427	0.784	dropped due to collinearity (constant)		
				Note: widow~=0 predicts failure perfectly		
				widow dropped and 6 obs not used		
birth*	.022534	.0428609	0.589	-.0104434	.0320667	0.748
maless*	-.0094874	.0300377	0.755	.0062826	.027499	0.818
femass*	.1073629	.0410297	0.005	-.0067066	.0209947	0.751
chid6pss*	-.0074103	.0245834	0.765	.0015281	.0214054	0.943
childss	.0075169	.0105058	0.475	-.0216509	.0083179	0.009

(*) dF/dx is for discrete change of dummy variable from 0 to 1
z and P>|z| are the test of the underlying coefficient being 0

Table 4b. Marginal effects in probit model for moving down.

(standard errors adjusted for clustering on individual indentifier)

	Germany			USA		
dwfrany	dF/dx	Robust Std. Err.	P>|z|	dF/dx	Robust Std. Err.	P>|z|
peess306	-.0006711	.0007384	0.365	-.0065256	.0008644	0.000
gender*	-.076343	.0238675	0.001	-.0161518	.0169238	0.337
sesssee1*	.2771343	.0475046	0.000	.1879822	.0280302	0.000
emsssee1*	.557489	.1257461	0.000	.3320146	.0670267	0.000
sesseme1*	.1894821	.127837	0.083	.1084687	.0538105	0.021
quint3*	.2668062	.0401243	0.000	.1280944	.0240123	0.000
quint4*	.2742182	.036396	0.000	.1543213	.0244666	0.000
quint5*	.3584461	.052599	0.000	.2600658	.0350522	0.000
pssdtii	.8336651	.0941164	0.000	.7725512	.0548103	0.000
agss3544*	-.0345071	.0183836	0.068	-.0391384	.0145228	0.009
agss4554*	-.024029	.019898	0.237	-.0232437	.0172638	0.192
agss5564*	.0181186	.0304211	0.541	.0312344	.0218491	0.137
edss_02*	-.0209355	.0287987	0.483	.00055	.0336816	0.987
edss_03*	-.0861852	.0289151	0.002	-.0062909	.0313666	0.841
edss_04*	-.1506195	.0203246	0.000	-.060756	.0306971	0.053
marriage*	.0867532	.0641644	0.133	.0244748	.0504561	0.613
divorce*	.0672789	.0788826	0.350	-.0717244	.0407994	0.157
widow*	.3607591	.3165577	0.196	-.0618418	.1008799	0.609
birth*	-.0021738	.0335441	0.949	.0014751	.0246772	0.952
maless*	.0208465	.0288726	0.457	.0516519	.0241379	0.022
femass*	-.0437443	.0268706	0.134	-.0351894	.0172977	0.054
chid6pss*	-.0025228	.0231103	0.913	.0193086	.0184755	0.286
childss	-.0030565	.0090882	0.737	-.0043641	.0070596	0.536

(*) dF/dx is for discrete change of dummy variable from 0 to 1
z and P>|z| are the test of the underlying coefficient being 0

Table 5a. Probit coefficients for moving up.

(standard errors adjusted for clustering on individual indentifier)

	Germany			USA		
upfrany	Coef.	Robust Std. Err.	P>|z|	Coef.	Robust Std. Err.	P>|z|
peess306	.0046431	.0028405	0.102	.0098254	.0033178	0.003
gender	.7532677	.095187	0.000	.3661265	.065036	0.000
sesssee1	.2422582	.1332281	0.069	.4808481	.0801018	0.000
emsssee1	.4132271	.3063368	0.177	.3967319	.1874373	0.034
sesseme1	.0975155	.3302996	0.768	.4240009	.1429478	0.003
quint1	1.199548	.130008	0.000	1.11031	.0944704	0.000
quint2	-.0021292	.1380076	0.988	-.1459502	.0906494	0.107
quint3	.493228	.0759352	0.000	.1630213	.0693247	0.019
pssdbii	-3.262094	.3921308	0.000	-2.62376	.228037	0.000
agss3544	.1256301	.077207	0.104	-.0360639	.0620851	0.561
agss4554	-.0451166	.08079	0.577	-.2160929	.0752043	0.004
agss5564	-.0773099	.1186929	0.515	-.2280487	.0898284	0.011
edss_02	.0467576	.1416652	0.741	.0580318	.1321638	0.661
edss_03	.1249521	.1276278	0.328	.3084358	.1221602	0.012
edss_04	.6424043	.1550896	0.000	.4205729	.1266082	0.001
marriage	.035271	.1845271	0.848	.078481	.2010491	0.696
divorce	.0293544	.354131	0.934	-.4341372	.2375506	0.068
widow	-.1275357	.4660686	0.784	dropped due to collinearity (constant)		
				Note: widow~=0 predicts failure perfectly		
				widow dropped and 6 obs not used		
birth	.0764236	.1414789	0.589	-.0356486	.1108397	0.748
maless	-.0334358	.1070297	0.755	.0210442	.0915298	0.818
femass	.3404689	.1199122	0.005	-.0227367	.0715578	0.751
chid6pss	-.0260411	.0870288	0.765	.0051458	.0719959	0.943
childss	.026218	.0366851	0.475	-.0729928	.0280727	0.009
_cons	-2.396509	.1733072	0.000	-1.977105	.1552027	0.000
No of ob	4582			5427		
Log like.	-2224.5146			-2732.0874		

Table 5b. Probit coefficients for moving down.

(standard errors adjusted for clustering on individual indentifier)

	Germany			USA		
dwfrany	Coef.	Robust Std. Err.	P>|z|	Coef.	Robust Std. Err.	P>|z|
peess306	-.0026424	.0029157	0.365	-.0267667	.0035661	0.000
gender	-.2843307	.0843473	0.001	-.0658427	.0685612	0.337
sesssee1	.8358867	.123358	0.000	.6221105	.0798103	0.000
emsssee1	1.559725	.3787084	0.000	.9800408	.1694555	0.000
sesseme1	.5939135	.3424641	0.083	.378003	.1642639	0.021
quint3	.8761625	.1209154	0.000	.4681125	.0802068	0.000
quint4	.9189531	.1134356	0.000	.557917	.0805927	0.000
quint5	1.197359	.1666271	0.000	.9265568	.1142572	0.000
pssdtii	3.282735	.3845047	0.000	3.168834	.2276993	0.000
agss3544	-.1399408	.0767946	0.068	-.1654037	.0632703	0.009
agss4554	-.0963512	.081449	0.237	-.098297	.0753288	0.192
agss5564	.0696372	.1139285	0.541	.1226132	.0823928	0.137
edss_02	-.0850856	.1212068	0.483	.0022541	.1379142	0.987
edss_03	-.3234948	.1057379	0.002	-.0258414	.1290366	0.841
edss_04	-.7458462	.138205	0.000	-.2549419	.1319459	0.053
marriage	.301505	.2005487	0.133	.0959608	.1895332	0.613
divorce	.2387983	.255537	0.350	-.353901	.2502722	0.157
widow	1.030226	.796472	0.196	-.2967087	.5799194	0.609
birth	-.008592	.1330944	0.949	.0060346	.100685	0.952
maless	.079803	.107329	0.457	.197136	.0863293	0.022
femass	-.185338	.1235638	0.134	-.1524704	.0792924	0.054
chid6pss	-.0099665	.0916014	0.913	.0774477	.0725536	0.286
childss	-.0120357	.0357811	0.737	-.0179005	.0289481	0.536
_cons	-1.551801	.1729683	0.000	-1.89179	.1706076	0.000
No of ob	5006			5764		
Log like.	-2226.9378			-2446.9795		