**Table A1.1: Description of covariates used for the estimation of the determinants of leaving welfare receipt and unemployment** **for welfare recipients**

|  |  |
| --- | --- |
| Time in Benefit Receipt/Unemployment  | Elapsed time in state in months |
| ***Sociodemographic characteristics*** |
| Gender | Sex at entry: 0=male, 1=female |
| Type of household | Current structure of the household (Bedarfsgemeinschaft) with respect to children and partner |
| Region | Current region of residence: 0=West Germany, 1=East Germany |
| Age  | Age in years at entry into state |
| Citizenship | Citizenship at entry into state |
| ***Labour market resources*** |
| Qualification | Highest qualification level observed in the individual unemployment biography up to current date:low= no vocational degree,medium=vocational qualification (either vocational training in the dual system or a vocationally qualifying school), high = academic degree. |
| Duration since last job ended in months1 | Duration since last dependent employment ended at entry (observed since 1993), including the states currently employed and never employed. |
| Mean labour market experience1 | Cumulated duration in dependent employment since 1993 in months |
| ***Other*** |
| Year of Entry | Year of entry into state |
| Calendar Month | Current calendar month  |
| Regional Labour Market Types | Regional labour market types according to Rüb/Werner (2008) capturing population density and regional labour market conditions |

Notes: 1) The administrative data captures only dependent employment and does not include information on self-employment and civil servants. Dependent employment includes contributory and marginal employment as well as company-based apprenticeship training.

**Table A1.2:** **Estimation Results– Benefit Receipt Full Model (Marginal effects in percentage points)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Model** | **1**Basic  | **2**with Covariates | **3**with Covariates and Unobs. Heterogeneity |
| **Time in Benefit Receipt in months (Ref.: 1-3)** |
| 4-6 | 0.009\*\*\* | 0.010\*\*\* | 0.014\*\*\* |
| 7-9 | -0.012\*\*\* | -0.006\*\*\* | 0.000 |
| 10-12 | -0.022\*\*\* | -0.015\*\*\* | -0.007\*\* |
| 13-15 | -0.032\*\*\* | -0.023\*\*\* | -0.015\*\*\* |
| 16-18 | -0.034\*\*\* | -0.025\*\*\* | -0.016\*\*\* |
| 19-21 | -0.039\*\*\* | -0.030\*\*\* | -0.022\*\*\* |
| 22-24 | -0.038\*\*\* | -0.028\*\*\* | -0.018\*\*\* |
| 25-30 | -0.044\*\*\* | -0.034\*\*\* | -0.025\*\*\* |
| 31-36 | -0.045\*\*\* | -0.035\*\*\* | -0.025\*\*\* |
| 37-42 | -0.048\*\*\* | -0.038\*\*\* | -0.028\*\*\* |
| 43-48 | -0.050\*\*\* | -0.040\*\*\* | -0.030\*\*\* |
| 49-54 | -0.052\*\*\* | -0.041\*\*\* | -0.031\*\*\* |
| 55-60 | -0.053\*\*\* | -0.042\*\*\* | -0.033\*\*\* |
| 61-72 | -0.054\*\*\* | -0.042\*\*\* | -0.032\*\*\* |
| 73-84 | -0.054\*\*\* | -0.043\*\*\* | -0.032\*\*\* |
| 85-108 | -0.054\*\*\* | -0.043\*\*\* | -0.031\*\*\* |
| ***Sociodemographic and Household characteristics*** |
| **Gender (Ref.: Male)** |  |  |  |
| Female |  | -0.002\*\*\* | -0.003\*\*\* |
| **Type of Household (Ref.: Single)** |
| Couple w/o children |  | 0.006\*\*\* | 0.007\*\*\* |
| Couple w adult children |  | 0.019\*\*\* | 0.024\*\*\* |
| Other |  | 0.005\*\* | 0.006\*\* |
| Couples 1 child |  | -0.003\*\* | -0.004\*\* |
| Couples 2 children |  | -0.002 | -0.002 |
| Couples 3+ children |  | -0.011\*\*\* | -0.014\*\*\* |
| Lone Parent 1 child |  | -0.019\*\*\* | -0.025\*\*\* |
| Lone Parent 2 children |  | -0.021\*\*\* | -0.027\*\*\* |
| Lone Parent 3+ children |  | -0.025\*\*\* | -0.032\*\*\* |
| **Region (Ref.: West)** |  |  |  |
| East |  | -0.002\* | -0.003\* |
| **Age in years (Ref.: 25-34)** |  |  |  |
| under 25 |  | 0.003\*\* | 0.004\*\* |
| 35-44 |  | -0.009\*\*\* | -0.010\*\*\* |
| 45-54 |  | -0.020\*\*\* | -0.024\*\*\* |
| 55 and older |  | -0.023\*\*\* | -0.030\*\*\* |

|  |  |  |  |
| --- | --- | --- | --- |
| **Citizenship (Ref.: German)** |  |  |  |
| Turkish |  | -0.010\*\*\* | -0.012\*\*\* |
| Southern Europe |  | -0.001 | -0.002 |
| Eastern Europe |  | -0.010\*\*\* | -0.013\*\*\* |
| Northern/Western Europe |  | 0.003 | 0.004 |
| Africa |  | -0.009\*\*\* | -0.012\*\*\* |
| Asia |  | -0.016\*\*\* | -0.020\*\*\* |
| America/Oceania/Other |  | -0.003 | -0.004 |
| ***Labour Market Resources*** |
| **Qualification (Ref.: Medium)** |  |  |  |
| Unknown |  | -0.002\* | -0.003\* |
| Low |  | -0.006\*\*\* | -0.007\*\*\* |
| High |  | 0.017\*\*\* | 0.022\*\*\* |
| **Duration since last job ended in months (Ref.: Never employed)** |
| Employed at entry |  | 0.012\*\*\* | 0.017\*\*\* |
| <12  |  | 0.009\*\*\* | 0.012\*\*\* |
| 12−23  |  | -0.002 | -0.002 |
| 24−35  |  | 0.000 | 0.000 |
| 36-47  |  | 0.001 | 0.002 |
| ≥48  |  | 0.001 | 0.002 |
| **Labour market experience** |  | 0.000\*\*\* | 0.000\*\*\* |
| **Labour market experience squared** |  | 0.000 | -0.000 |
| ***Other Variables*** |
| **Year of Entry (Ref.: 2007)** |  |  |  |
| 2006 |  | -0.001 | -0.001 |
| 2008 |  | -0.002 | -0.002 |
| 2009 |  | 0.000 | -0.001 |
| 2010 |  | 0.003\*\* | 0.004\*\* |
| 2011 |  | 0.003\* | 0.004\*\* |
| 2012 |  | 0.000 | 0.001 |
| **Calendar Month (Ref.: June)** |  |  |  |
| January |  | -0.006\*\*\* | -0.007\*\*\* |
| February |  | -0.007\*\*\* | -0.008\*\*\* |
| March |  | -0.002 | -0.002 |
| April |  | 0.000 | 0.000 |
| May |  | 0.001 | 0.001 |
| July |  | 0.004\*\* | 0.004\*\* |
| August |  | 0.009\*\*\* | 0.010\*\*\* |
| September |  | 0.009\*\*\* | 0.011\*\*\* |
| October |  | 0.006\*\*\* | 0.007\*\*\* |
| November |  | 0.000 | 0.000 |
| December |  | -0.003\* | -0.003 |

|  |
| --- |
| **Regional Labour Market Types (Ref.: 1-Cities with average LM conditions, high LTU)** |
| 2-Cities in West G. with above-average LM conditions | 0.007\*\*\* | 0.009\*\*\* |
| 3-Cities in West G. with below-average LM conditions, high LTU | -0.001 | -0.002 |
| 4-Cities in East G. with below-average LM conditions, very high LTU | 0.006\*\*\* | 0.008\*\*\* |
| 5- Mainly urban areas in West. G. with average LM conditions, high LTU | 0.000 | 0.000 |
| 6-Rural areas in West G. with average conditions | 0.008\*\*\* | 0.010\*\*\* |
| 7-Rural areas in with below-average LM conditions | 0.010\*\*\* | 0.013\*\*\* |
| 8- Rural areas in West G. with above-average LM conditions, seasonal dynamics | 0.011\*\*\* | 0.014\*\*\* |
| 9- Rural areas in West G. with very favourable LM conditions, high seasonal dynamics | 0.016\*\*\* | 0.020\*\*\* |
| 10- Rural areas in West G. with average LM conditions, low LTU | 0.012\*\*\* | 0.015\*\*\* |
| 11- Rural areas in East G. with very unfavourable LM conditions | 0.007\*\*\* | 0.009\*\*\* |
| 12- Rural areas in East G. with very unfavourable LM conditions, high LTU | 0.008\*\*\* | 0.010\*\*\* |
| N | 512384 | 512384 | 512384 |
| N (groups) |  |  | 25727 |
| Log Likelihood | -88025.804 | -86295.493 | -86275.459 |
| Chi² | 5819.874 | 9280.495 | 5693.962 |
| AIC | 176085.607 | 172750.986 | 172712.917 |
| BIC | 176275.103 | 173642.732 | 173615.810 |
| Pseudo-R² | 0.032 | 0.051 |  |
| sigma\_u |  |  | 0.481 |
| Rho |  |  | 0.066 |
| Chi² for comparison test |  |  | 40.069 |

Source SIG, own calculations

Results from discrete-time hazard rate models.

Significance levels: \* 5%; \*\* 1%; \*\*\* 0.1%.

**Table A1. 3:** **Estimation Results – Unemployment Full Model (Marginal effects in percentage points)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Model** | **1**Basic  | **2**with Covariates | **3**with Covariates and Unobs. Heterogeneity | **4**with Covariates and Unobs. Heterogeneity |
| **Process** | Unemployment | Benefit Receipt |
| **Time in process in months (Ref.: 1-3)** |
| 4-6 | -0.024\*\*\* | -0.016\*\*\* | -0.005 | 0.029\*\*\* |
| 7-9 | -0.043\*\*\* | -0.030\*\*\* | -0.013\* | 0.018\*\*\* |
| 10-12 | -0.048\*\*\* | -0.031\*\*\* | -0.010 | 0.008\*\* |
| 13-15 | -0.062\*\*\* | -0.045\*\*\* | -0.023\*\* | 0.002 |
| 16-18 | -0.060\*\*\* | -0.041\*\*\* | -0.013 | 0.000 |
| 19-21 | -0.067\*\*\* | -0.047\*\*\* | -0.019 | -0.003 |
| 22-24 | -0.075\*\*\* | -0.055\*\*\* | -0.028\*\* | -0.004 |
| 25-30 | -0.081\*\*\* | -0.061\*\*\* | -0.034\*\*\* | -0.011\*\*\* |
| 31-36 | -0.083\*\*\* | -0.063\*\*\* | -0.034\*\* | -0.008\* |
| 37-42 | -0.085\*\*\* | -0.064\*\*\* | -0.034\*\* | -0.009\* |
| 43-48 | -0.092\*\*\* | -0.072\*\*\* | -0.044\*\*\* | -0.013\*\*\* |
| 49-54 | -0.092\*\*\* | -0.071\*\*\* | -0.042\*\* | -0.013\*\* |
| 55-60 | -0.096\*\*\* | -0.076\*\*\* | -0.049\*\*\* | -0.015\*\*\* |
| 61-72 | -0.102\*\*\* | -0.084\*\*\* | -0.063\*\*\* | -0.014\*\*\* |
| 73-84 | -0.099\*\*\* | -0.081\*\*\* | -0.056\*\*\* | -0.016\*\*\* |
| 85-108 | -0.093\*\*\* | -0.075\*\*\* | -0.038 | -0.014\* |
| ***Sociodemographic and Household characteristics*** |
| **Gender (Ref.: Male)** |  |  |  |
| Female |  | 0.007\*\*\* | 0.009\*\*\* | -0.002 |
| **Type of Household (Ref.: Single)** |
| Single | Ref. | Ref. | Ref. |
| Couple w/o children | 0.005 | 0.007 | -0.001 |
| Couple w adult children | -0.006 | -0.008 | 0.008 |
| Other | -0.008 | -0.011 | -0.007 |
| Couples 1 child | -0.004 | -0.005 | -0.011\*\*\* |
| Couples 2 children | -0.020\*\*\* | -0.027\*\*\* | -0.011\*\*\* |
| Couples 3+ children | -0.012\* | -0.017\* | -0.020\*\*\* |
| Lone Parent 1 child | -0.014\*\* | -0.018\*\* | -0.023\*\*\* |
| Lone Parent 2 children | -0.027\*\*\* | -0.036\*\*\* | -0.026\*\*\* |
| Lone Parent 3+ children | -0.023\* | -0.033\* | -0.038\*\*\* |
| **Region (Ref.: West)** |
| East |  | -0.007\* | -0.010\* | -0.006\*\* |
| **Age in years** |  |  |  |  |
| under 25 |  | 0.016\*\*\* | 0.021\*\*\* | 0.004\* |
| 25-34 |  | Ref. | Ref. | Ref. |
| 35-44 |  | -0.011\*\*\* | -0.016\*\*\* | -0.010\*\*\* |
| 45-54 |  | -0.025\*\*\* | -0.034\*\*\* | -0.023\*\*\* |
| 55 and older |  | -0.031\*\*\* | -0.040\*\*\* | -0.030\*\*\* |

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| **Citizenship (Ref.: German)** |
| Turkish |  | -0.009\* | -0.013\* | -0.014\*\*\* |
| Southern Europe |  | 0.001 | 0.002 | -0.005 |
| Eastern Europe |  | -0.014\*\*\* | -0.020\*\*\* | -0.013\*\*\* |
| Northern/Western Europe | -0.003 | -0.005 | 0.001 |
| Africa |  | 0.002 | 0.001 | -0.011\*\* |
| Asia |  | -0.015\*\*\* | -0.023\*\*\* | -0.020\*\*\* |
| America/Oceania/ Other | -0.009 | -0.014 | -0.002 |
| ***Labour Market Resources*** |
| **Qualification (Ref.: Medium)** |
| Unknown |  | -0.008\*\* | -0.012\*\* | -0.012\*\*\* |
| Low |  | -0.007\*\* | -0.011\*\* | -0.009\*\*\* |
| High |  | 0.003 | 0.003 | 0.024\*\*\* |
| **Duration since last job ended in months (Ref.: Never employed)** |
| Employed at entry |  |  |  | 0,003 |
| <12  |  | 0.030\*\*\* | 0.042\*\*\* | 0,014\*\*\* |
| 12−23  |  | 0.010\*\* | 0.015\*\* | -0,001 |
| 24−35  |  | 0.004 | 0.005 | 0,002 |
| 36-47  |  | 0.008 | 0.011 | -0,001 |
| ≥48 |  | -0.001 | -0.001 | 0,001 |
| **Labour market experience** | 0.000\* | 0.000\* | 0.000\*\* |
| **Labour market exp. squared** | 0.000 | 0.000 | 0.000 |
| ***Other Variables*** |
| **Year of Entry (Ref.: 2007)** |
| 2006 |  | -0.003 | -0.005 | -0.002 |
| 2008 |  | -0.005 | -0.007 | -0.003 |
| 2009 |  | -0.003 | -0.006 | -0.002 |
| 2010 |  | -0.002 | -0.003 | 0.000 |
| 2011 |  | 0.008\* | 0.010 | 0.002 |
| 2012 |  | 0.002 | 0.002 | 0.000 |
| **Calendar Month (Ref.: June)** |
| January |  | -0.004 | -0.005 | -0.005 |
| February |  | -0.006 | -0.008 | -0.008\*\*\* |
| March |  | 0,005 | 0,006 | 0,000 |
| April |  | 0.006 | 0.007 | 0.001 |
| May |  | 0.005 | 0.005 | -0.001 |
| July |  | 0.007 | 0.008 | 0.004 |
| August |  | 0.011\*\* | 0.013\* | 0.010\*\*\* |
| September |  | 0.006 | 0.007 | 0.011\*\*\* |
| October |  | 0.007 | 0.009 | 0.006\* |
| November |  | -0.012\*\* | -0.015\*\* | -0.004 |
| December |  | -0.008\* | -0.010\* | -0.005 |

|  |
| --- |
| **Regional Labour Market Types (Ref.: 1-Cities with average LM conditions, high LTU)** |
| 2-Cities in West G. with above-average LM conditions | 0.009 | 0.012 | 0.008\* |
| 3-Cities in West G. with below-average LM conditions, high LTU | -0.001 | -0.001 | 0.000 |
| 4-Cities in East G. with below-average LM conditions, very high LTU | 0.006 | 0.007 | 0.008\*\* |
| 5- Mainly urban areas in West. G. with average LM conditions, high LTU | 0.002 | 0.003 | -0.001 |
| 6-Rural areas in West G. with average conditions | 0.016\*\*\* | 0.021\*\*\* | 0.011\*\*\* |
| 7-Rural areas in with below-average LM conditions | 0.013\* | 0.017\* | 0.015\*\*\* |
| 8- Rural areas in West G. with above-average LM conditions, seasonal dynamics | 0.014\* | 0.020\* | 0.018\*\*\* |
| 9- Rural areas in West G. with very favourable LM conditions, high seasonal dynamics | 0.019\*\*\* | 0.026\*\*\* | 0.023\*\*\* |
| 10- Rural areas in West G. with average LM conditions, low LTU | 0.018\*\*\* | 0.025\*\*\* | 0.022\*\*\* |
| 11- Rural areas in East G. with very unfavourable LM conditions | 0.004 | 0.004 | 0.010\*\* |
| 12- Rural areas in East G. with very unfavourable LM conditions, high LTU | 0.004 | 0.004 | 0.014\*\* |
| N |  | 90231 | 90231 | 90231 |
| N (groups) |  |  |  | 8713 |
| Log Likelihood |  | -23179.69 | -22632.53 | -22621.61 |
| Chi² |  | 1434.43 | 2528.74 | 1398.74 |
| Aic |  | 46393.37 | 45423.06 | 45403.23 |
| Bic |  | 46553.34 | 46166.46 | 46156.04 |
| Pseudo-R² |  | 0.030 | 0.053 |  |
| sigma\_u |  |  |  | 0.610 |
| Rho |  |  |  | 0.102 |
| Chi² for comparison test |  |  |  | 21.836 |

Source: SIG, own calculation.

Results from discrete-time hazard rate models.

Significance levels: \* 5%; \*\* 1%; \*\*\* 0.1%.