
East-West Migration and Gender: Is there a “Double Disadvantage” vis-à-vis Stayers?

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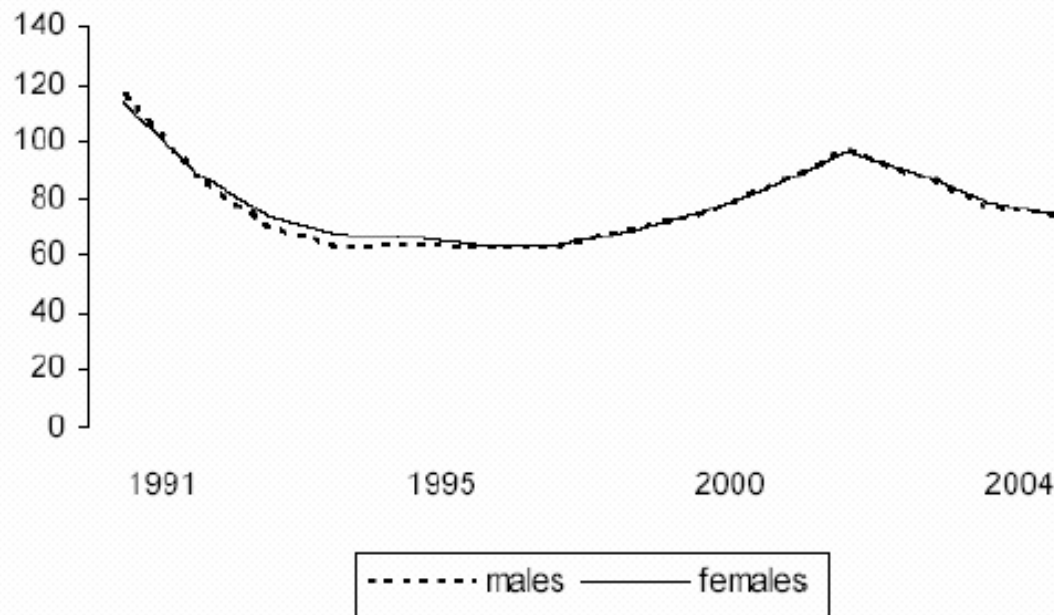
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Outline

- Motivation and background
- Existing literature and this paper
- Data issues and methodology
- Descriptive evidence
- Econometric model
- Estimation results
- Additional issues
- Conclusions

Motivation



Source: Statistisches Bundesamt, 2005

- Fall of the Berlin Wall in 1989 and German reunification in 1990 – an interesting “experiment”
- 7.5% of East Germans have moved West during 1989-2001 (2nd highest rates after Albania among ex-communist countries) (Brücker and Trübswetter, 2004)
- The majority of East-West German migrants are women
- How do migrant women perform in the western LM?

Background

- Ex-GDR: “sex blindness”. More than 80% of w.a. women participated in the LM, no (official) unemployment, wages were set centrally (with some adjustment at the firm level, Krueger and Pischke, 1995)
- During transition: participation declined, but is still high: 72% of w.a. women participated in the LM in May 2000 (Bonin and Euwals, 2005)
- Employment fell more than that of men: 58% of w.a. women were employed in 2000 (Hunt, 2002, Bonin and Euwals, 2005).
- Childcare facilities were reduced a lot, but the availability of childcare places is still higher in the East than in the West (Wrohlich, 2004)
- Fertility declined (Lechner, 2001)
- The gender wage gap has narrowed due to the exit from employment of low skilled women (Hunt, 2002)

Existing literature and this paper

- Theory: human capital migration theory (Sjaastad, 1962) vs. family migration models (“tied” movers, Mincer, 1978) and family investment models (Baker and Benjamin, 1997, Duleep and Dowhan, 2002)
 - Empirics: immigrant women experience a “double disadvantage” wrt. several labor market outcomes, compared to immigrant males and native women (Adsera and Chiswick, 2007, Bevelander and Groeneveld, 2007, De Jong and Madamba, 2001, Raijman and Semyonov, 1997, Boyd, 1984)
 - Related literature: family migration (e.g. Boyle et al., 2002) and female migrants assimilation (e.g. Blau and Kah, 2005)
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- This paper: How do female migrants from a transition economy perform (in relative terms) after they move West?
 - That is: whether female migrants after they move “gain” or “suffer” from migration relatively more than males

Data and methodology

- GSOEP: Eastern sample, 1990-2001. Sample size: from 18,126 to 8,984 observations, 425-1,169 belong to the migration group (actual and potential)
- Sample selection: Exclude: younger than 18 and older than 65, return migrants, in full-time education and military service, those for whom do not observe before and after periods, drop outliers. Deflate incomes.
- Four outcomes: annual income, employment, hours worked and hourly earnings
- Descriptive, no structural model
- First calculate unadjusted differences in means, then control for observable and time-invariant unobservable confounders (OLS and FE)

Descriptive evidence: differences in means

- Log annual income:

	Before		After		After-Before	
	Males (1)	Females (2)	Males (3)	Females (4)	Males (5)	Females (6)
Stayers	10.450 (0.010)	10.104 (0.011)	10.456 (0.011)	10.150 (0.011)	0.006 (0.014)	0.047*** (0.016)
Migrants	10.333 (0.054)	10.006 (0.050)	10.840 (0.035)	9.994 (0.052)	0.508*** (0.062)	-0.011 (0.073)
M-S	-0.117*** (0.043)	-0.098*** (0.044)	0.385*** (0.041)	-0.156*** (0.043)	0.502*** (0.064)	-0.058 (0.075)
Difference						-0.560*** (0.099)

- Employment: DIFF=-0.115** (0.045)
- Log hours per week: DIFF=-0.272*** (0.043)
- Log hourly earnings: DIFF=-0.129 (0.087)

Regression framework

$$Y_{i,t} = \beta_1(F_i \times M_i \times A_t) + \beta_2(F_i \times M_i) + \beta_3(F_i \times A_t) + \beta_4(M_i \times A_t) + \beta_5 M_i + \beta_6 F_i + \beta_7 A_t + \delta X_{i,t} + \varepsilon_{i,t}$$

where: F_i is female, M_i is migrant, A_t stands for the period “after”, X_{it} are controls, β_1 captures all variation in labor market outcome specific to migrants (relative to stayers) females (relative to males) in the years after migration (relative to before)

- β_1 shows whether female migrants after move “suffer” from migration more than males, i.e. an additional female migrant-specific effect
- Controls: age and its square, marital status, number of children, education categories (university, general schooling, other vocational; reference: apprenticeship), blue collar, public sector, others’ hh income (in LS eq-s), year and region dummies

Main estimation results

	OLS (1)	OLS (2)	OLS (3)	OLS (4)	FE (5)
Annual income					
F*M*A	-0.443**** (0.095)	-0.474*** (0.082)	-0.456*** (0.097)	-0.513*** (0.111)	-0.239*** (0.074)
Obs.	[13119]	[13119]	[9244]	[12854]	[13119]
R ²	0.08	0.31	0.37	0.25	-
Employment					
F*M*A	-0.106** (0.046)	0.032 (0.045)	-0.164*** (0.053)	-0.082* (0.046)	0.039 (0.049)
Obs.	[18126]	[15990]	[11464]	[18126]	[15990]
R ²	0.03	0.17	0.15	0.07	-
Controls	No	Yes	Yes	No	Yes
Controls at t=0	No	No	No	Yes	No
Earnings in 1991	No	No	Yes	No	No
Year dummies	Yes	Yes	Yes	Yes	Yes
Region dummies	Yes	Yes	Yes	Yes	Yes

Note: standard errors in parenthesis. *** signi.cant at 1% level, ** signi.cant at 5% level, * signi.cant at 10% level.. Additional controls include age and its square, marital status, number of children less than 14 years old, education, blue-collar dummies, others' income (in empl. eq.), year and region fixed effects. In fixed effects (FE) estimation time-invariant covariates are dropped.

Main estimation results (cont'd)

	OLS (1)	OLS (2)	OLS (3)	OLS (4)	FE (5)
Weekly hours					
F*M*A	-0.261*** (0.041)	-0.220*** (0.041)	-0.266*** (0.053)	-0.233*** (0.047)	-0.246*** (0.056)
Obs.	[13729]	[12475]	[9729]	[12130]	[12475]
R ²	0.10	0.14	0.12	0.11	-
Hourly earnings					
F*M*A	-0.131 (0.087)	-0.094 (0.072)	-	-0.062 (0.086)	0.051 (0.071)
Obs.	[12461]	[12279]		[11088]	[12279]
R ²	0.04	0.31	-	0.25	-
Controls	No	Yes	Yes	No	Yes
Controls at t=0	No	No	No	Yes	No
Earnings in 1991	No	No	Yes	No	No
Year dummies	Yes	Yes	Yes	Yes	Yes
Region dummies	Yes	Yes	Yes	Yes	Yes

Note: standard errors in parenthesis. *** signi.cant at 1% level, ** signi.cant at 5% level, * signi.cant at 10% level.. Additional controls include age and its square, marital status, number of children less than 14 years old, education, blue-collar dummies, others' income, year and region fixed effects. In fixed effects (FE) estimation time-invariant covariates are dropped

Other results: annual income

	OLS (1)	OLS (2)	OLS (3)	OLS (4)	FE (5)	
F*M*A	-0.443**** (0.095)	-0.474*** (0.082)	-0.456*** (0.097)	-0.513*** (0.111)	-0.239*** (0.074)	
M*A	0.057 (0.544)	0.297 (0.409)	0.681*** (0.042)	0.983*** (0.208)	0.342*** (0.119)	
F*A	0.019 (0.019)	0.029 (0.016)	-0.010 (0.016)	0.061*** (0.019)	0.017 (0.012)	
F*M	-0.089 (0.071)	-0.024 (0.059)	0.004 (0.057)	0.038 (0.078)		
A	0.127** (0.057)	0.006 (0.050)	-0.062 (0.053)	0.005 (0.063)	-0.057* (0.035)	
M	-0.021 (0.047)	0.057 (0.039)	0.033 (0.036)	-0.069 (0.057)		
F	-0.225*** (0.013)	-0.310*** (0.012)	-0.240*** (0.011)	-0.363*** (0.013)		
Controls	No	Yes	Yes	No	Yes	
Controls at t=0	No	No	No	Yes	No	
Earnings in 1991	No	No	Yes	No	No	
Year dummies	Yes	Yes	Yes	Yes	Yes	
Region dummies	Yes	Yes	Yes	Yes	Yes	

Other results: employment

	OLS (1)	OLS (2)	OLS (3)	OLS (4)	FE (5)
F*M*A	-0.106** (0.046)	0.032 (0.045)	-0.164*** (0.053)	-0.082* (0.046)	0.039 (0.049)
M*A	0.431*** (0.040)	0.083 (0.075)	0.094*** (0.030)	0.520*** (0.041)	-0.087 (0.116)
F*A	0.035*** (0.012)	0.030*** (0.011)	-0.003 (0.011)	0.031*** (0.011)	0.019** (0.009)
F*M	0.012 (0.037)	0.032 (0.036)	0.105*** (0.037)	0.025 (0.037)	
A	-0.107*** (0.028)	-0.100*** (0.027)	-0.060* (0.034)	-0.112*** (0.027)	-0.077*** (0.026)
M	-0.075*** (0.027)	-0.047* (0.026)	-0.072*** (0.026)	-0.084*** (0.027)	
F	-0.137*** (0.008)	-0.006 (0.008)	0.008 (0.008)	-0.100*** (0.008)	
Controls	No	Yes	Yes	No	Yes
Controls at t=0	No	No	No	Yes	No
Earnings in 1991	No	No	Yes	No	No
Year dummies	Yes	Yes	Yes	Yes	Yes
Region dummies	Yes	Yes	Yes	Yes	Yes

Other results: weekly hours

	OLS (1)	OLS (2)	OLS (3)	OLS (4)	FE (5)
F*M*A	-0.261*** (0.041)	-0.261*** (0.041)	-0.266*** (0.053)	-0.233*** (0.047)	-0.246*** (0.056)
M*A	0.329*** (0.038)	0.219*** (0.041)	-0.071 (0.053)	0.266*** (0.044)	-0.143 (0.105)
F*A	-0.040*** (0.010)	-0.043*** (0.010)	-0.020** (0.010)	-0.025*** (0.009)	-0.032*** (0.009)
F*M	0.003 (0.025)	-0.008 (0.026)	-0.015 (0.034)	0.006 (0.027)	
A	0.006 (0.024)	0.007 (0.024)	0.028 (0.029)	0.015 (0.022)	0.002 (0.024)
M	0.036* (0.020)	0.046** (0.021)	0.045* (0.025)	0.014 (0.021)	
F	-0.130*** (0.007)	-0.145*** (0.007)	-0.145*** (0.008)	-0.129*** (0.007)	
Controls	No	Yes	Yes	No	Yes
Controls at t=0	No	No	No	Yes	No
Earnings in 1991	No	No	Yes	No	No
Year dummies	Yes	Yes	Yes	Yes	Yes
Region dummies	Yes	Yes	Yes	Yes	Yes

Other results: hourly earnings

	OLS (1)	OLS (2)	OLS (3)	OLS (4)	FE (5)
F*M*A	-0.131 (0.087)	-0.094 (0.072)	-	-0.062 (0.086)	0.051 (0.071)
M*A	0.050 (0.390)	-0.302*** (0.052)	-	-0.242*** (0.076)	0.345*** (0.151)
F*A	0.044** (0.018)	0.061*** (0.016)	-	0.058*** (0.017)	0.044*** (0.013)
F*M	-0.075 (0.069)	0.017 (0.054)	-	0.002 (0.066)	
A	0.153*** (0.051)	0.040 (0.043)	-	0.053 (0.048)	-0.017 (0.039)
M	-0.042 (0.045)	0.027 (0.039)	-	-0.009 (0.048)	
F	-0.073*** (0.013)	-0.116*** (0.012)	-	-0.157*** (0.013)	
Controls	No	Yes	Yes	No	Yes
Controls at t=0	No	No	No	Yes	No
Earnings in 1991	No	No	Yes	No	No
Year dummies	Yes	Yes	Yes	Yes	Yes
Region dummies	Yes	Yes	Yes	Yes	Yes

What have we learned so far?

- There exist an additional effect of being both a female and a migrant (on top of the effects for all migrants and all females) for some LM outcomes
- Compared to stayers and male migrants, East-West migrant women in Germany after migration neither experience a drop in relative employment, nor earn lower relative wages.
- But they work relatively less hours (income effect seems to dominate the substitution effect) and have a lower relative annual income

Heterogeneity of the effect

	Annual income		Hours per week	
	OLS	FE	OLS	FE
Married	-0.669*** (0.096)	-0.150** (0.076)	-0.227*** (0.054)	-0.265*** (0.070)
Married with kids	-0.910*** (0.119)	-0.192*** (0.101)	-0.318*** (0.060)	-0.142*** (0.073)
Married before	-0.453*** (0.106)	-0.157** (0.082)	-0.160*** (0.064)	-0.265*** (0.087)
Kids before	-0.615*** (0.116)	-0.227*** (0.090)	-0.243*** (0.066)	-0.235*** (0.064)
Single	-0.173 (0.143)	-0.097 (0.132)	-0.097 (0.074)	-0.042 (0.065)
Worked before	-0.392*** (0.090)	-0.302*** (0.079)	-0.227*** (0.048)	-0.266*** (0.056)

Note: robust standard errors are given in parenthesis, sample size - in brackets. *** significant at 1% level, ** significant at 5% level, * significant at 10% level. Only the coefficient on the third-level interaction in equation (1) is reported. Rows define the subpopulations for which the model is estimated. Additional controls in OLS include age and its square, university degree, general schooling degree, vocational training (reference-apprenticeship), blue-collar worker, public sector employee, year and region fixed effects (as well as others' income in the equation for weekly hours). In fixed effects estimation (FE) time invariant covariates are dropped.

The effect of additional interactions

	Annual income		Hours per week	
	OLS	FE	OLS	FE
Married*	-0.425***	-0.319**	-0.171***	-0.194***
F*M*A	(0.101)	(0.119)	(0.063)	(0.084)
Kids*	-0.526***	-0.260***	-0.184***	-0.078
F*M*A	(0.099)	(0.111)	(0.060)	(0.074)
Married before*	-0.012	-0.108	0.115***	0.071
F*M*A	(0.096)	(0.116)	(0.045)	(0.083)
Time for childcare*	-0.081***	-0.072***	-0.039***	-0.037***
F*M*A	(0.019)	(0.022)	(0.008)	(0.010)
Others' income*	-0.0002***	-0.0002***	-0.0001***	-0.00004**
F*M*A	(0.00003)	(0.00004)	(0.00001)	(0.00002)

Note: robust standard errors are given in parenthesis, sample size - in brackets. *** significant at 1% level, ** significant at 5% level, * significant at 10% level. "Hours for childcare" are reported hours spent per weekday on childcare; "others income" stands for monthly income of other members of the household. Controls include age and its square, married, number of kids less than 14 years old, university degree, general schooling degree, vocational training (reference-apprenticeship), blue-collar worker, public sector employee, year and region fixed effects (as well as others. income in the equation for weekly hours). In fixed effects estimation (FE) time invariant covariates are dropped.

The effect in western Germany

	OLS	FE	OLS	FE
	Annual income		Employment	
F*M*A	-0.074 (0.067)	0.247** (0.119)	-0.032 (0.030)	-0.074 (0.064)
R ²	0.30	-	0.14	-
Obs.	28111		32377	
	Weekly hours		Hourly earnings	
F*M*A	0.069* (0.038)	0.212*** (0.072)	-0.061 (0.053)	-0.136 (0.085)
R ²	0.27	-	0.22	-
Obs.	26766		26378	

Note: robust standard errors are given in parenthesis. *** significant at 1%, ** significant at 5%, * significant at 10% level. Controls include age and its square, married, number of kids less than 14 years old, university degree, general schooling degree, vocational training (reference - apprenticeship), blue-collar worker, public sector employee (not for employment equation), year and region fixed effects (as well as others' income in equations for employment, hours and hourly wages). In fixed effects estimation (FE) time invariant covariates are dropped.

Robustness

- Results are robust to changes in specification and in the sample :
 - Controlling for household size and household income
 - Controlling for occupations
 - Retaining commuters in stayers' group

Main conclusions

- Compared to stayers and male migrants, East-West migrant women in Germany after migration neither experience a drop in relative employment, nor earn lower relative wages. But they work relatively less hours (income effect seems to dominate the substitution effect) and have a lower relative annual income
- This effect is heterogenous across different demographic groups
- Fertility and marriage? The effect holds for married and married with children and is not present for single female migrants
- Endogeneity? The effect is present after having conditioned on pre-migration characteristics
- Moving out of unemployment? The effect is present after having conditioned on working before migration

Main conclusions (cont'd)

- Why negative relative effect? Choice or disadvantage? Preferences or demand? – difficult to answer
 - Partner's income effect and fertility effect: having a husband in the West, spending time for childcare and a higher income of other hh members contribute to the explanation of this negative effect
 - These results also seem to suggest that female migrants in the West substitute some market work with home production, in particular, childcare
 - Reduced hours - involuntary choice: Not enough full-time jobs, reduced availability of childcare. But also: availability of part-time jobs in the West
 - The negative effect is transition-specific and is not present for the within-West migrant women
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- **A combination of supply and demand factors**

Further research

- Matching in the first stage to construct T and C groups (like in Dif-in-dif models). But: selection on observables
- Explore further demand constraint: “desired working hours”
- ...

СПАСИБО!