Bye Bye, G.I. - The Impact of the U.S. Military Drawdown on Local German Labor Markets

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Bases of U.S. Forces in Germany

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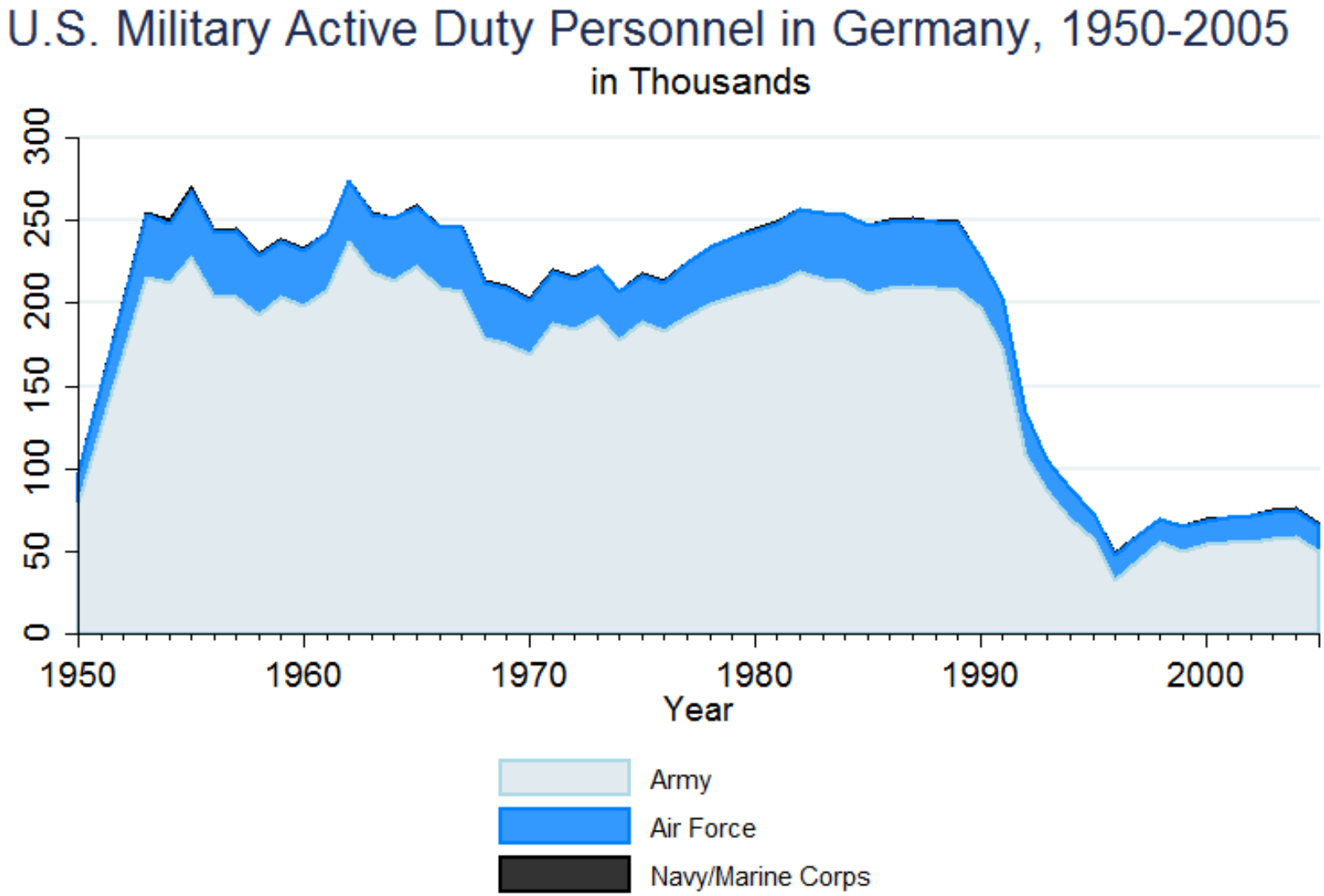
U.S. Forces in Germany - Historical Evolution



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  - Exogeneous as drawdown decisions follow U.S. military rationale
  - Strong regional variation in withdrawal 'treatment' intensity and timing
  - Separation of direct vs. indirect (spill-over) effects

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Research Question

What is the impact of the U.S. drawdown on the regional labor market?

- ★ Spill-over effects into private sector employment
- ★ Spill-over effects into private sector wages

Outline

- Motivation & Research Question
- Related Literature
- Historical Background - U.S. Forces Stationing and Withdrawal in Germany
- Empirical strategy
- Data sources
- Results
- Robustness Checks
- Conclusion & Future Work

Related Literature

1. Adjustment to regional shocks
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2. Impact of Military Base Realignment and Closures (BRAC)
   - Germany -
     - ★ Some early descriptive/case studies for U.S. withdrawal in Germany:
       Bebermeyer/Thimann (1990), Eisbach et al. (1991),
       Blien et al. (1992, 1993), Gettmann (1993), BICC (1995)
     - ★ Effects of *Bundeswehr* base realignments on local economy, crime:
       Paloyo et al. 2010a, 2010b

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   - Sweden - Andersson et al. (2007)

3. Other specific/exogeneous regional economic shocks
   - Regional impact of coal boom and bust: Black et al. (2002, 2003, 2005a, 2005b)
   - Spill-over effects from million dollar plants: Greenstone/Moretti (2003), Greenstone/Hornbeck/Moretti(2010)

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- Selection criteria for U.S. base closures
  - (i) Ensuring that the forces would meet military and operational requirements
  - (ii) Decreasing support costs and increasing efficiency of base operations
  - (iii) Minimizing personnel moves
  - (iv) Reducing environmental impact
  - (v) Considering the proximity of training areas, the quality of housing and facilities, the local political and military environment, the concerns of host nations, and the base's proximity to road and rail networks.

(Source: U.S. General Accounting Office 1991, 1994)

U.S. Forces in Germany - Structure of demand in the German economy

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   - Food, gasoline, mail and railway, services etc.
3. U.S. Forces as private consumers in the local economy (≈2.1 bn DM in 1989)
   - Hotels, restaurants, bars, entertainment
   - Rental cars, car dealerships, gas stations
   - Groceries, daily necessities

Data sources

1. Data on U.S. Army Stationing and Withdrawal in Germany
   - Number of U.S. personnel (Soldiers, U.S. Civilian, German employees)
   - All US Army and Airforce Bases in West-Germany
   - Reporting dates: 1988, 1990, 1992, 1995, 1999, 2001, 2002-2009
   - Exact geographic base location (geocoded)
   - Information on date(s) of announcement of base reduction/closure, actual final closure (exact to the day)
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2. IAB employment and wage data from *IAB Beschäftigungshistorie (BeH)* and *IAB Betriebshistorikpanel (BHP)*
   - 100% sample of individual employment spells for 4 Bundesländer (Hessen, Rheinland-Pfalz, Bayern, Baden-Württemberg, Bayern)
   - BeH individual variables: info on start/end of employment spells, age, nationality, education, full-time/part-time, occupation, gross daily wage
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3. Regional statistical data from Federal and Regional Statistical Offices
   - Area, Total population/population density, employment, unemployment rate, net migration, classification of area types (BBR)

Empirical approach (1) - Employment

1. Panel Diff-in-Diff

$$logY_{kt} = \alpha_k + \delta_t + \beta \times TI_k \times \mathbb{1}\left[t > Year_{0k}\right]) + \epsilon_{kt} \quad (1)$$

α_k	-	District fixed effects
δ_t	-	Year fixed effects
$TI_k = \frac{U.S.Mil1990 - U.S.Mil2002}{population1990}$	-	Measure of treatment intensity
$Year_{0k}$	-	Year of 1st announcement of withdrawal in district

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$\Rightarrow$ Inclusion of linear/quadratic district specific time trends

$$logY_{kt} = \alpha_{0k} + \alpha_{1kt} + \alpha_{2kt} + \delta_t + \eta_{st} + \beta \times TI_k \times \mathbb{1}\left[t > Year_{0k}\right]) + \epsilon_{kt} \quad (3)$$

α_{0k}	-	District specific intercept
α_{1k}	-	District specific coefficient on *linear* time trend
α_{2kt}	-	District specific coefficient on *quadratic* time trend

Empirical approach (2) - Employment

2. Dynamic specification
   - Exploiting regional variation in timing of 1st announcement date to explore pattern of lead/anticipatory and lagged effects:

$$logY_{kt} = \alpha_{0k} + \alpha_{1kt} + \alpha_{2kt} + \delta_t + \eta_{st} + \sum_{s=-5}^{+6} (\tau_s \times TI_k \times \mathbb{1}[t = Year_{0k} + s]) + \epsilon_{kt} \quad (4)$$

τ_s - Period treatment effects

Empirical approach (3) - Wages

1. Micro estimation at individual level

$$logW_{ikt} = \alpha_{0k} + \alpha_{1kt} + \alpha_{2kt} + \delta_t + \eta_{st} + \beta \times TI_k \times \mathbb{1}\left[t > Year_{0k}\right]) + X_{ikt}\gamma + \epsilon_{ikt} \quad (5)$$

X_{ikt} - Individual level covariates
(age, age^2, nationality, education, firm size, occupation)

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2. 2-step estimation at District x Industry level

Step 1.

$$logW_{ijkt} = \eta_{jkt} + X_{ijkt}\gamma + \mu_{ijkt} \quad (6)$$

j - Industry index (i=1,$\cdots$, 8)
η_{jkt} - District X Industry effects (conditional on individual level covariates)

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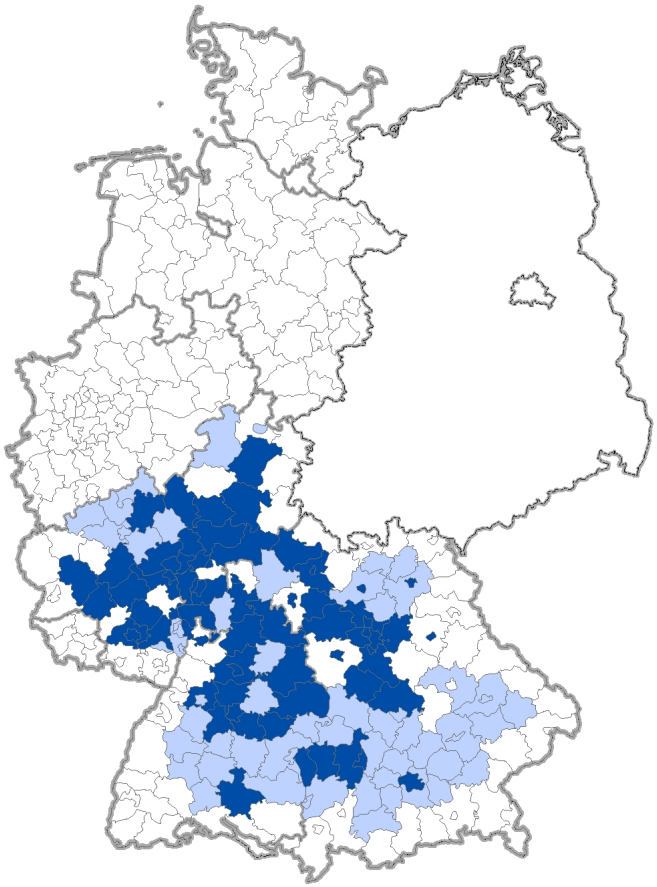
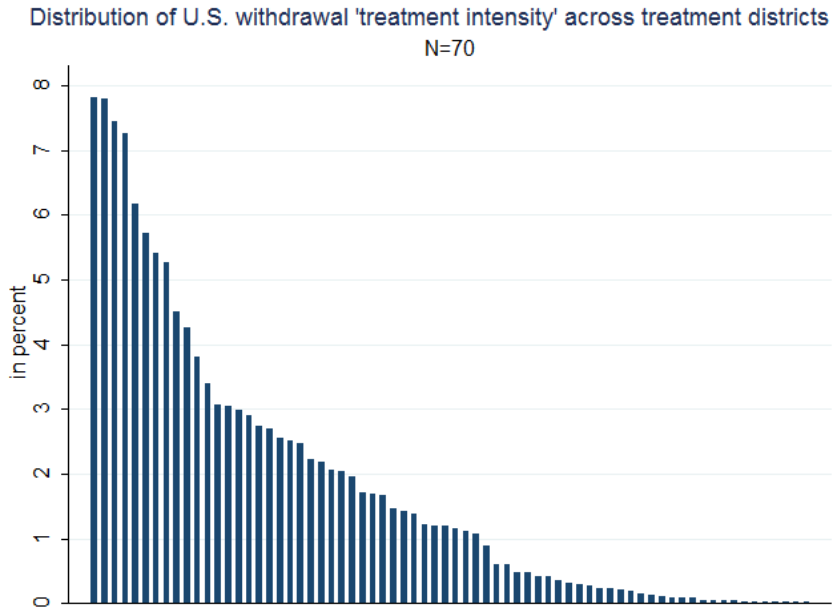
Step 2.

$$\hat{\eta_{jkt}} = \alpha_{0k} + \alpha_{1kt} + \alpha_{2kt} + \delta_t + \eta_{st} + \beta_j \times TI_k \times \mathbb{1}\left[t > Year_{0k}\right]) + \xi_{jkt} \quad (7)$$

Treatment vs. control districts & treatment intensity





Sample specification

- Employment
  - Full-time, private sector employment
  - Age 25-55
  - Education variable improved via imputation procedures proposed by Fitzenberger et al. (1999, 2006)
  - Crosssamples for reporting date 30/06 in each year, collapsed on district level
  - Employment spell is recorded at employer's location

- Wages
  - 10 percent subsample for males age 25-55
  - Gross real daily wages, deflated by common price index for West Germany
  - Imputation of right-censored wages separately by education groups (Gartner, 2005) with full set of available covariates

Descriptive Statistics

	1990			2002		
	Treatm. (1)	Contr. (2)	Diff. (3)	Treatm. (4)	Contr. (5)	Diff. (6)
Demographics						
Population	195,130	125,259	69,871***	207,210	138,093	69,118***
	(21,082)	(7,377)	(22,336)	(21,373)	(8,061)	(22,843)
Population density	703	347	356***	729	370	359***
(inhabitants per sqkm)	(97)	(54)	(111)	(98)	(54)	(112)
Socio-economic outcomes						
GDP per capita†	24,451	22,002	2,449	30,079	27,206	2,874
(EUR)	(1,165)	(1,057)	(1,573)	(1,492)	(1,451)	(2,081)
Unemployment Rate	5.3	4.8	0.5	7.6	6.6	1.0***
	(0.2)	(0.2)	(0.3)	(0.2)	(0.3)	(0.4)
Area type						
Urban	.429	.250	.179**	.429	.250	.179**
	(.059)	(.056)	(.082)	(.059)	(.056)	(.082)
Conurban	.443	.583	-.140	.443	.583	-.140
	(.060)	(.064)	(.087)	(.060)	(.064)	(.087)
Rural	.129	.167	-.038	.129	.167	-.038
	(.040)	(.048)	(.063)	(.040)	(.048)	(.063)
Geographic distribution						
Hesse	.229	.067	.162***	.229	.067	.162***
	(.050)	(.032)	(.060)	(.050)	(.032)	(.060)
Rhineland-Palatinate	.171	.183	-.012	.171	.183	-.012
	(.045)	(.050)	(.068)	(.045)	(.050)	(.068)
Baden-Wuerttemberg	.214	.233	-.019	.214	.233	-.019
	(.049)	(.055)	(.074)	(.049)	(.055)	(.074)
Bavaria	.386	.517	-.131	.386	.517	-.131
	(.058)	(.065)	(.087)	(.058)	(.065)	(.087)
N	70	60		70	60	

Notes: †Due to data limitations, GDP per capita reported in 1990 column are 1992 values.
* Significant at 10%, ** at 5%, *** at 1%.

▸ trend

Impact of withdrawal on employment (baseline)

Table 4: Estimated impact of U.S. military withdrawal on total district employment, 1975-2002

Dep. variable: Total employment (log)	(1)	(2)	(3)	(4)
	A. - All			
U.S. WD treatment (%)	-.015**	-.018***	-.009***	-.007***
	(.006)	(.006)	(.003)	(.002)
R	.987	.989	.998	.998
	B. - Male			
U.S. WD treatment (%)	-.015**	-.017***	-.008***	-.005**
	(.006)	(.006)	(.003)	(.002)
R	.987	.989	.997	.998
	C. - Female			
U.S. WD treatment (%)	-.016**	-.021***	-.011***	-.010***
	(.008)	(.008)	(.003)	(.002)
R	.985	.986	.997	.998
Other covariates:				
State by year dummies	No	Yes	Yes	Yes
District x time trends	No	No	Yes	Yes
District x time trends	No	No	No	Yes
N	3,640	3,640	3,640	3,640

Notes: Each cell reports the coefficient on the treatment variable for one regression. All regressions include district and year fixed effects. Robust std. errors clustered at district level in parentheses.
* Significant at 10%, ** at 5%, *** at 1%.

Dynamic pattern of withdrawal effect on employment

Table 8: Dynamic pattern of impact of U.S. military withdrawal on total employment at district level

Dep. variable: Total employment (log)	(1)	(2)	(3)	(4)
WD announcement $_{-}$	-.002	-.002	-.002	-.001
	(.002)	(.002)	(.001)	(.001)
WD announcement $_{-}$	-.003	-.004	-.003**	-.003*
	(.003)	(.003)	(.002)	(.001)
WD announcement $_{-}$	-.005	-.005*	-.005**	-.004**
	(.003)	(.003)	(.002)	(.002)
WD announcement $_{-}$	-.005	-.006	-.006**	-.005*
	(.003)	(.004)	(.003)	(.002)
WD announcement $_{-}$	-.006	-.007*	-.006*	-.005*
	(.004)	(.004)	(.003)	(.003)
WD announcement	-.009*	-.010**	-.009**	-.008**
	(.005)	(.005)	(.004)	(.004)
WD announcement $_{+}$	-.011**	-.012**	-.012***	-.010**
	(.005)	(.005)	(.004)	(.004)
WD announcement $_{+}$	-.012**	-.015***	-.014***	-.012***
	(.006)	(.006)	(.005)	(.005)
WD announcement $_{+}$	-.015**	-.018***	-.017***	-.015***
	(.006)	(.006)	(.005)	(.005)
WD announcement $_{+}$	-.017**	-.020***	-.019***	-.017***
	(.007)	(.007)	(.006)	(.006)
WD announcement $_{+}$	-.019**	-.022***	-.022***	-.019***
	(.008)	(.008)	(.006)	(.006)
WD announcement $_{+}$	-.019**	-.023***	-.022***	-.018***
	(.008)	(.009)	(.007)	(.007)
Other covariates:				
State by year dummies	No	Yes	Yes	Yes
District x time trends	No	No	Yes	Yes
District x time trends	No	No	No	Yes
R	.987	.989	.998	.998
N	3,640	3,640	3,640	3,640

Effect on industry wages

Dep. Variable: Real wages (log) by industry	(1)	(2)	(3)	(4)
	1 Basic materials			
U.S. WD treatment (%)	.006	.004	-.001	-.001
	(.005)	(.004)	(.002)	(.002)
	2 Investment goods			
U.S. WD treatment (%)	.002	.003	.001	.001
	(.003)	(.003)	(.001)	(.001)
	3 Food and consumption goods			
U.S. WD treatment (%)	-.000	.001	-.001	-.001
	(.002)	(.001)	(.001)	(.001)
	4 Construction			
U.S. WD treatment (%)	.001	.002*	-.000	-.001
	(.002)	(.001)	(.001)	(.001)
	5 Retail/Repair			
U.S. WD treatment (%)	.000	.000	.001	.002
	(.002)	(.001)	(.002)	(.002)
	6 Transport/Information			
U.S. WD treatment (%)	.013*	.010***	-.001	-.005***
	(.007)	(.003)	(.002)	(.002)
	7 Corporate services			
U.S. WD treatment (%)	.006	.003	-.004**	-.005**
	(.009)	(.005)	(.002)	(.002)
	8 Private household services			
U.S. WD treatment (%)	.006	.004	.002	.001
	(.005)	(.004)	(.003)	(.003)
Individual level covariates	Yes	Yes	Yes	Yes

Effect on industry wages by firm size (1)

Dep. Variable: Real wages (log) by industry	(1)	(2)	(3)	(4)
	1 Basic materials			
U.S. WD treatment (%)	.012***	.011***	.004*	.004*
	(.005)	(.004)	(.003)	(.002)
U.S. WD treatment (%) X small	-.026***	-.026***	-.020***	-.020***
	(.006)	(.005)	(.005)	(.005)
U.S. WD treatment (%) X medium	-.019***	-.018***	-.013***	-.013***
	(.004)	(.004)	(.004)	(.004)
	2 Investment goods			
U.S. WD treatment (%)	.006*	.007**	.004***	.004***
	(.003)	(.003)	(.001)	(.001)
U.S. WD treatment (%) X small	-.032***	-.031***	-.029***	-.029***
	(.005)	(.005)	(.004)	(.004)
U.S. WD treatment (%) X medium	-.019***	-.018***	-.016***	-.016***
	(.003)	(.003)	(.003)	(.003)
	3 Food and consumption goods			
U.S. WD treatment (%)	.005**	.006**	.004**	.003*
	(.002)	(.003)	(.002)	(.002)
U.S. WD treatment (%) X small	-.014***	-.014***	-.013***	-.013***
	(.005)	(.005)	(.005)	(.005)
U.S. WD treatment (%) X medium	-0.006	-.006*	-.005	-.005
	(.003)	(.004)	(.003)	(.004)
	4 Construction			
U.S. WD treatment (%)	.019***	.020***	.017***	.016***
	(.004)	(.005)	(.004)	(.004)
U.S. WD treatment (%) X small	-.029***	-.029***	-.030***	-.031***
	(.006)	(.007)	(.007)	(.007)
U.S. WD treatment (%) X medium	-.014***	-.014***	-.015***	-.015***
	(.005)	(.005)	(.005)	(.005)

Effect on industry wages by firm size (2)

	5 Retail/Repair			
U.S. WD treatment (%)	.011***	.011***	.012***	.013***
	(.004)	(.004)	(.003)	(.003)
U.S. WD treatment (%) X small	-.019***	-.019***	-.019***	-.019***
	(.005)	(.005)	(.005)	(.005)
U.S. WD treatment (%) X medium	-.009***	-.009***	-.009***	-.010***
	(.003)	(.003)	(.003)	(.003)
	6 Transport/Information			
U.S. WD treatment (%)	.029***	.026***	.012***	.009***
	(.008)	(.007)	(.004)	(.004)
U.S. WD treatment (%) X small	-.052***	-.050***	-.047***	-.047***
	(.015)	(.014)	(.014)	(.015)
U.S. WD treatment (%) X medium	-.019**	-.016**	-.014*	-.014*
	(.008)	(.007)	(.007)	(.008)
	7 Corporate services			
U.S. WD treatment (%)	.020**	.017***	.008***	.007**
	(.008)	(.006)	(.003)	(.003)
U.S. WD treatment (%) X small	-.032***	-.030***	-.023***	-.023***
	(.005)	(.005)	(.005)	(.005)
U.S. WD treatment (%) X medium	-.025***	-.024***	-.019***	-.019***
	(.004)	(.004)	(.004)	(.004)
	8 Private household services			
U.S. WD treatment (%)	.037***	.035***	.028***	.026***
	(.005)	(.006)	(.006)	(.007)
U.S. WD treatment (%) X small	-.057***	-.057***	-.050***	-.049***
	(.007)	(.008)	(.008)	(.008)
U.S. WD treatment (%) X medium	-.032***	-.032***	-.028***	-.028***
	(.007)	(.007)	(.007)	(.007)

Robustness checks

- Selection of treatment and control districts
- Local shocks coinciding with U.S. drawdown process
  - *Bundeswehr* reductions ▸ graph
  - In-migration from Eastern Germany after the fall of the Berlin wall
  - Regional subsidy programms
- Serial correlation - Alternative Std. Errors
- Heteroscedasticity - Weighting by regional Kreis size
- Level of aggregation/spatial nature
- Influence of FX effect
- Heterogeneity of effect between U.S. Air Force vs. U.S. Army bases

Robustness checks

Dep. Variable: Total employment (log) - All	(1)	(2)
1. Baseline Table 4-A. estimates	-.009***	-.007***
	(.003)	(.002)
2. Exclude treatment districts with pop. > most populous control district	-.009***	-.007***
N=3,472, N(treatment)=64, N(control)=60	(.003)	(.002)
3. Exclude districts in urban areas	-.012***	-.009***
N=2,380, N(treatment)=40, N(control)=45	(.003)	(.003)
4. Include only treatment districts with U.S. force presence	-.008***	-.005***
N=1,960, N(treatment)=70, N(control)=0	(.003)	(.002)
5. Keep only treatment districts with complete closure by 1995	-.006**	-.004**
N=2,800, N(treatment)=40, N(control)=60	(.003)	(.002)
6. Include border districts	-.004	-.004*
N=5,180, N(treatment)=89, N(control)=96	(.003)	(.002)
7. Exclude districts with *Bundeswehr* reduction 1991-2001	-.013**	-.008*
N=1,372, N(treatment)=49, N(control)=20	(.005)	(.004)
8. Weight by district population in 1990	-.006***	-.006***
	(.002)	(.001)
9. Cameron-Gelbach-Miller two-way clustering	-.006***	-.005***
	(.002)	(.002)
10. Cluster by labor market region †	-.009***	-.007***
	(.003)	(.002)
11. Aggregate on level of labor market regions ‡	-.010*	-.008
N=2,156, N(treatment)=48, N(control)=32	(.006)	(.005)
12. Include control for FX effect	-.009***	-.005***
	(.003)	(.002)
13. Separate treatment group by "U.S. Army" vs "Air Force" districts		
U.S. WD treatment (%) - *Army* (N=67)	-.009***	-.006***
	(.003)	(.002)
U.S. WD treatment (%) - *Air Force* (N=3)	-.018***	-.021***
	(.006)	(.005)
State by year dummies	Yes	Yes
District x time trends	Yes	Yes
District x time trends	No	Yes

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- Wages (preliminary)
  - The results suggest a downward adjustment of local industry wage growth primarily within small firms
  - The effects are heterogeneous across industries

Future work

1. Extensions/Robustness (for wage analysis)
   - More disaggregate industries?
   - Interaction by education group?
   - Influence of collective bargaining agreements/work councils?
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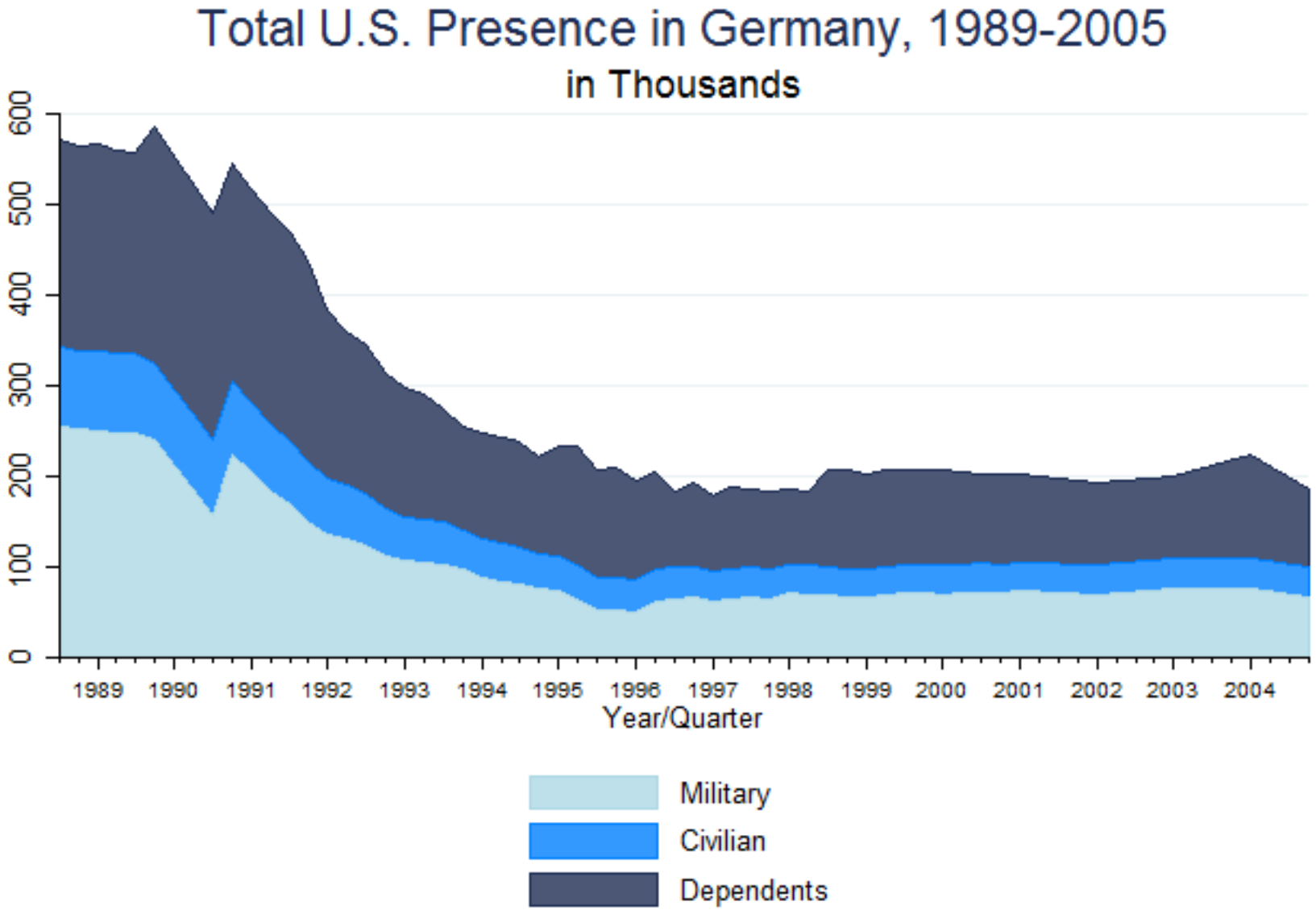
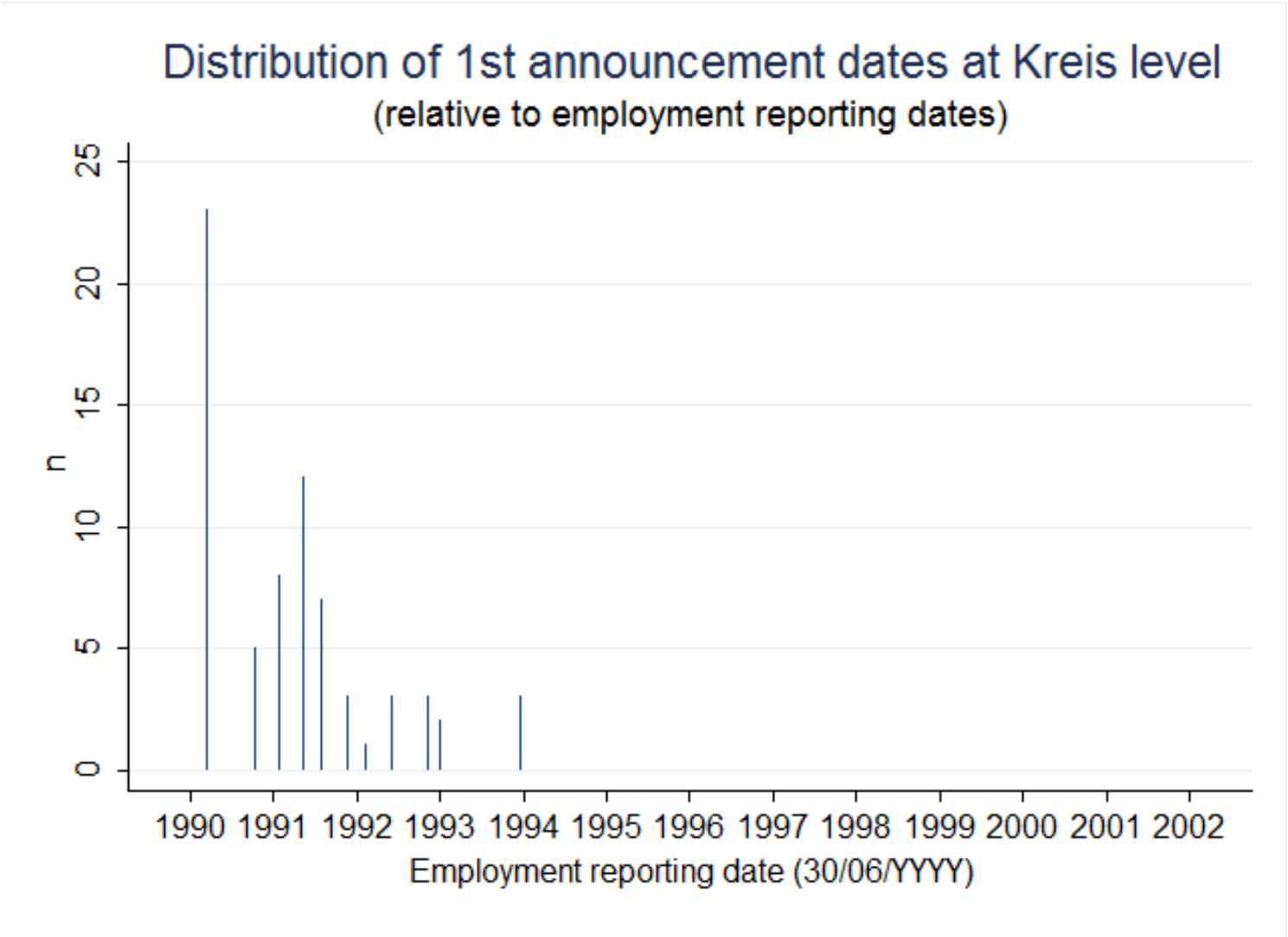
4. What are the (long-run) effects of the U.S. presence & drawdown on individual preferences, culture?

U.S. Forces in Germany - Total presence



Announcement dates



Descriptive Statistics (2) - Employment distribution

	1990			2002		
	Treatm.	Contr.	Diff.	Treatm.	Contr.	Diff.
Sex						
Female	.353	.352	.001	.364	.356	.007
	(.004)	(.006)	(.007)	(.004)	(.005)	(.007)
Nationality						
Foreign	.089	.082	.008	.088	.083	.005
	(.005)	(.005)	(.007)	(.005)	(.005)	(.007)
Age groups						
25-35 yrs	.418	.427	-.009*	.332	.342	-.010***
	(.003)	(.004)	(.005)	(.002)	(.003)	(.004)
36-45 yrs	.291	.286	.005***	.392	.389	.003
	(.001)	(.001)	(.002)	(.001)	(.001)	(.002)
46-55 yrs	.291	.288	.004	.276	.269	.007**
	(.003)	(.003)	(.005)	(.002)	(.002)	(.003)
Education						
High	.055	.042	.014**	.093	.073	.021**
	(.005)	(.003)	(.006)	(.007)	(.005)	(.009)
Medium	.710	.716	-.007	.746	.772	-.026***
	(.005)	(.005)	(.007)	(.007)	(.006)	(.009)
Low	.211	.222	-.010	.125	.124	.000
	(.005)	(.006)	(.008)	(.003)	(.004)	(.005)
Firm size						
<25	.336	.366	-.030*	.373	.398	-.025
	(.011)	(.012)	(.016)	(.011)	(.013)	(.017)
25-100	.200	.202	-.002	.212	.209	.003
	(.005)	(.005)	(.007)	(.004)	(.005)	(.007)
>100	.465	.432	.033	.415	.393	.022
	(.015)	(.015)	(.021)	(.014)	(.016)	(.021)
N	70	60		70	60	

Descriptive Statistics (3) - Employment distribution

	1990			2002		
	Treatm.	Contr.	Diff.	Treatm.	Contr.	Diff.
Occupation						
1 Production, mining, basic materials workers	.365 (.009)	.383 (.010)	-.017 (.013)	.315 (.010)	.339 (.010)	-.023 (.014)
2 Craft/construction workers	.080 (.004)	.096 (.004)	-.015*** (.006)	.060 (.003)	.072 (.004)	-.012** (.005)
3 Professionals	.103 (.005)	.091 (.004)	.012* (.007)	.115 (.006)	.106 (.005)	.010 (.007)
4 Associate Profes. /Technicians	.136 (.003)	.130 (.004)	.007 (.005)	.154 (.003)	.151 (.004)	.004 (.005)
5 Clerks and sales workers	.174 (.004)	.158 (.004)	.016*** (.006)	.198 (.006)	.173 (.004)	.024*** (.007)
6 Transport/Security profes. and workers	.091 (.002)	.096 (.002)	-.005* (.003)	.099 (.002)	.106 (.003)	-.007* (.004)
7 Research/Education profes. and artists	.010 (.001)	.007 (.001)	.002** (.001)	.012 (.001)	.009 (.001)	.003* (.002)
8 Elementary services workers	.040 (.001)	.039 (.001)	.001 (.002)	.047 (.002)	.045 (.002)	.002 (.002)
N	70	60		70	60	

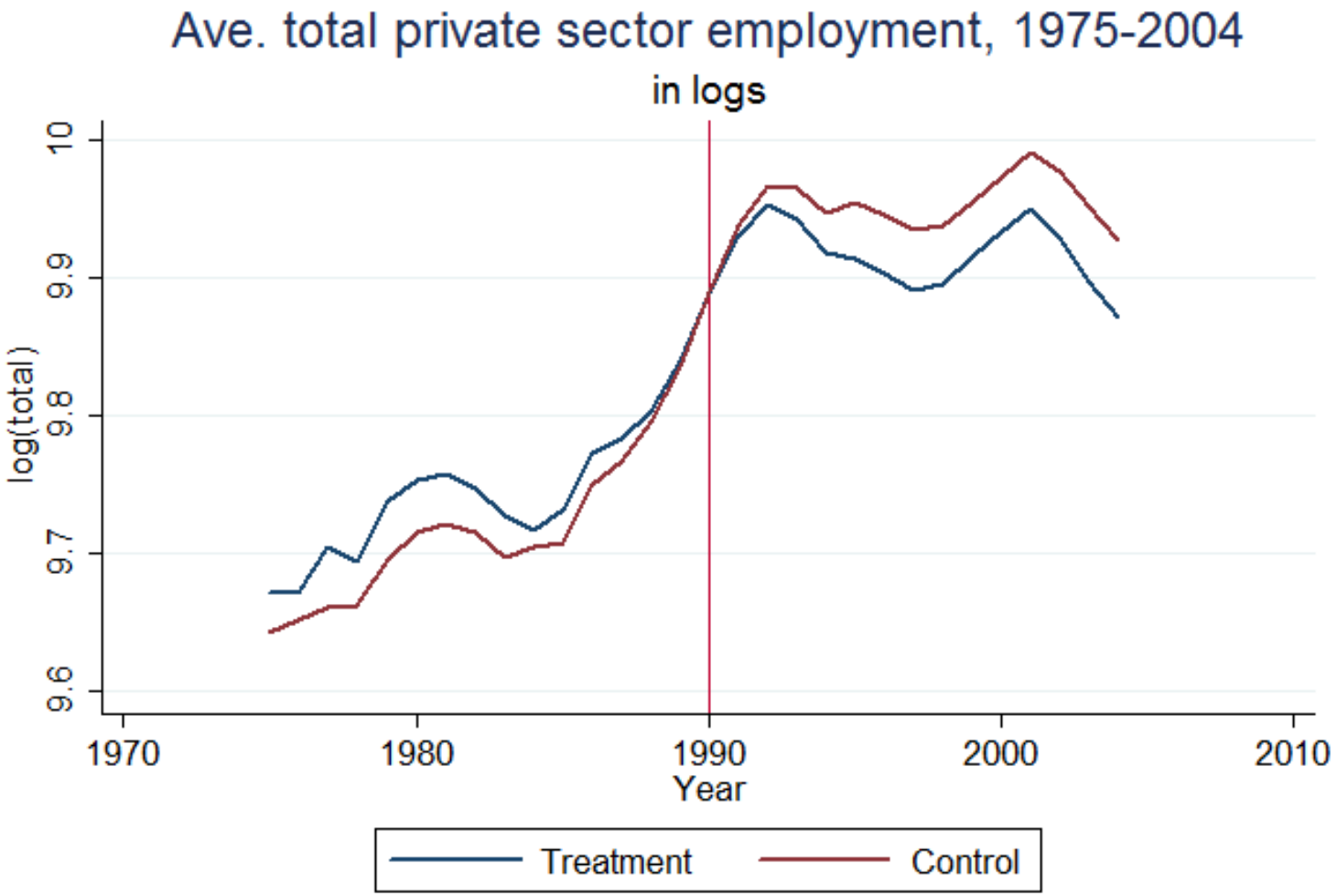
Descriptive Statistics (4) - Employment distribution

	1990			2002		
	Treatm.	Contr.	Diff.	Treatm.	Contr.	Diff.
Industry						
1 Basic materials	.094	.097	-.003	.081	.085	-.004
	(.007)	(.012)	(.014)	(.006)	(.011)	(.012)
2 Investment goods	.271	.278	-.007	.238	.254	-.016
	(.015)	(.017)	(.023)	(.014)	(.016)	(.022)
3 Food and	.149	.167	-.018	.119	.129	-.010
consumption goods	(.009)	(.011)	(.014)	(.008)	(.009)	(.012)
4 Construction	.100	.116	-.016**	.079	.094	-.015**
	(.004)	(.005)	(.007)	(.004)	(.005)	(.006)
5 Retail/Repair	.169	.158	.012	.181	.182	-.002
	(.006)	(.006)	(.009)	(.005)	(.007)	(.009)
6 Transport/Info.	.052	.049	.003	.062	.066	-.004
	(.003)	(.003)	(.004)	(.003)	(.005)	(.006)
7 Corporate svcs.	.117	.089	.028***	.185	.136	.049***
	(.006)	(.005)	(.008)	(.011)	(.007)	(.013)
8 Private HH.	.047	.046	.001	.055	.054	.001
services	(.003)	(.003)	(.004)	(.003)	(.003)	(.004)
N	70	60		70	60	

Descriptive Statistics (5) - Industry wages (in logs)

	1990			2002		
	Treatm.	Contr.	Diff.	Treatm.	Contr.	Diff.
Industry						
1 Basic materials	4.555	4.553	.002	4.569	4.567	.002
	(.027)	(.052)	(.059)	(.022)	(.052)	(.057)
2 Investment goods	4.611	4.552	.059***	4.675	4.611	.064**
	(.016)	(.015)	(.022)	(.022)	(.016)	(.028)
3 Food and	4.441	4.403	.038**	4.425	4.384	.041**
consumption goods	(.010)	(.012)	(.016)	(.014)	(.011)	(.018)
4 Construction	4.423	4.394	.029**	4.374	4.357	.017
	(.011)	(.009)	(.014)	(.010)	(.009)	(.014)
5 Retail/Repair	4.482	4.412	.070**	4.422	4.423	-.001
	(.018)	(.024)	(.030)	(.017)	(.039)	(.043)
6 Transport/Info.	4.406	4.351	.054*	4.319	4.242	.077
	(.031)	(.010)	(.032)	(.043)	(.028)	(.051)
7 Corporate svcs.	4.608	4.542	.067***	4.538	4.412	.126**
	(.017)	(.017)	(.024)	(.030)	(.048)	(.057)
8 Private HH.	4.249	4.159	.090	4.052	4.003	.048
services	(.034)	(.048)	(.059)	(.046)	(.090)	(.101)
N	70	60		70	60	

Evolution of employment by treatment status, 1975-2004



Note: Levels for 'Treatment' average have been rescaled to match levels for 'Control' in 1990.

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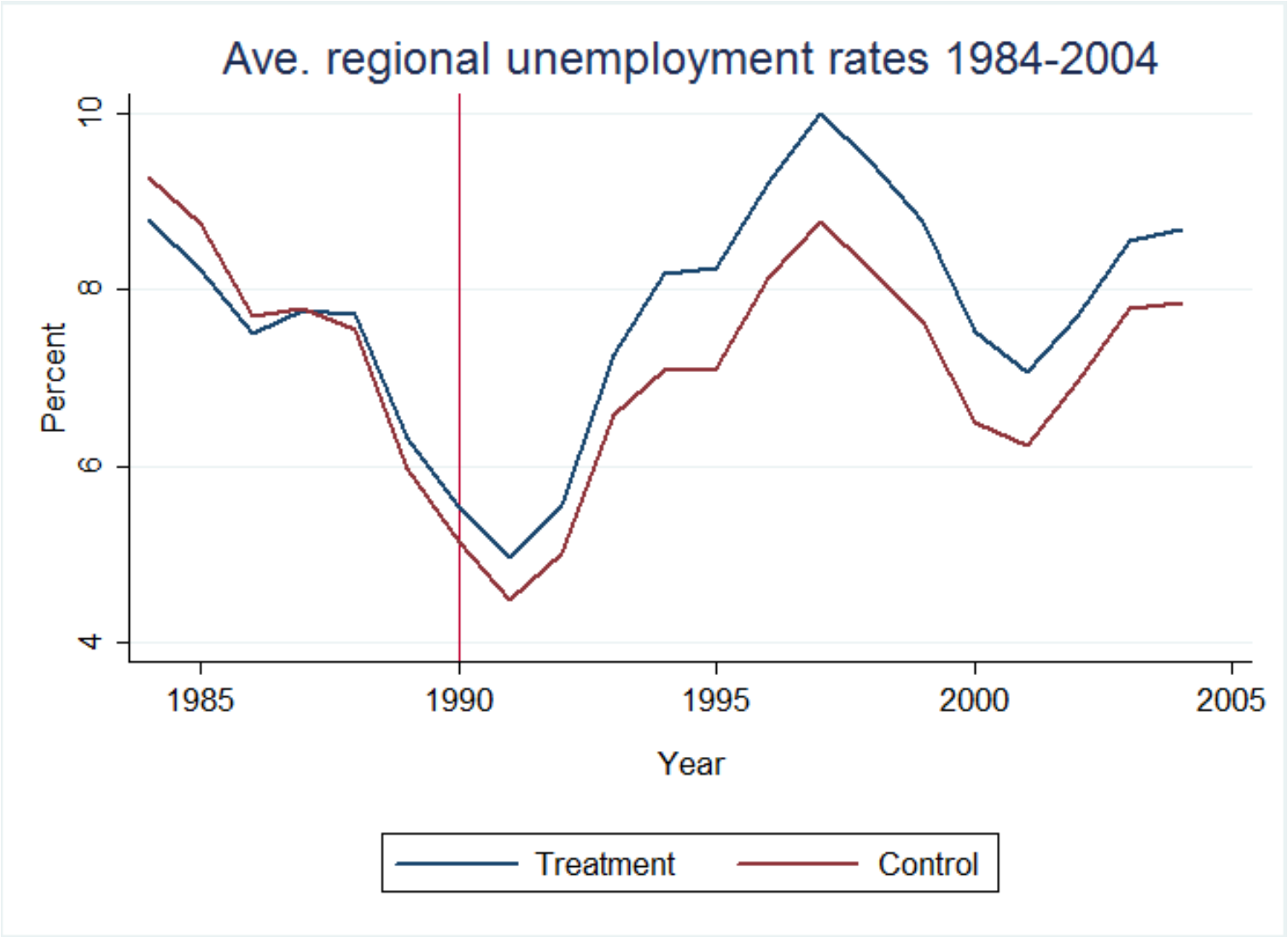
Evolution of unemployment rate by treatment status, 1984-2004



Employment results (2) - Age groups

Dep. Variable: Employment (log) by age group		(1)	(2)	(3)	(4)	(5)	(6)
		A. - All					
		25-35 yrs.		35-45 yrs.		45-55 yrs.	
U.S. Military (%)		-.016***	-.011***	-.007	-.003	-.002	-.005*
		(.004)	(.003)	(.005)	(.004)	(.003)	(.003)
	R^2	.995	.998	.996	.997	.996	.998
		B. - Male					
		25-35 yrs.		35-45 yrs.		45-55 yrs.	
U.S. Military (%)		-.015***	-.009***	-.007	-.001	.001	-.003
		(.005)	(.003)	(.005)	(.004)	(.003)	(.003)
	R^2	.995	.997	.995	.997	.996	.998
		C. - Female					
		25-35 yrs.		35-45 yrs.		45-55 yrs.	
U.S. Military (%)		-.016***	-.014***	-.006	-.006	-.008**	-.010***
		(.004)	(.003)	(.004)	(.004)	(.003)	(.003)
	R^2	.994	.997	.995	.997	.995	.998
Other covariates:							
State by year dummies		Yes	Yes	Yes	Yes	Yes	Yes
District x time trends		Yes	Yes	Yes	Yes	Yes	Yes
District x time^2 trends		No	Yes	No	Yes	No	Yes
N		3,640	3,640	3,640	3,640	3,640	3,640

Employment results (3) - Education groups

Dep. Variable: Employment (log) by education group		(1)	(2)	(3)	(4)	(5)	(6)
		A. - All					
		High		Medium		Low	
U.S. Military (%)		-.008	-.004	-.008***	-.007***	-.010**	-.010***
		(.006)	(.005)	(.002)	(.002)	(.004)	(.003)
	R^2	.996	.997	.998	.998	.994	.996
		B. - Male					
		High		Medium		Low	
U.S. Military (%)		-.008	-.005	-.008***	-.006***	-.002	-.004
		(.006)	(.005)	(.003)	(.002)	(.005)	(.004)
	R^2	.995	.997	.997	.998	.991	.994
		C. - Female					
		High		Medium		Low	
U.S. Military (%)		-.013	-.008	-.006**	-.008***	-.014***	-.014***
		(.008)	(.007)	(.002)	(.002)	(.004)	(.004)
	R^2	.993	.994	.998	.998	.995	.997
Other covariates:							
State by year dummies		Yes	Yes	Yes	Yes	Yes	Yes
District x time trends		Yes	Yes	Yes	Yes	Yes	Yes
District x time^2 trends		No	Yes	No	Yes	No	Yes
N		3,640	3,640	3,640	3,640	3,640	3,640

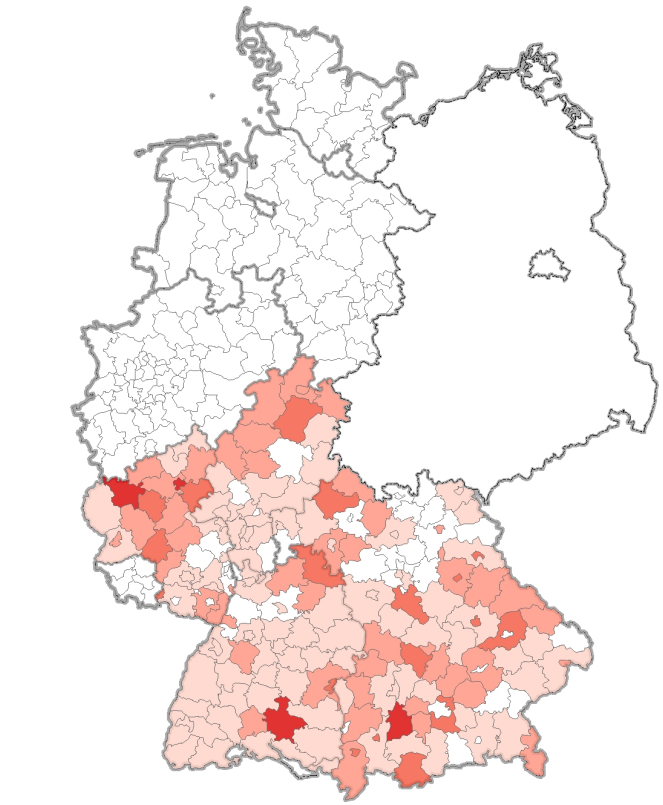
Employment results (4) - Selected occupations

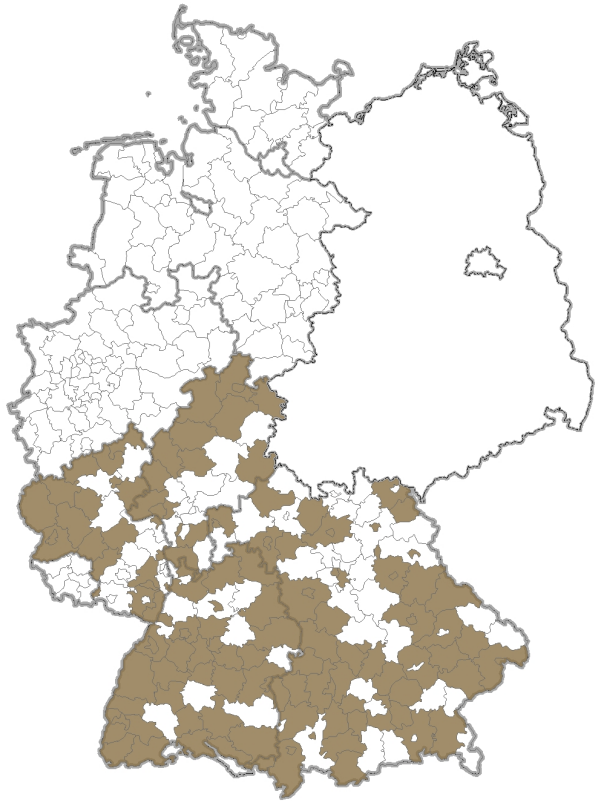
Dep. Variable: Employment (log) in selected occupations		(1)	(2)	(3)	(4)	(5)	(6)
		A. - All					
		Craft/construction workers		Clerks/sales workers		Elem. svcs. workers	
U.S. Military (%)		-.011**	-.010**	-.003	-.005**	-.010*	-.014***
		(.005)	(.004)	(.003)	(.002)	(.005)	(.005)
	R^2	.989	.993	.997	.998	.992	.995
		B. - Male					
		Craft/construction workers		Clerks/sales workers		Elem. svcs. workers	
U.S. Military (%)		-.011**	-.010**	-.002	-.002	-.011*	-.021***
		(.005)	(.004)	(.003)	(.003)	(.007)	(.006)
	R^2	.989	.993	.995	.997	.984	.989
		C. - Female					
		Craft/construction workers		Clerks/sales workers		Elem. svcs. workers	
U.S. Military (%)		.004	.004	-.003	-.006**	-.010*	-.012***
		(.021)	(.018)	(.003)	(.002)	(.006)	(.006)
	R^2	.940	.959	.998	.999	.992	.994
Other covariates:							
State by year dummies		Yes	Yes	Yes	Yes	Yes	Yes
District x time trends		Yes	Yes	Yes	Yes	Yes	Yes
District x time^2 trends		No	Yes	No	Yes	No	Yes
N		3,640	3,640	3,640	3,640	3,640	3,640

Employment results (5) - Selected industries

Dep. Variable: Employment (log) in selected industries		(1)	(2)	(3)	(4)	(5)	(6)
		A. - All					
		Construction		Retail/Repair		Private hh. services	
U.S. Military (%)		-.006	-.004	-.001	-.001	-.011*	-.012*
		(.005)	(.004)	(.004)	(.003)	(.006)	(.006)
	R^2	.989	.993	.995	.997	.994	.996
		B. - Male					
		Construction		Retail/Repair		Private hh. services	
U.S. Military (%)		-.007	-.004	.000	-.000	-.008	-.012
		(.005)	(.004)	(.005)	(.003)	(.009)	(.010)
	R^2	.988	.993	.993	.996	.991	.994
		C. - Female					
		Construction		Retail/Repair		Private hh. services	
U.S. Military (%)		.005	.001	-.003	-.001	-.013**	-.012**
		(.009)	(.008)	(.005)	(.004)	(.005)	(.005)
	R^2	.989	.993	.995	.997	.993	.995
Other covariates:							
State by year dummies		Yes	Yes	Yes	Yes	Yes	Yes
Kreis x time trends		Yes	Yes	Yes	Yes	Yes	Yes
Kreis x time^2 trends		No	Yes	No	Yes	No	Yes
N		3,640	3,640	3,640	3,640	3,640	3,640

Bundeswehr reductions 1991-2001





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