

# Local multipliers in local labour markets – A case study of the move of the German government to Berlin

Teresa Schlüter, Giulia Faggio, Phillip vom Berge, Stephan Bender  
London School of Economics, SERC, IAB

## ABSTRACT

Abstract - This project uses the move of the seat of the German government from Bonn to Berlin in 1999 to test competing views on the effect of job relocation on local labour markets. Employment relocation might trigger local multiplier effects and therefore boost local economic performance. On the other hand the new jobs might merely crowd out existing ones. We estimate a difference in difference model across 190 Berlin postcodes taking possible employment spillovers into account. Employment data comes from a panel of a 50 % sample of Berlin establishments. The results indicate that an additional 1000 public sector jobs increase local employment in the private sector by c. 5.6% in a 5 km wide circle around the postcode receiving the relocation. Additionally, we apply a synthetic control group approach to detect the overall impact of the relocation on the district level for Berlin and Bonn on wages. While wage levels decrease in Berlin after the relocation, they increase in Bonn. This contrary finding to the local analysis indicates that on the district level other policies such as the cut of subsidies for Berlin and compensation packages for Bonn overruled the relocation effect.

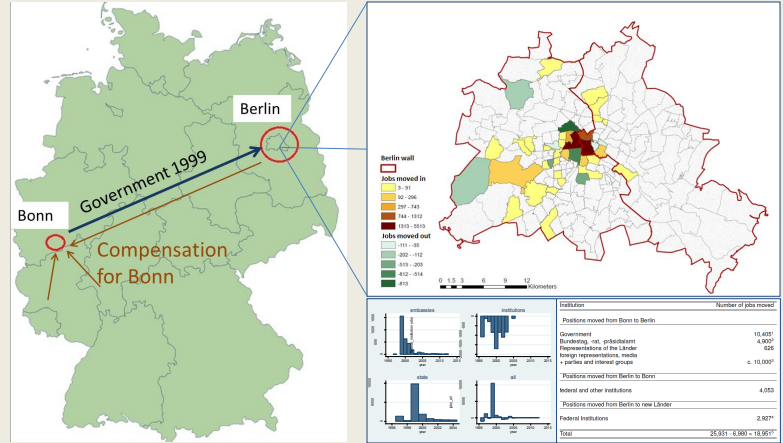
## Motivation

- 1) Relocation of public sector workers is used as a regional policy tool to increase employment in lagging regions, e.g. Lyons Review
- 2) Regions receive compensation for public sector job losses, e.g. Bonn

## Mechanisms

Relocation of *public sector* workers is equivalent to a local demand shock  
 Each additional public sector job increases demand for locally produced goods and services (e.g. restaurants, retail, personal services) increase in demand → additional jobs in the private non-tradable sector = the multiplier effects.  
 Crowding out of private sector jobs rise in public sector employment triggers general equilibrium effects  
 Higher rents and wages increase local production costs  
 Unclear to what extent equilibrium effects offset the multiplier

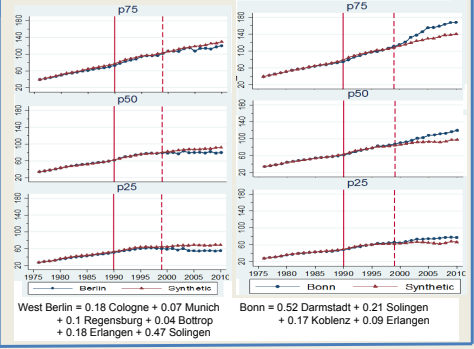
## Historical Setting



## Synthetic control group

$\min (X_{WB} - X_c)W' \quad V (X_{WB} - X_c)W$   
 Method imposes two constraints → Weights > 0 & Weights sum up to one  
 Compare wage evolution in Berlin with wage evolution in the control group  
 $Y_{WB} - Y_c = W^*$   
 $X_{WB} = (k \times 1)$  vector with levels of wage determinants for WBerlin  
 $X_c = (k \times j)$  matrix with levels of wage determinants of other German cities  
 $W = (j \times 1)$  vector of weights for each city  
 $Y_{WB} = (T \times 1)$  vector containing WBerlin wages between 1975 and 2010  
 $Y_c = (T \times j)$  matrix containing wages of other German cities between 1975 and 2010  
 Some variables are better wage predictors than others → give them different variable weights  $V = (k \times k)$  matrix

Variable	West Berlin		Bonn	
	Treated	Synthetic	Treated	Synthetic
unemployment	10.0	8.8	7.2	7.0
% aged 15-24	16.1%	20.7%	19.2%	21.2%
% aged 25-39	39.2%	35.8%	37.8%	36.5%
% aged 40-54	35.4%	34.1%	32.0%	32.5%
% aged 55-65	9.3%	9.5%	11.0%	9.9%
% primary industries	0.5%	0.6%	0.6%	0.5%
% manufacturing	24.4%	41.3%	20.0%	32.2%
% construction	9.5%	7.2%	5.8%	6.3%
% private services	40.9%	34.5%	39.9%	37.6%
% public sector	24.7%	16.5%	33.7%	23.5%
% low skilled	27.2%	30.6%	24.5%	26.4%
% medium skilled	53.4%	56.7%	57.1%	60.0%
% high skilled	5.6%	4.9%	9.2%	8.2%
% other skilled	13.8%	7.8%	9.2%	5.5%
daily wage in 1976	33.7	33.7	33.7	33.7
population density	3509	1942	2040.1	1277.4



## Empirical specification

$\Delta \ln emp_{p,t}^{priv} = \beta_0 + \beta_1 \Delta emp_{p,t}^{pub} + \sum_{i=1}^5 \gamma_i \Delta emp_{p,t-i}^{pub} + \sum_{j=1}^J \delta_j X_{p,t-j} + \Delta \epsilon_{p,t}$   
 $\Delta \ln emp^{priv}$  = net change in log private sector employment  
 $\Delta emp^{pub}$  = net count of government jobs moved  
 $\Delta emp_{p,t}$  = net count of government jobs moved in 1km wide rings around the postcode  
 $X$  = initial local share of workers with a given education, age group, whether full-time/part-time, female/male (1996)  
 (Robustness check: adding occupational and industry shares)  
 $p_c$  = postcode  
 $t$  = year after the relocation,  $t-s$  = year before the relocation

	Lobbies & Trade Unions	Total Private	Manufacturing	Services	Services minus Construction
0 km	0.721** [0.297]	0.101 [0.0728]	0.207 [0.141]	0.102 [0.0815]	0.12 [0.0913]
1-2 km	-0.225 [0.228]	-0.089 [0.0560]	-0.0601 [0.109]	-0.09 [0.0627]	-0.0869 [0.0702]
2-3 km	0.127 [0.0823]	0.0440** [0.0201]	-0.043 [0.0391]	0.0488** [0.0225]	0.0551** [0.0252]
3-4 km	-0.0657 [0.0733]	0.0397** [0.0178]	0.00985 [0.0334]	0.0367* [0.0199]	0.0268 [0.0223]
4-5 km	0.0371 [0.0544]	-0.0276** [0.0131]	-0.0227 [0.0254]	-0.0268* [0.0147]	-0.027 [0.0164]
5-6 km	-0.0228 [0.0347]	0.00246 [0.00845]	0.019 [0.0168]	0.0006 [0.00946]	0.00194 [0.0106]
6-30 km	0.937 [0.00411]	-0.067 [0.727]	0.898 [0.00142]	-0.257 [0.814]	-0.0962 [0.912]
N	158	188	187	188	188
R-sq	0.126	0.196	0.081	0.167	0.112
Controls	YES	YES	YES	YES	YES

## CONCLUSION

We quantify the local multiplier effect of a public sector shock on private employment using the move of the German government from Bonn to Berlin as a natural experiment  
 significant positive effects on private sector employment in establishments located to 2 - 4 km away from postcode receiving public sector workers  
 Effect is coming through services, no effect on manufacturing employment  
 Looking at the macro level we find the opposite effect on wages of what would be expected  
 Other policies overruled the relocation effect  
 Bonn received very generous compensation  
 Berlin is still adjusting to the effects of division and the reunification shock

## CONTACT

Teresa Schlüter  
London School of Economics and Political Science  
Email: t.j.schluter@lse.ac.uk  
Website: <http://personal.lse.ac.uk/SCHLUETT/>

## References

1. Faggio, G. and Overman, H. (2014). The effect of public sector employment on local labour markets. *Journal of urban economics*, 79:91-107.
2. Moretti, E. (2010a). Local Multipliers. *American Economic Review: Papers & Proceedings*, 100, 1-7.