The Long-Term Costs of Government Surveillance:

Insights from Stasi Spying in East Germany

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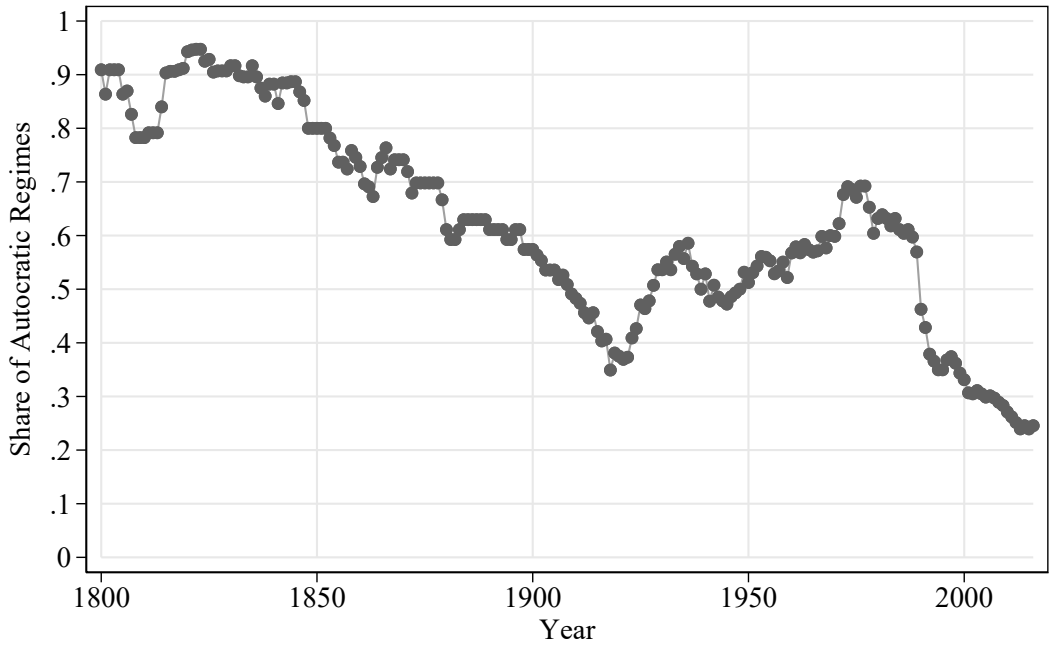
Motivation

Autocratic regimes dominant form of government in human history
→ today, more than 1/3 of world population lives in authoritarian states



Source: Polity IV Project and Marshall et al. (2007)

Common feature: Large-scale surveillance systems monitoring and controlling the population to secure power of the regime (Arendt, 1951)

This Paper

Studies effects of one of the largest surveillance systems of all time

→ Stasi preferred silent measures of surveillance

→ Unofficial informers (IM) spied upon colleagues, neighbors, friends & family

→ *"effects of Stasi surveillance [..] can scarcely be overstated"* *(Fulbrook, 2009)*

Uses regional variation in surveillance intensity across GDR counties

→ Using admin data on the network of informers

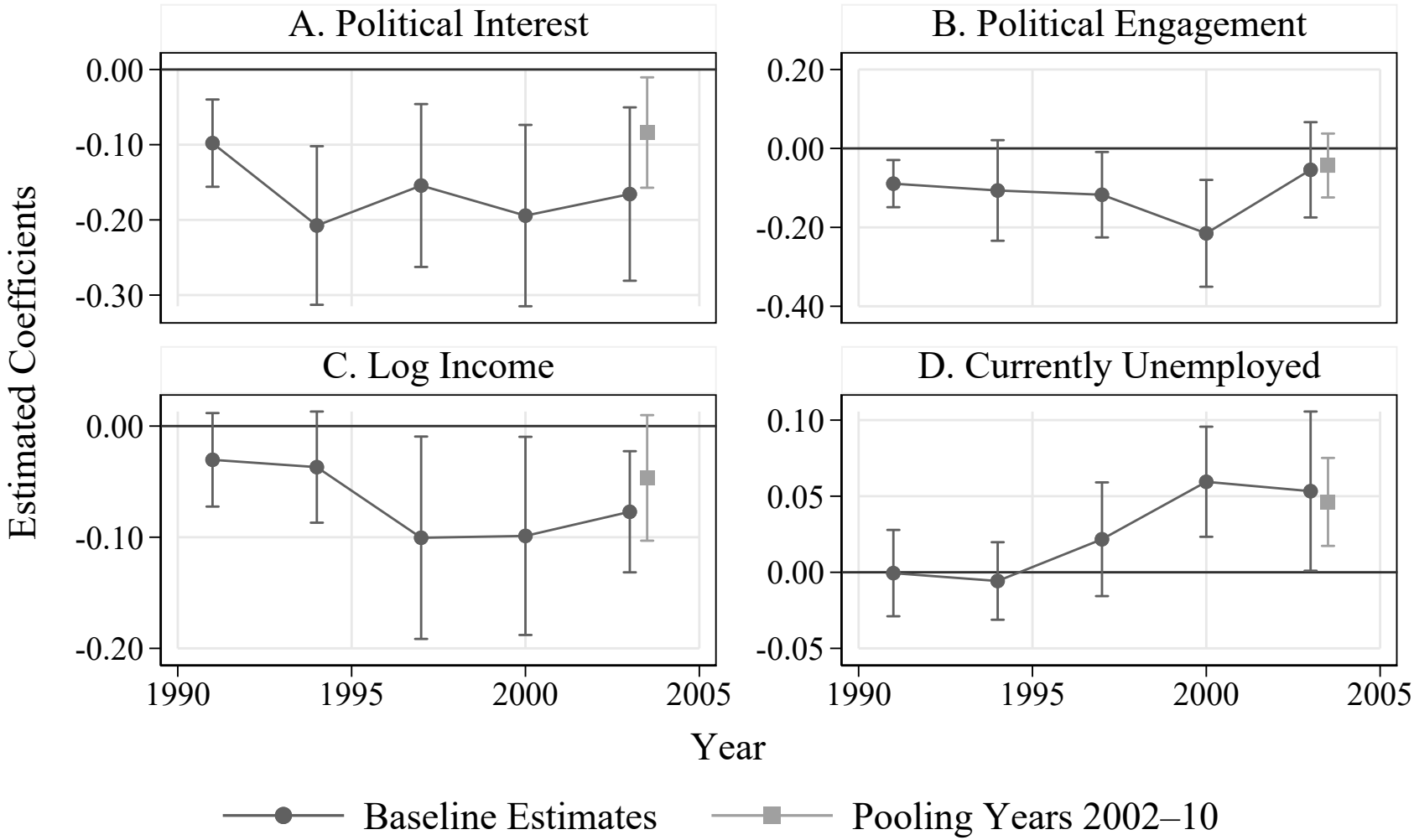
→ Analyzes post-1990 effects on civic capital & economic performance

Explicitly addresses endogeneity of regional surveillance intensity

→ Empirical strategy exploits specific administrative structure of Stasi

→ Combination of border design and IV approach

Main Results in One Graph



Results in a Nutshell

Long-lasting surveillance effects on civic capital & economic outcomes

A higher spying density caused:

→ Lower civic capital
(trust ↓, reciprocal behavior ↓, voter turnout ↓, political engagement ↓)

→ Lower economic performance
(labor income ↓, unemployment ↑, self-employment ↓)

Mechanisms:

→ Surveillance-induced differences in education as an important channel

→ Lower civic capital as likely key driver of negative economic effects

Results robust to wide range of sensitivity checks, e.g.,

→ Not driven by selection / migration effects

→ Not due to differences in personality traits unrelated to trust

→ Not driven by other regime characteristics (arrests, socialist indoctrination)

Contributions to the Literature

1. Institutions, culture and economic outcomes

(Algan and Cahuc, 2014, Alesina and Giuliano, 2015, Fuchs-Schündeln and Hassan, 2016)

→ Cultural differences such as religion or education can explain differences in economic preferences, beliefs, and values (Tabellini, 2010, Alesina et al., 2013)

→ Positive effects of institutional quality on the economy

(La Porta et al., 1997, Rodrik and Wacziarg, 2005, Nunn and Wantchekon, 2011, Acemoglu et al., 2019)

→ Too little individual trust leads to negative economic outcomes (Butler et al., 2016)

2. Transition from socialism

(Shleifer, 1997, Alesina and Giuliano, 2015)

→ Effects of socialist indoctrination on preferences and labor market outcomes
(Alesina and Fuchs-Schündeln, 2007, Fuchs-Schündeln and Masella, 2016, Glitz and Meyersson, 2019)

→ Our paper addresses the non-randomness of local differences in the spying density
(Jacob and Tyrell, 2010, Friehe et al., 2015)

The German Democratic Republic (GDR)

After WW II, German territory divided among the four Allied Forces

→ Western Forces established principles of democracy & free markets

→ Soviet Union implemented socialist regime

→ Division institutionalized in 1949

GDR: Authoritarian regime under rule of Socialist Unity Party (SED)

→ Organization of state closely followed Soviet example

→ Full centralization with all political powers held by Politburo in Berlin

→ Replacement of provinces from Weimar Republic & their institutions with 15 purely administrative districts with no legislative powers

"The [districts'] only task [..] was to execute the decisions made by the central committee. This was their raison d'être." Ulrich Schlaak, District Secretary of the SED

GDR: 1949–1989/90

Early years of GDR shaped by turmoil and out-migration

→ Dissatisfaction culminated in national uprising on/around June 17, 1953

→ Massive out-migration: 20% of population until 1961

Construction of Berlin Wall (1961) stopped population outflow

→ Wall closed loophole to flee to West-Berlin ▸ Out-migration 1950-1990

→ Order for border patrol to shoot (at) every person trying to escape

The demise of the regime

→ Fall of Berlin Wall on Nov 9, 1989

→ Reunification of West and East Germany in October 1990

The Ministry for State Security and Its Informers

Stasi as internal and external intelligence agency of GDR regime:

> *"Battle against agents, saboteurs, and diversionists to preserve the full effectiveness of [the] Constitution"* Erich Mielke, Minister for State Security (1957-1989)

Network of unofficial informers as *"main weapon against enemy"* ▸ Statement

→ In the 1980s, the network of informers amounted to about 1% of population

→ *"Informers were seen as an excellent way of preventing trouble before it started"* Childs and Popplewell (1996)

Informers pursued their regular lives but secretly spied on social network

→ Regular meetings with Stasi officer to report suspicious behavior and/or provide personal information about individuals in their network

→ Reasons for cooperation diverse: ideological, expected benefits, and in rare cases pressure (Fulbrook, 1995)

The Organizational Structure of the Stasi

Surveillance system hierarchical and decentralized from its very beginning

→ Stasi offices at the district (*Bezirk*) and county (*Kreis*) level

→ Each district office held full responsibility for securing its territory and administered its respective county offices (Gieseke, 2014)

→ Minister for State Security hardly influenced activities of districts

Substantial differences in surveillance across districts (25% of county variation)

→ "Hard" factors: population size, industry structure, opposition to regime

(Horsch, 1997, Müller-Enbergs, 2008)

→ "Soft" factors: effort, zeal, loyalty to regime

(Gill and Schröter, 1991, Childs and Popplewell, 1996)

Measuring Surveillance Intensity

Main measure of surveillance intensity: County-level spying density
→ number of operative unofficial informers per capita in a county

Source: Administrative data from Stasi Records Agency (BStU)

→ BStU: government agency to safe-keep, secure & restore Stasi records

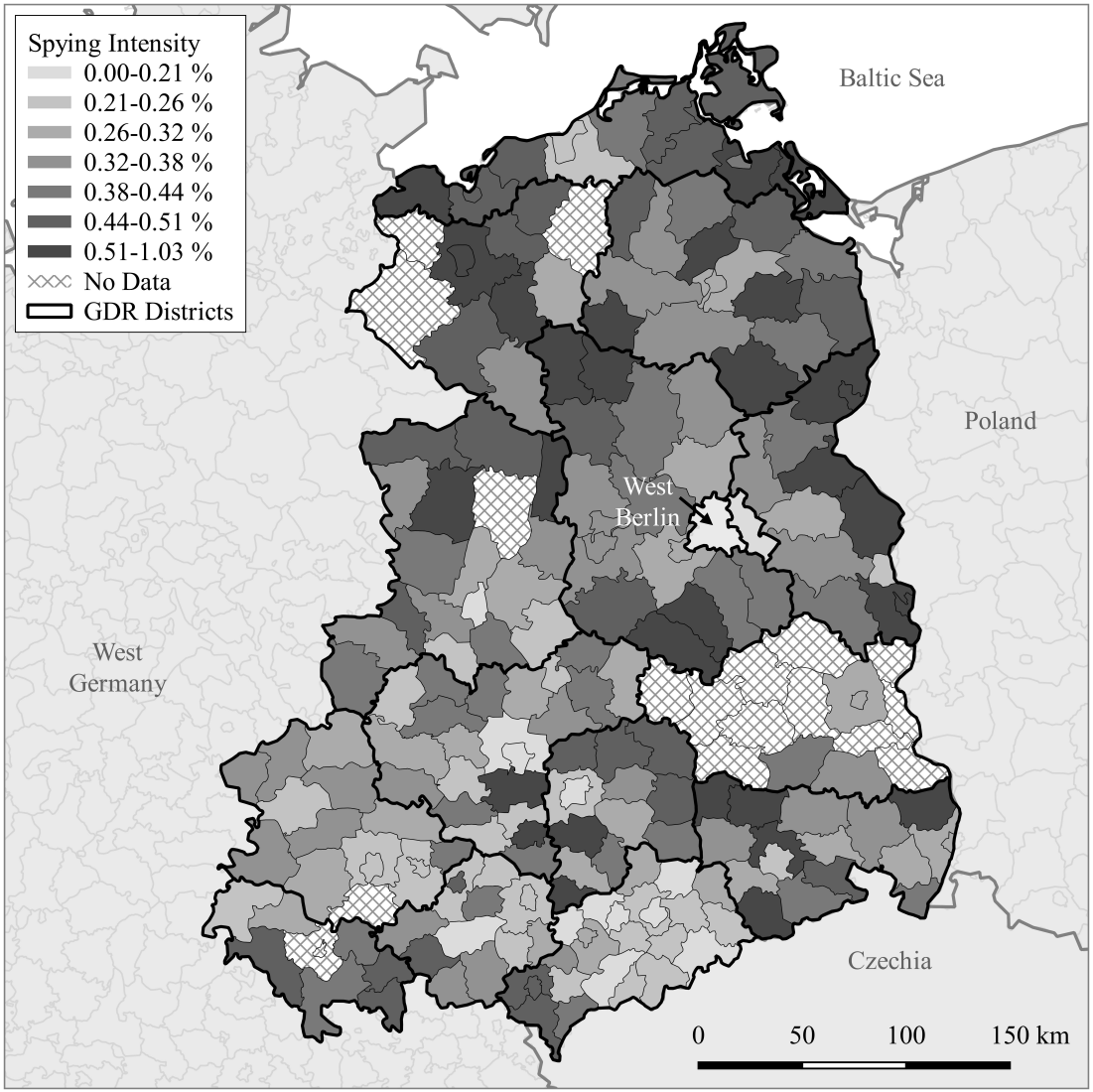
→ Most data compiled in Müller-Enbergs (2008), new data from archives

→ Data coverage: 92% of counties in 1980s

Stasi distinguished operative collaborators from those providing logistics

- Focus on operative collaborators given their active role in spying
- Local spying density stable throughout 1980s ($\rho = 0.91$)
- Mean spying density: 0.38%, median: 0.36%, standard deviation: 0.14%

Variation in Spying Density



Shapefiles: MPIDR and CGG (2011), Eurographics

Conceptual Framework

Autocratic regimes to secure their power by establishing obedience, instilling fear and the threat of denunciation (Arendt, 1951)

Historical accounts to reiterate mechanism for GDR surveillance state:

"Stasi surveillance [...] led to perpetual insecurity in personal relationships, and was to leave a difficult legacy for post-reunification Germany" (Fulbrook, 1995)

"The knowledge that the Stasi were there and watching served to atomize society, preventing independent discussion in all but the smallest groups" (Popplewell, 1992)

Given historical context, plausible effects on

- Individuals' attitudes towards political institutions
- The way citizens cooperated and trusted each other

Nicely summarized in the concept of civic capital:

"... those persistent and shared beliefs and values that help a group overcome the free rider problem in the pursuit of socially valuable activities" (Guiso et al., 2010)

Civic Capital and Economic Performance

Erosion of civic capital predicted to exert negative economic effects

I Interpersonal trust:
- → Every economic transaction involves element of trust (Arrow, 1972)
- → Trust as social collateral reducing transaction costs (Knack and Keefer, 1997)

II Institutional trust:
- → Uncertainty in rewards of individual productive investments (Smith, 1776)
- → Social capital determinant of economic success (Fukuyama, 1995, Putnam, 1995)

Earlier work emphasizes role of social capital for economic performance

- → Descriptive: positive correlation b/w country-level social capital/trust indicators and economic performance (Knack and Keefer, 1997, Zak and Knack, 2001)
- → Quasi-experimental: variation in trust due to deep cultural traits or institutional differences to explain differences in economic prosperity (Guiso et al., 2009, Algan and Cahuc, 2010, Nunn, 2008, Nunn and Wantchekon, 2011, Tabellini, 2010)

Outcomes

Operationalization of civic capital:

- → Trust in strangers (Glaeser et al., 2000)
- → Reciprocal behavior (Dohmen et al., 2009)
- → Attend elections / Political interest (Fukuyama, 1995, Putnam, 2000)
- → Political engagement (Guiso et al., 2010)

Choice of economic outcomes based on exp. relationship w/h civic capital

- → Labor income (Butler et al., 2016)
- → Unemployment duration (Algan and Cahuc, 2014)
- → Self-employment rate (La Porta et al., 1997)

Source: German Socio-Economic Panel Study (SOEP)

Empirical Model: Set-up

Border discontinuity design exploiting administrative structure (Dube et al., 2010)

- Restrict sample to county pairs at district borders
- Exploit within-pair variation in spying intensity

Formal model:

$$Y_i = \alpha + \beta \cdot SPYDENS_c + \boldsymbol{X_i}\delta + \boldsymbol{H_c}\phi + \nu_b + \mu_p + \varepsilon_i$$

→ Outcome Y of individual i, in county c, county pair b, Weimar Province p

→ Main regressor: county-level spying density $SPYDENS_c$

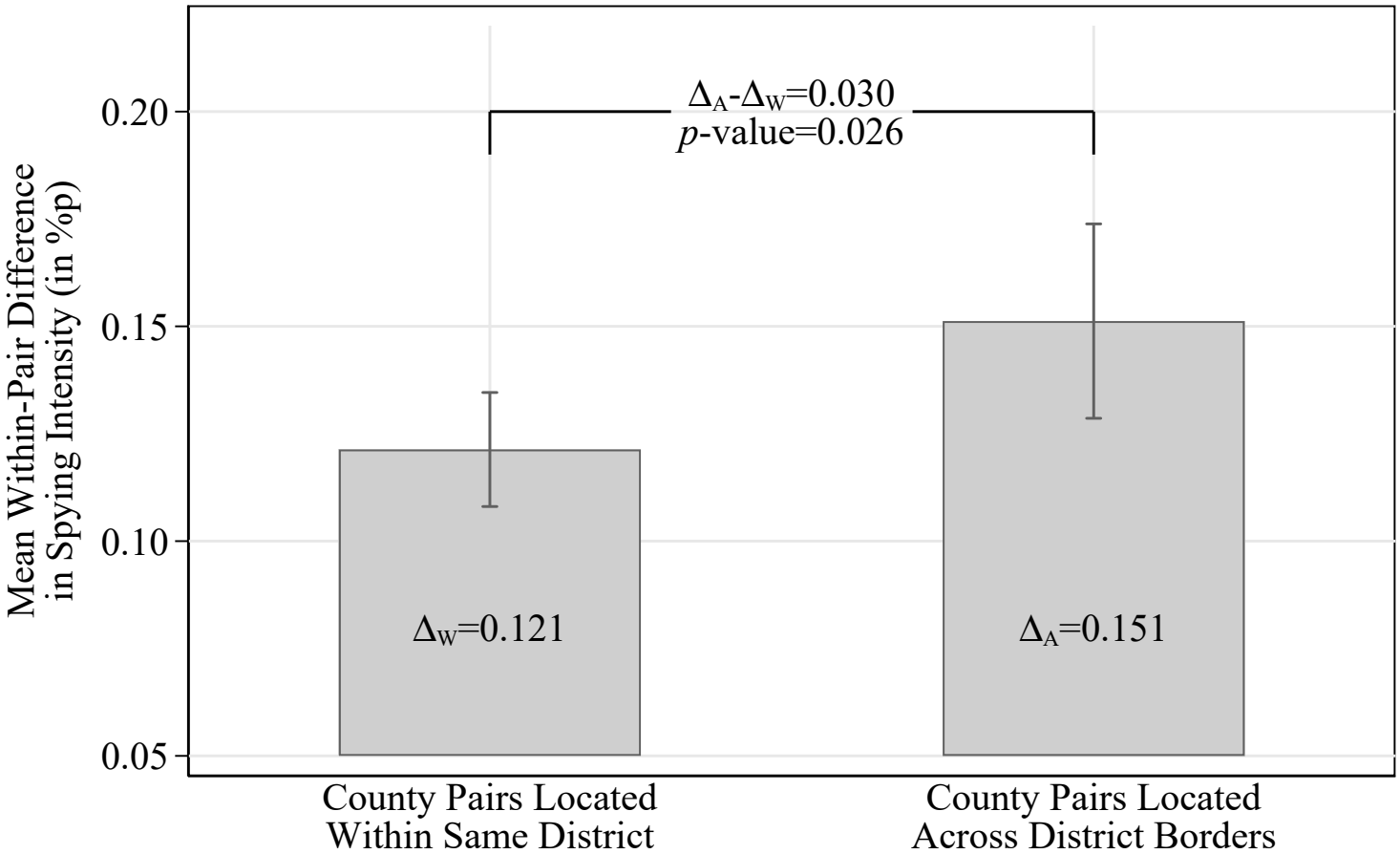
→ County-pair fixed effects ν_b

→ Vector $\boldsymbol{X_i}$ accounts for exogenous individual controls (age, gender)

→ Vector $\boldsymbol{K_c}$ accounts for county-level predetermined differences

→ Weimar Province dummies μ_p capturing long-term cultural differences

Identifying Variation in Border Design



Notes: This figure plots the average difference in the share of operative unofficial informers at the county level within (i) county pairs from the same district and (ii) county pairs divided by district borders. Additionally, we test for the difference between both estimates being zero and depict the corresponding *p*-value. County pairs are weighted by the average county-level population. Standard errors are clustered at the county-pair level, vertical bars show 95 % confidence intervals. See Online Appendix B for detailed information on all variables.

Identification: County-level confounders

Identifying assumption:
Counties in a pair are identical, only differ systematically in spying density

Main concern: Confounding variables at county level

→ Observable confounders:
Smoothness test whether differences in predetermined characteristics do not vary systematically within pairs: population size & composition; industrial composition, oppositional strength

→ Unobservable confounders:
District-level leave-out mean as instrument, the first stage being defined as

$$SPYDENS_c = \tilde{\alpha} + \tilde{\zeta} \cdot \frac{1}{|\mathbb{C}^d_{-c}|} \sum_{k \in \mathbb{C}^d_{-c}} SPYDENS_k + \boldsymbol{X_i}\tilde{\delta} + \boldsymbol{H_c}\tilde{\phi} + \tilde{\nu}_b + \tilde{\mu}_p + \nu_i$$

Identification: Reverse causality

→ Test for differences in predetermined outcomes, measured in 1920s/1930s

	Share Protest. (1)	Share Jews (2)	Voter Turnout (3)	Extreme Vote (4)	Unemp-loyment (5)	Self-Employ. (6)	White Collar (7)
Panel A – Without Control Variables							
County-Level Spying Density	0.003	0.217	-0.057	-0.001	0.161	0.083	0.178
	(0.138)	(0.209)	(0.201)	(0.171)	(0.219)	(0.173)	(0.205)
Number of Observations	102	102	102	102	102	102	102
Adjusted R-Squared	0.611	0.931	0.904	0.768	0.923	0.918	0.771
Panel B – Including GDR Control Variables							
County-Level Spying Density	-0.115	0.168	-0.047	0.006	0.143	0.076	0.048
	(0.263)	(0.197)	(0.172)	(0.211)	(0.183)	(0.166)	(0.165)
Number of Observations	102	102	102	102	102	102	102
Adjusted R-Squared	0.759	0.969	0.957	0.857	0.969	0.963	0.887

All estimates are standardized. Standard errors clustered at county-pair & county level.
Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Identification: other threats

I Correlated District Discontinuities
- → Underlying question: What drove different district strategies?
- → Problem: IV operates at the same level of aggregation
- → We control for the usual suspects at county-level within pairs
- → How were borders drawn? Industry played a role ▸ Industry test
- → Look at effects at district borders that were newly drawn in 1952 and separating Weimar provinces ▸ Weimar provicence test

II Selection effects
- → Pre-reunification: External and internal migration highly restricted
- → Post-reunification: Treatment assigned as of 1989

III Measurement Error
- → Differences in spying intensity had to be perceived
  - → Historical accounts as well as a post-reunification test point to differences in perception ▸ Testing Perception
- → Remaining sources of measurement error would bias estimates towards zero

The Effect of Spying on Civic Capital (I)

	All Counties	Border County-Pair Sample				
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A – Trust in Strangers						
County-Level Spying Density	0.066**	0.057	-0.040	-0.091***		-0.098***
	(0.032)	(0.038)	(0.028)	(0.023)		(0.034)
District-Level Spying Density					-0.094**	
					(0.038)	
Number of Observations	3,175	1,795	1,795	1,795	1,795	1,795
Adjusted R-Squared	0.008	0.031	0.117	0.149	0.147	0.149
Kleibergen-Paap F-Statistic						12.03
Panel B – Reciprocal Behavior						
County-Level Spying Density	-0.067*	-0.098**	-0.109***	-0.085**		-0.183**
	(0.034)	(0.045)	(0.038)	(0.032)		(0.069)
District-Level Spying Density					-0.178***	
					(0.044)	
Number of Observations	2,835	1,588	1,588	1,588	1,588	1,588
Adjusted R-Squared	0.053	0.065	0.141	0.185	0.187	0.181
Kleibergen-Paap F-Statistic						15.40
Border County-Pair Fixed Effects			Yes	Yes	Yes	Yes
County-Level Control Variables				Yes	Yes	Yes

All estimates are standardized. Standard errors clustered at county-pair & county level.
Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

The Effect of Spying on Civic Capital (II)

	All Counties	Border County-Pair Sample				
	(1)	(2)	(3)	(4)	(5)	(6)
Panel C – Attend Elections						
County-Level Spying Density	-0.009	-0.081**	-0.067***	-0.087***		-0.109**
	(0.031)	(0.036)	(0.024)	(0.032)		(0.052)
District-Level Spying Density					-0.107**	
					(0.044)	
Number of Observations	2,828	1,583	1,583	1,583	1,583	1,583
Adjusted R-Squared	0.014	0.048	0.105	0.122	0.121	0.121
Kleibergen-Paap F-Statistic						14.68
Panel D – Political Interest						
County-Level Spying Density	-0.091***	-0.078*	-0.120***	-0.179***		-0.261***
	(0.028)	(0.045)	(0.035)	(0.026)		(0.069)
District-Level Spying Density					-0.270***	
					(0.043)	
Number of Observations	2,914	1,736	1,736	1,736	1,736	1,736
Adjusted R-Squared	0.036	0.047	0.113	0.152	0.149	0.149
Kleibergen-Paap F-Statistic						19.12
Panel E – Political Engagement						
County-Level Spying Density	0.051*	0.008	-0.066**	-0.096***		-0.181***
	(0.028)	(0.041)	(0.029)	(0.022)		(0.047)
District-Level Spying Density					-0.188***	
					(0.034)	
Number of Observations	2,914	1,736	1,736	1,736	1,736	1,736
Adjusted R-Squared	0.019	0.043	0.102	0.124	0.126	0.121
Kleibergen-Paap F-Statistic						19.12
Border County-Pair Fixed Effects			Yes	Yes	Yes	Yes
County-Level Control Variables				Yes	Yes	Yes

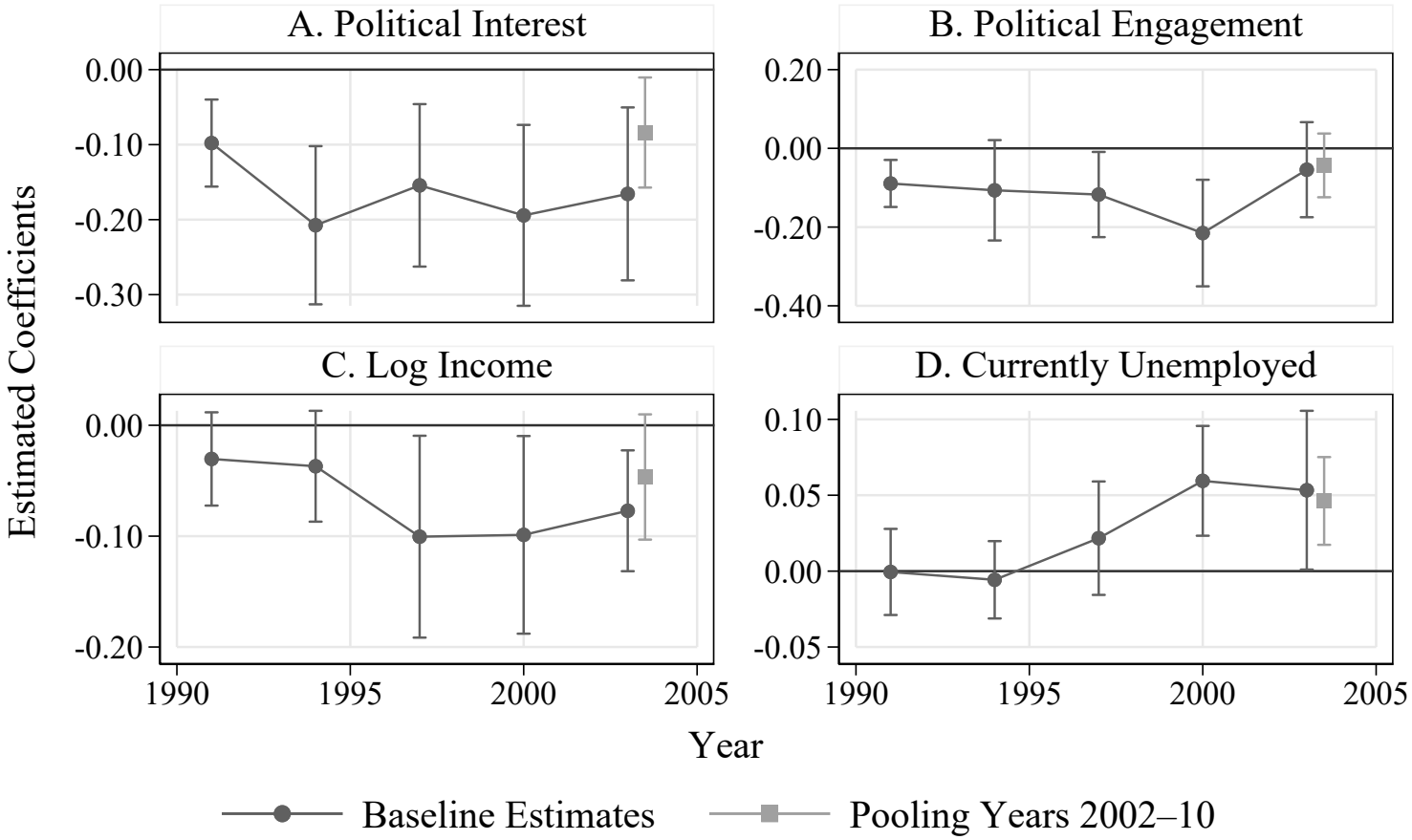
All estimates are standardized. Standard errors clustered at county-pair & county level.
Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

The Effect of Spying on Economic Performance

	All Counties	Border County-Pair Sample				
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A – Unemployment Duration						
County-Level Spying Density	0.005	0.002	0.004	0.008*		0.014***
	(0.004)	(0.009)	(0.006)	(0.005)		(0.005)
District-Level Spying Density					0.014**	
					(0.006)	
Number of Observations	2,880	1,719	1,719	1,719	1,719	1,719
Adjusted R-Squared	0.041	0.049	0.135	0.161	0.161	0.161
Kleibergen-Paap F-Statistic						20.81
Panel B – Self-Employment						
County-Level Spying Density	0.000	-0.001	-0.008*	-0.008**		-0.016**
	(0.005)	(0.008)	(0.004)	(0.004)		(0.007)
District-Level Spying Density					-0.016***	
					(0.005)	
Number of Observations	2,724	1,611	1,611	1,611	1,611	1,611
Adjusted R-Squared	0.014	0.025	0.080	0.094	0.094	0.093
Kleibergen-Paap F-Statistic						18.76
Panel C – Log Mean Income						
County-Level Spying Density	-0.041***	-0.015	-0.030**	-0.044***		-0.056***
	(0.014)	(0.017)	(0.011)	(0.013)		(0.019)
District-Level Spying Density					-0.055**	
					(0.026)	
Number of Observations	2,517	1,482	1,482	1,482	1,482	1,482
Adjusted R-Squared	0.163	0.184	0.234	0.253	0.251	0.253
Kleibergen-Paap F-Statistic						16.80
Border County-Pair Fixed Effects			Yes	Yes	Yes	Yes
County-Level Control Variables				Yes	Yes	Yes

All estimates are standardized. Standard errors clustered at county-pair & county level.
Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Dynamic Effects and Persistence



→ Effects persistent at least until mid-2000s

→ Additional results using administrative labor market data corroborate long-term persistence

Sensitivity: Estimates are robust to / not driven by ...

1. Other measures of surveillance/other regime characteristics
   → all informers, informers + officers, socialist indoctrination, arrests
   → distance to West Germany

2. Other psychological factors or political preferences
   → risk aversion, big-five personality traits
   → preferences for redistribution, political polarization

3. Effects not due to (selective) migration
   → no differential effects by decision to move after reunification

4. Different ways to draw inference
   → percentile-t Wild cluster bootstrap on district level, randomization inference

5. Different county pair definitions and weighting schemes
   → all county pairs, no duplications of counties
   → no survey weights, no adjustment of weights in case of duplication

Channels: Education

	Years of Education (1)	Vocational Education (2)	University Degree (3)	In Job As Trained For (4)	Occup. Prestige (5)
Panel A – Average Effects					
County-Level Spying Density	-0.280***	-0.029***	-0.034	-0.056***	-0.119***
	(0.092)	(0.010)	(0.021)	(0.016)	(0.041)
Number of Observations	1,736	1,736	1,736	1,467	1,483
Adjusted *R*-Squared	0.162	0.202	0.109	0.103	0.137
Kleibergen-Paap *F*-Statistic	19.12	19.12	19.12	16.75	16.87
Panel B – Effects by Age					
District-Level Spying Density					
× Born Before 1945	-0.204	-0.033**	-0.011	-0.052**	-0.080
	(0.141)	(0.013)	(0.028)	(0.023)	(0.073)
× Born 1945–1959	-0.299**	-0.028**	-0.043	-0.061***	-0.132**
	(0.140)	(0.011)	(0.027)	(0.022)	(0.056)
× Born 1960–1973	-0.408***	-0.033***	-0.062**	-0.060**	-0.161***
	(0.125)	(0.011)	(0.026)	(0.023)	(0.049)
Number of Observations	1,736	1,736	1,736	1,467	1,483
Adjusted *R*-Squared	0.173	0.209	0.122	0.105	0.142
Border County-Pair Fixed Effects	Yes	Yes	Yes	Yes	Yes
County-Level Control Variables	Yes	Yes	Yes	Yes	Yes

→ Education as an important channel

→ Stasi with an indirect effect on education through social capital (as a "handmaiden" of human capital investments (Goldin and Katz, 1999))

Channels: Civic Capital as a Driver

	Years of Education (1)	Occup. Prestige (2)	Unemploy. Duration (3)	Self-Employment (4)	Log Mean Income (5)
Panel A – Baseline Effects					
County-Level Spying Density	-0.280***	-0.119***	0.014***	-0.016**	-0.056***
	(0.092)	(0.041)	(0.005)	(0.007)	(0.019)
Number of Observations	1,736	1,483	1,719	1,611	1,482
Adjusted R-Squared	0.162	0.137	0.161	0.093	0.253
Kleibergen-Paap F-Statistic	19.12	16.87	20.81	18.76	16.80
Panel B – Reduced Sample					
County-Level Spying Density	-0.177	-0.107**	0.013*	-0.001	-0.057**
	(0.109)	(0.042)	(0.007)	(0.008)	(0.026)
Number of Observations	947	843	939	890	841
Adjusted R-Squared	0.189	0.206	0.219	0.145	0.328
Kleibergen-Paap F-Statistic	13.13	27.13	17.66	15.26	26.62
Panel C – Conditional on Civic Capital					
County-Level Spying Density	-0.032	-0.055	0.005	0.003	-0.042
	(0.104)	(0.042)	(0.007)	(0.007)	(0.025)
Number of Observations	947	843	939	890	841
Adjusted R-Squared	0.273	0.293	0.255	0.160	0.375
Kleibergen-Paap F-Statistic	12.71	26.57	17.12	14.75	26.13
Border County-Pair Fixed Effects	Yes	Yes	Yes	Yes	Yes
County-Level Control Variables	Yes	Yes	Yes	Yes	Yes

→ Suggestive evidence that civic capital drives some of the economic effects

→ Smaller Stasi effects on education and economic performance conditional on civic capital

Summary of Results

Evidence of negative and long-lasting effects of government surveillance

Higher spying density leads to negative effects on civic capital

- I.e., lower interpersonal and institutional trust

Effects on civic capital accompanied by negative economic effects:

- A one standard deviation increase in the spying density leading to
  - an increase in unemployment exposure by about 5 days per year
  - an decrease in the self-employment probability by about 1.6 p.p.
  - a decrease in monthly labor income of 84 EUR

What Do We Learn?

First causal evidence on effects of surveillance

→ Case study for one of the largest surveillance systems of all times

How to generalize our findings?

→ Technological shift to make results on personal trust less important?

→ Trust in institutions may still largely be affected (e.g., Snowden Affair)

→ Are effects of surveillance different in a democracy?

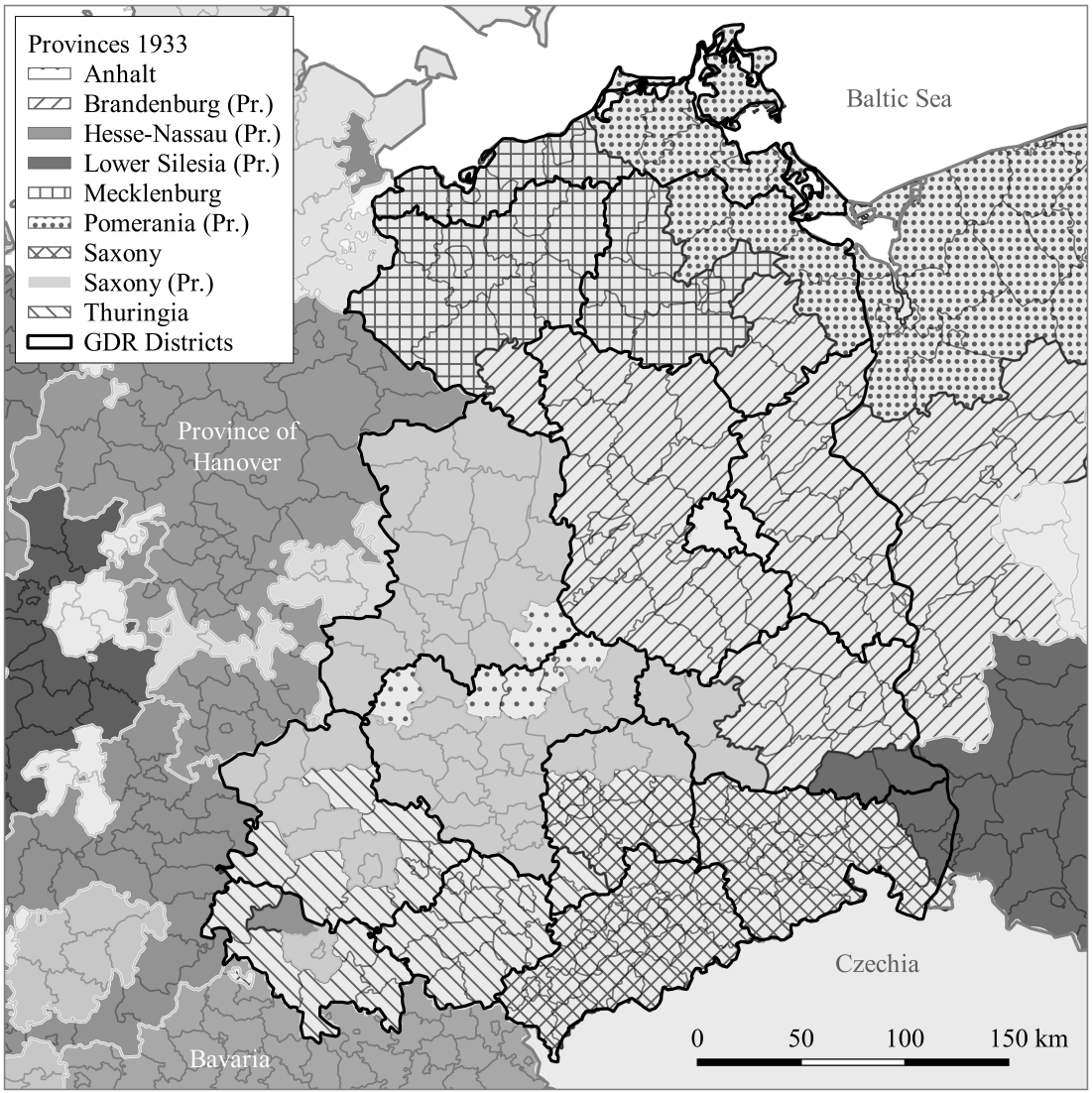
- Authoritarian & democratic regimes justify spying with benevolent motives
- Separating positive from negative effects of surveillance notoriously difficult

Appendix

Appendix

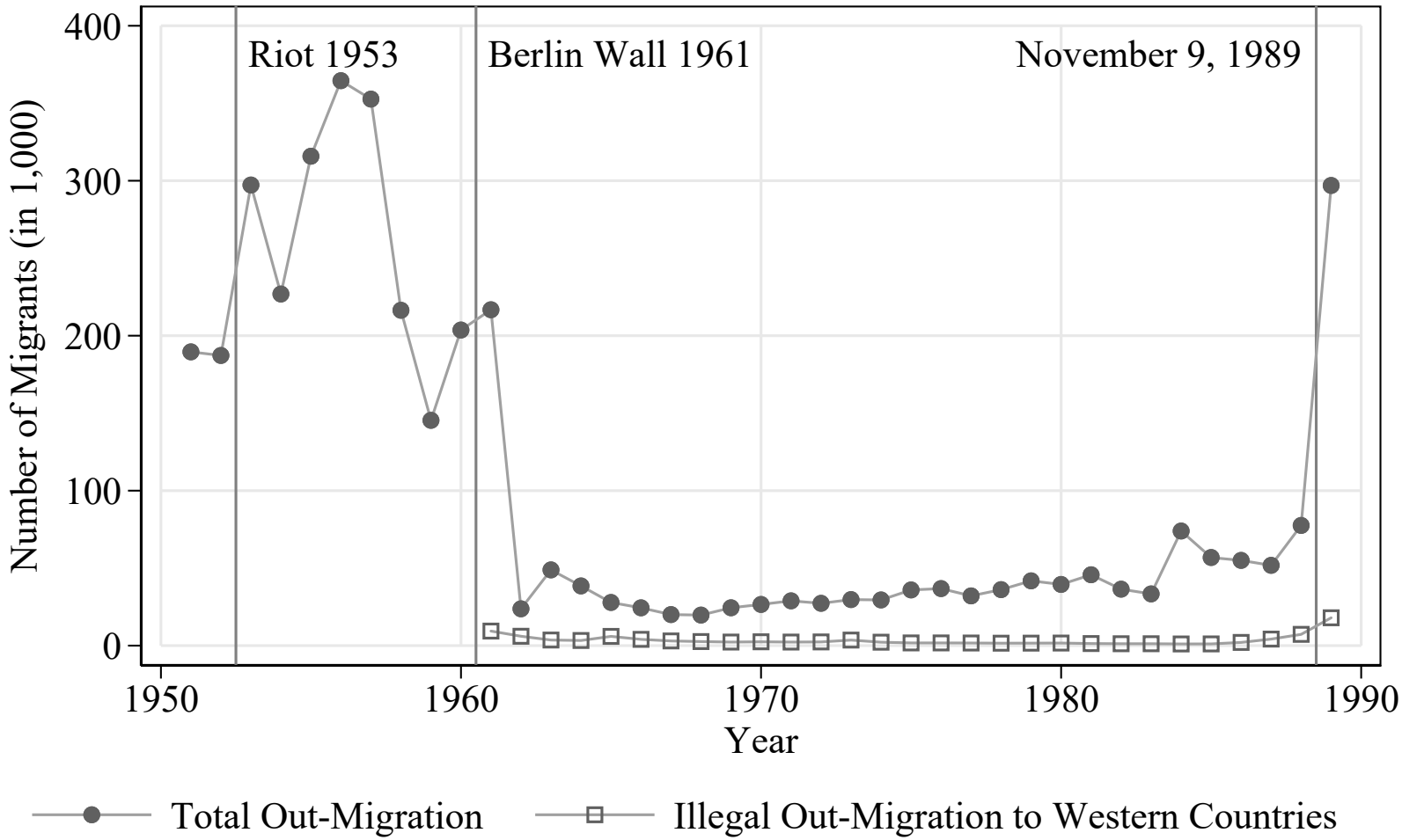
Literature

GDR Districts and Provinces of the Weimar Republic



The figure shows GDR district borders and historical borders of the states of the Weimar Republic and the Prussian provinces as of 1933. Shapefiles: MPIDR and CGG (2011), Eurographics.

GDR Out-Migration (1950-1990)



Source: Statistisches Bundesamt, 1993

Teaching material of Ministry of State Security

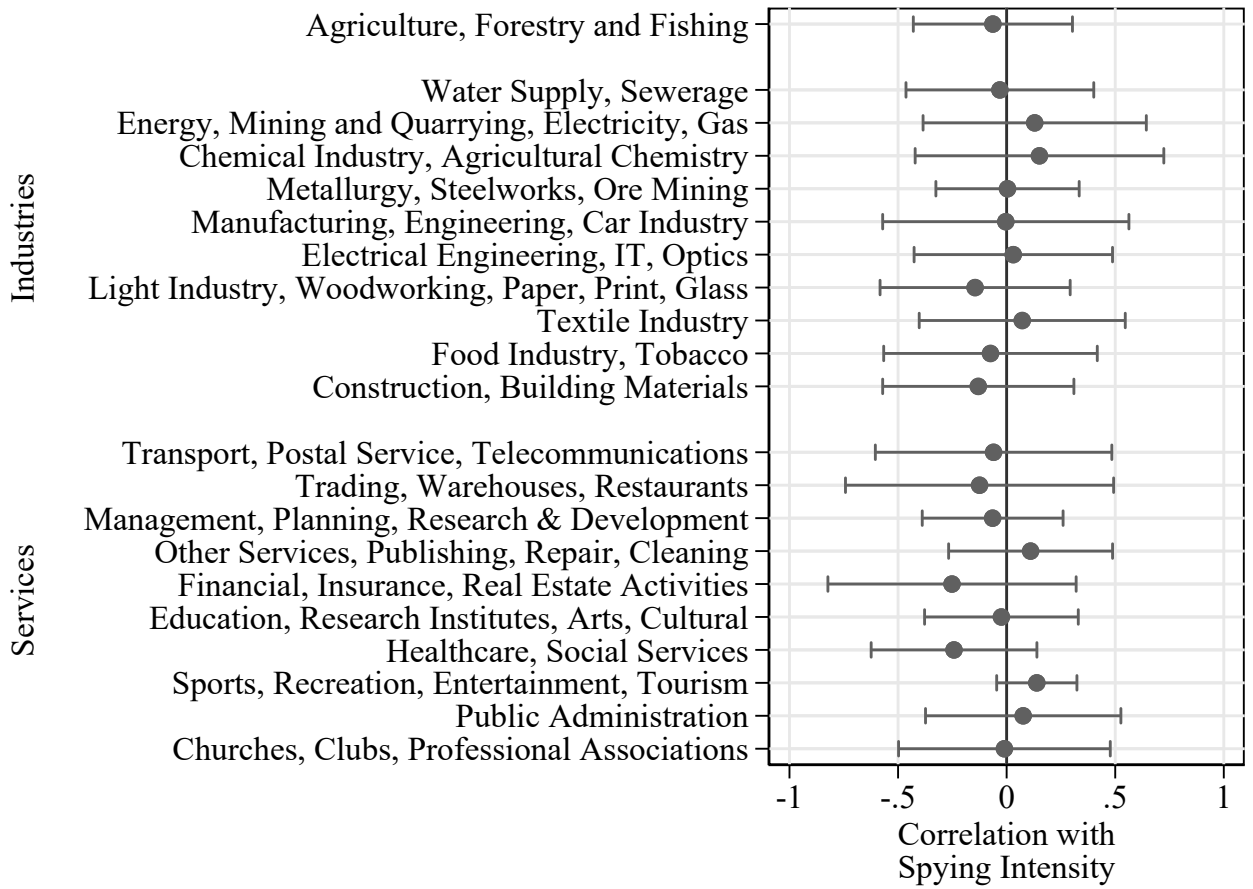
"For political reasons it is often neither effective nor useful to respond to various forms of criminal actions with legal persecution, even though the criminal actions would justify enforcement. Enemies of the state, who try to ideologically influence and divert citizens, are far less dangerous if they are free but forced to inactivity rather than imprisoned martyrs. In such conditions, the state has to take appropriate non-persecutive measures in due time to prevent hostile activities."

as cited in Knabe (1999), own translation

Covariate Smoothness Test

	All Counties	Border County Pair Sample		
	(1)	(2)	(3)	(4)
Log Mean Population 1980–1988	-0.588***	-0.316***	-0.269**	-0.137
	(0.132)	(0.113)	(0.119)	(0.232)
Log County Size	0.300***	0.199*	0.028	-0.054
	(0.092)	(0.112)	(0.078)	(0.209)
City County	-0.387***	-0.174	-0.085	0.012
	(0.122)	(0.170)	(0.076)	(0.019)
Share of Population Aged under 15, 1989	0.353***	0.302**	0.131	-0.105
	(0.098)	(0.122)	(0.108)	(0.178)
Share of Population Aged over 64, 1989	-0.200**	-0.235**	-0.084	0.093
	(0.095)	(0.110)	(0.114)	(0.258)
Log Industrial Output 1989	-0.429***	-0.253	-0.086	-0.078
	(0.118)	(0.152)	(0.134)	(0.227)
Share Agricultural Employment 09/1989	0.417***	0.263*	0.089	-0.066
	(0.098)	(0.137)	(0.125)	(0.198)
Employment Share Energy Industry 09/1989	0.120	0.158	0.177	0.110
	(0.095)	(0.136)	(0.175)	(0.256)
Employment Share Textile and Clothing 09/1989	-0.160**	-0.205*	-0.169	0.076
	(0.065)	(0.115)	(0.120)	(0.282)
Share of Cooperative Workers 09/1989	0.404***	0.271**	0.115	-0.109
	(0.097)	(0.128)	(0.120)	(0.200)
Uprising 1953: Strike, Demonstration, Riot	-0.130*	-0.087	-0.064	0.175
	(0.076)	(0.098)	(0.093)	(0.207)
Electoral Turnout 1933	-0.260**	-0.197	-0.020	-0.075
	(0.108)	(0.132)	(0.093)	(0.189)
Vote Share Nazi Party (NSDAP) 1933	0.387***	0.214**	0.122	-0.036
	(0.108)	(0.102)	(0.105)	(0.201)
Vote Share Communist Party (KPD) 1933	-0.437***	-0.232*	-0.143	0.050
	(0.117)	(0.122)	(0.119)	(0.145)
Share Protestants 1925	0.172***	0.184***	0.215***	-0.001
	(0.053)	(0.068)	(0.079)	(0.128)
Share Jews 1925	-0.417**	-0.093	-0.068	0.225
	(0.210)	(0.136)	(0.097)	(0.193)
Share of White Collar Workers 1933	-0.448***	-0.129	-0.040	0.194
	(0.140)	(0.118)	(0.117)	(0.181)
Self-Employment Rate 1933	0.451***	0.130	0.119	0.074
	(0.094)	(0.117)	(0.114)	(0.157)
Unemployment Rate 1933	-0.555***	-0.298***	-0.106	0.122
	(0.103)	(0.110)	(0.097)	(0.217)
Weimar Province Fixed Effects			Yes	Yes
County-Pair Fixed Effects				Yes
Counties	148	78	78	78
County Pairs		51	51	51
Joint *F*-Test	7.883	4.316	2.835	1.240
p-value	0.000	0.000	0.002	0.265

Smoothness Test for Fine Industry Sectors



Notes: This figure tests the smoothness of county-level employment shares in various industries at district borders. Each coefficient is estimated separately by regressing the respective employment share on the spying density, the set of county-pair fixed effects as well as dummy variables for the historical provinces of the Weimar Republic. All outcome variables are standardized. Population weights are adjusted for the duplication of counties that are part of multiple county pairs. Standard errors are two-way clustered at the county and county-pair level (horizontal bars indicate 95 % confidence intervals).

Perceived Surveillance

Pre-reunification:

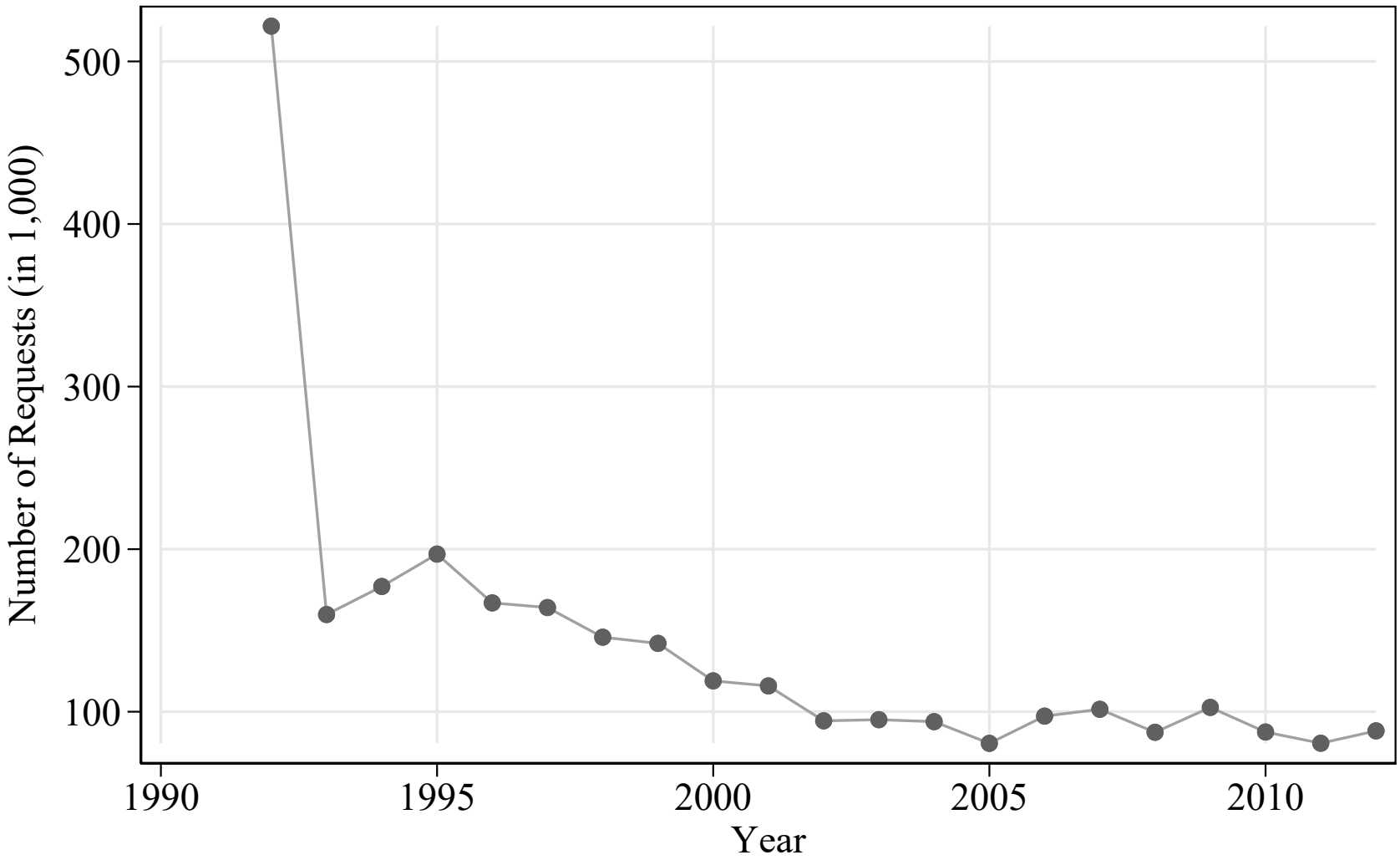
According to historical accounts, citizens were aware of informer network

- → (Sub)conscious; at work, in public or private (Bruce, 2010)
- → Stasi's presence felt like a "scratching t-shirt" (Reich, 1997)
- → Threat of being denounced caused atmosphere of mistrust/suspicion (Wolle, 2009)

Post-reunification:

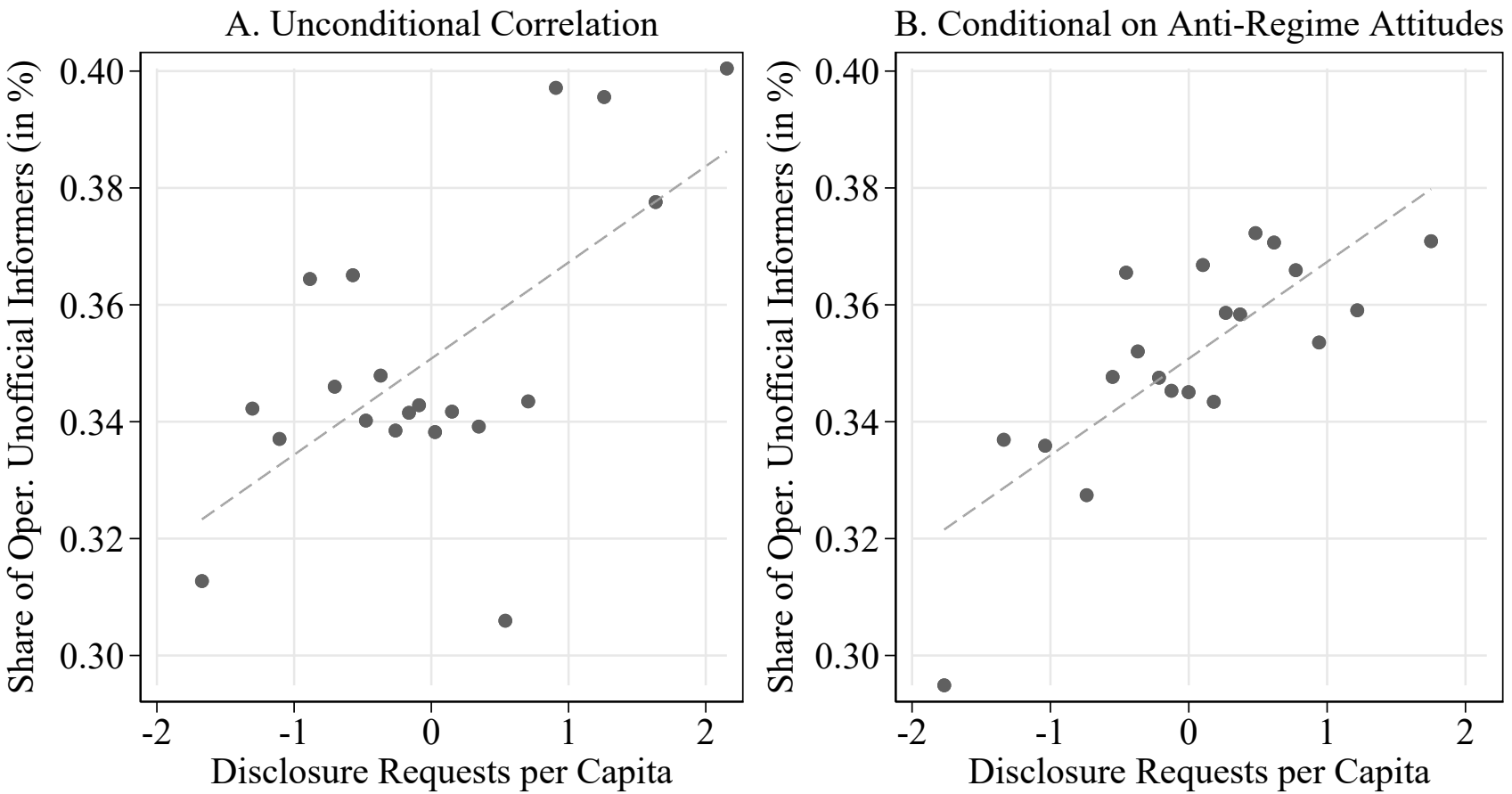
Citizens in districts with higher spying density more likely to inspect their own Stasi files after reunification

Number of Requests for the Inspection of Stasi Files



Notes: This graph plots the annual number of requests to inspect Stasi files.

Regional Disclosure Requests & Number of Informers



Notes: The two binned scatter plots show the district-level correlation between the annual number of disclosure requests per capita between 1992–2016 and the average number of operative Stasi informers in the 1980s relative to a district's average population between 1980 and 1988. Panel A shows the raw correlation between both variables, while Panel B plots the corresponding correlation when controlling for two measures of anti-regime attitudes: (i) the number of exit visa applications per capita as of December 31, 1988, and (ii) the date the first protest took place in a given district during the Peaceful Revolution in 1989. We standardize the number of disclosure requests per capita within each year.

Definition of Main Civic Capital Variables

Variable	Years	Source
Trust in Strangers	2003, 2008	The question on interpersonal trust reads as follows: "If one is dealing with strangers, it is better to be careful before one can trust them." Response options were given on a four-point scale, allowing the respondents to "totally" or "slightly agree", or "totally" or "slightly disagree" with the given statements. We recoded the original variable to a dummy that turns one if respondents indicated to slightly or totally disagree.
Reciprocal Behavior	2005, 2010	We use six questions on positive and negative reciprocity to combine them into one single measure (taking the simple mean). Response options on each statement varied on a seven-point scale and we recode responses on the three statements indicating negative reciprocity such that higher values indicate more positive reciprocal behavior.
Attend Elections	2005, 2009, 2010	We measure individuals' voting intentions by combining two questions from the survey. First, we take information from 2005 and 2009, where individuals were asked about their intention to attend the next election for the German parliament. Response options were given on a five-point scale to allow individuals to express varying degrees of conviction (not) to vote. We create a dummy variable turning one if respondents indicated that they will "probably" or "in any case" attend the upcoming elections. Second, in 2010, individuals were asked whether they voted in the 2009 elections for German parliament. We combine these information to arrive at our measure of voting intentions and discard all individuals not eligible to vote.
Political Engagement	1990–2010	Respondents were asked (in almost every wave) whether they participate in public initiatives, political parties, or local government. Response options were given on a four point scale, allowing for different levels of political engagement: "every day", "every week", "less frequently", "never". We recode the variable to test whether individuals engage in politics at all (combining the former three response options).
Political Interest	1990–2010	Respondents were asked about their overall interest in politics. Response options were given on a four point scale to allow for varying degrees of political interest: "very much", "much", "not so much", "not at all". We merge the former three answers to arrive at a zero/one dummy variable.

Definition of Main Economic Variables

Variable	Years	Source
Income	1990–2010	We observe information on monthly gross income (from dependent employment or self-employment) in every wave of the SOEP for East German respondents. We account for inflation by calculating real income in 2010 prices using the official East German CPI (*Verbraucherpreisindex*), see Vortmann et al. (2013) for details. When analyzing the average post-reunification effect, we calculate the mean for every individual over the period of 1991–2010 and drop the bottom and top 1% of the income distribution. We look at the 1990 effect on income when analyzing the dynamics of our effects.
Unemployment	1990–2010	In every year, respondents were asked to indicate whether they were unemployed at the time of the interview and state the total number of months spent in (registered) unemployment in the 12 months preceding the interview. We take the unemployment dummy variable when looking at the dynamic nature of our effects. When analyzing the mean post-reunification effect, we calculate the average number of months in unemployment per year over the period 1991–2010.
Self-Employment	1991–2010	Detailed information on individuals' type of employment is given in every wave of the survey. The dataset distinguishes between self-employed farmers, free-lance professionals, solo self-employed, and self-employed individuals with coworkers. We focus on the latter two categories and calculate individuals' time spent in self-employment as the number of years with an episode of self-employment relative to the total number of years in employment over the sampling period, i.e., the total number of years in self-employment or regular employment.

Main Results on Administrative Data

	Voter Turnout (1)	Log Wage (2)	Unemp. Rate (3)
Panel A – Average Effects on SOEP Data			
District-Level Spying Density	-0.107**	-0.131**	0.084**
	(0.044)	(0.061)	(0.034)
Number of Observations	1,583	1,482	1,719
Adjusted *R*-Squared	0.121	0.251	0.161
Panel B – Average Effects on Administrative Data			
District-Level Spying Density	-0.166***	-0.072**	0.068*
	(0.051)	(0.028)	(0.039)
Number of Observations	3,515	56,284	38,158
Adjusted *R*-Squared	0.019	0.002	0.002
Panel C – Effects Over Time on Administrative Data			
District-Level Spying Density			
× Year 1990	-0.193**		
	(0.076)		
× Year 1992		-0.042**	
		(0.020)	
× Year 1998			0.025
			(0.043)
× Year 2009	-0.109**		
	(0.055)		
× Year 2010		-0.121***	0.093***
		(0.037)	(0.034)
Number of Observations	3,515	5,961	5,887
Adjusted *R*-Squared	0.020	0.004	0.002

All estimates are standardized. Standard errors clustered at county-pair & county level.
Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Inference

	Trust in Strangers (1)	Reciprocal Behavior (2)	Attend Elections (3)	Political Interest (4)	Political Engagem. (5)	Unemploy. Duration (6)	Self-Employment (7)	Log Mean Income (8)
Panel A – Reduced Form								
Baseline Estimate	-0.094	-0.178	-0.107	-0.270	-0.188	0.014	-0.016	-0.055
Cluster on County-Pair and County Level	(0.038)	(0.044)	(0.044)	(0.043)	(0.034)	(0.006)	(0.005)	(0.026)
	[0.018]	[0.000]	[0.018]	[0.000]	[0.000]	[0.018]	[0.004]	[0.039]
Alternative Cluster Definitions								
Cluster on County-Pair Level	(0.039)	(0.045)	(0.044)	(0.040)	(0.034)	(0.006)	(0.006)	(0.025)
	[0.019]	[0.000]	[0.019]	[0.000]	[0.000]	[0.024]	[0.005]	[0.034]
Cluster on County Level	(0.032)	(0.037)	(0.038)	(0.037)	(0.028)	(0.005)	(0.004)	(0.021)
	[0.004]	[0.000]	[0.006]	[0.000]	[0.000]	[0.002]	[0.000]	[0.009]
Cluster on County-Pair and District Level	(0.031)	(0.046)	(0.046)	(0.046)	(0.035)	(0.005)	(0.006)	(0.026)
	[0.010]	[0.002]	[0.037]	[0.000]	[0.000]	[0.021]	[0.014]	[0.050]
Cluster on Person and County-Pair Level	(0.038)	(0.046)	(0.045)	(0.045)	(0.034)	(0.007)	(0.005)	(0.026)
	[0.018]	[0.000]	[0.022]	[0.000]	[0.000]	[0.052]	[0.001]	[0.036]
Wild Cluster Bootstrap-t (H_0 imposed)								
Cluster on County-Pair and District Level	[0.010]	[0.040]	[0.174]	[0.016]	[0.000]	[0.095]	[0.141]	[0.085]
Randomization Inference								
Cumulative Distribution of Estimates	[0.094]	[0.010]	[0.071]	[0.000]	[0.003]	[0.101]	[0.104]	[0.035]
Panel B – Instrumental Variables								
Baseline Estimate	-0.098	-0.183	-0.109	-0.261	-0.181	0.014	-0.016	-0.056
Cluster on County-Pair and County Level	(0.034)	(0.069)	(0.052)	(0.069)	(0.047)	(0.005)	(0.007)	(0.019)
	[0.006]	[0.011]	[0.040]	[0.000]	[0.000]	[0.006]	[0.019]	[0.004]
Alternative Cluster Definitions								
Cluster on County-Pair Level	(0.035)	(0.069)	(0.052)	(0.067)	(0.045)	(0.005)	(0.007)	(0.019)
	[0.007]	[0.010]	[0.040]	[0.000]	[0.000]	[0.017]	[0.021]	[0.005]
Cluster on County Level	(0.029)	(0.053)	(0.044)	(0.053)	(0.039)	(0.004)	(0.005)	(0.015)
	[0.001]	[0.001]	[0.014]	[0.000]	[0.000]	[0.000]	[0.003]	[0.000]
Cluster on County-Pair and District Level	(0.033)	(0.075)	(0.057)	(0.065)	(0.049)	(0.005)	(0.007)	(0.021)
	[0.010]	[0.029]	[0.079]	[0.002]	[0.003]	[0.016]	[0.037]	[0.017]
Cluster on Person and County-Pair Level	(0.033)	(0.070)	(0.052)	(0.070)	(0.045)	(0.006)	(0.006)	(0.019)
	[0.005]	[0.012]	[0.043]	[0.000]	[0.000]	[0.041]	[0.012]	[0.005]

Notes: This table presents robustness checks on inference for our baseline reduced-form and 2SLS IV estimates. Standard errors in parentheses, p-values in square brackets.

The Effect of Spying by Weimar Provinces

	Trust in Strangers (1)	Reciprocal Behavior (2)	Attend Elections (3)	Political Interest (4)	Political Engagem. (5)	Unemploy. Duration (6)	Self-Employment (7)	Log Mean Income (8)
District-Level Spying Density								
× Different Weimar Province	-0.142**	-0.017	-0.108	-0.215**	-0.317***	0.014	-0.014*	-0.078***
	(0.057)	(0.093)	(0.078)	(0.092)	(0.056)	(0.013)	(0.007)	(0.028)
× Same Weimar Province	-0.092**	-0.178***	-0.107**	-0.273***	-0.180***	0.014**	-0.016***	-0.053*
	(0.038)	(0.047)	(0.044)	(0.045)	(0.037)	(0.006)	(0.005)	(0.027)
Number of Observations	1,795	1,588	1,583	1,736	1,736	1,719	1,611	1,482

Varying Sample Definition & Weighting Procedures (I)

	Baseline Effect (1)	All Pairs (2)	Without Duplic. (3)	Simple Weights (4)	Without Weights (5)
Panel A – Trust in Strangers					
County-Level Spying Density	-0.098***	-0.098*	-0.058*	-0.094**	-0.065**
	(0.034)	(0.055)	(0.030)	(0.041)	(0.030)
Number of Observations	1,795	2,402	1,201	1,795	1,795
Kleibergen-Paap *F*-Statistic	12.03	3.79	93.52	8.56	25.06
Panel B – Reciprocal Behavior					
County-Level Spying Density	-0.183**	-0.189*	-0.181***	-0.228**	-0.171***
	(0.069)	(0.107)	(0.028)	(0.087)	(0.057)
Number of Observations	1,588	2,116	1,058	1,588	1,588
Kleibergen-Paap *F*-Statistic	15.40	5.18	140.17	11.98	28.38
Panel C – Attend Elections					
County-Level Spying Density	-0.109**	-0.129	-0.063*	-0.127**	-0.076**
	(0.052)	(0.094)	(0.032)	(0.062)	(0.038)
Number of Observations	1,583	2,111	1,055	1,583	1,583
Kleibergen-Paap *F*-Statistic	14.68	4.66	131.15	10.90	27.82
Panel D – Political Interest					
County-Level Spying Density	-0.261***	-0.283**	-0.210***	-0.305***	-0.161***
	(0.069)	(0.120)	(0.015)	(0.089)	(0.038)
Number of Observations	1,736	2,281	1,130	1,736	1,736
Kleibergen-Paap *F*-Statistic	19.12	5.67	69.00	16.12	24.22
Panel E – Political Engagement					
County-Level Spying Density	-0.181***	-0.066	-0.117***	-0.200***	-0.081**
	(0.047)	(0.058)	(0.029)	(0.053)	(0.033)
Number of Observations	1,736	2,281	1,130	1,736	1,736
Kleibergen-Paap *F*-Statistic	19.12	5.67	69.00	16.12	24.22

Varying Sample Definition & Weighting Procedures (II)

	Baseline Effect (1)	All Pairs (2)	Without Duplic. (3)	Simple Weights (4)	Without Weights (5)
Panel F – Unemployment Duration					
County-Level Spying Density	0.014***	0.016*	0.009	0.015**	0.016***
	(0.005)	(0.009)	(0.006)	(0.006)	(0.005)
Number of Observations	1,719	2,249	1,118	1,719	1,719
Kleibergen-Paap *F*-Statistic	20.81	6.43	67.59	17.33	25.49
Panel G – Self-Employment					
County-Level Spying Density	-0.016**	-0.025**	-0.015**	-0.019**	-0.016***
	(0.007)	(0.012)	(0.007)	(0.008)	(0.006)
Number of Observations	1,611	2,112	1,042	1,611	1,611
Kleibergen-Paap *F*-Statistic	18.76	6.71	65.42	16.57	23.66
Panel H – Log Mean Income					
County-Level Spying Density	-0.056***	-0.044	-0.049**	-0.053**	-0.042*
	(0.019)	(0.034)	(0.023)	(0.021)	(0.022)
Number of Observations	1,482	1,952	958	1,482	1,482
Kleibergen-Paap *F*-Statistic	16.80	5.65	79.35	15.42	21.73

Alternative Measures of Spying (I)

	Baseline Effect (1)	Spying IM1 + IM2 (2)	Spying IM1 IM2 + HM (3)	Cond. on Indoctri. (4)	Cond. on Pol. Arrests (5)	Cond. on All Arrests (6)
Panel A – Trust in Strangers						
County-Level Spying Density	-0.098***	-0.137**	-0.126*	-0.087***	-0.089***	-0.088***
	(0.034)	(0.052)	(0.064)	(0.029)	(0.029)	(0.028)
Number of Observations	1,795	1,549	1,549	1,795	1,795	1,795
Kleibergen-Paap *F*-Statistic	12.03	16.06	6.87	10.35	12.89	12.70
Panel B – Reciprocal Behavior						
County-Level Spying Density	-0.183**	-0.174***	-0.187***	-0.189**	-0.170***	-0.172***
	(0.069)	(0.050)	(0.059)	(0.073)	(0.057)	(0.058)
Number of Observations	1,588	1,368	1,368	1,588	1,588	1,588
Kleibergen-Paap *F*-Statistic	15.40	29.89	15.70	13.63	16.18	16.11
Panel C – Attend Elections						
County-Level Spying Density	-0.109**	-0.127**	-0.111**	-0.102**	-0.113**	-0.111**
	(0.052)	(0.048)	(0.046)	(0.048)	(0.054)	(0.052)
Number of Observations	1,583	1,363	1,363	1,583	1,583	1,583
Kleibergen-Paap *F*-Statistic	14.68	28.81	14.60	12.77	15.63	15.50
Panel D – Political Interest						
County-Level Spying Density	-0.261***	-0.234***	-0.256***	-0.265***	-0.253***	-0.256***
	(0.069)	(0.042)	(0.056)	(0.071)	(0.063)	(0.065)
Number of Observations	1,736	1,519	1,519	1,736	1,736	1,736
Kleibergen-Paap *F*-Statistic	19.12	29.62	16.55	17.41	20.88	21.15
Panel E – Political Engagement						
County-Level Spying Density	-0.181***	-0.133***	-0.113**	-0.173***	-0.187***	-0.185***
	(0.047)	(0.046)	(0.050)	(0.046)	(0.048)	(0.048)
Number of Observations	1,736	1,519	1,519	1,736	1,736	1,736
Kleibergen-Paap *F*-Statistic	19.12	29.62	16.55	17.41	20.88	21.15

Alternative Measures of Spying (II)

	Baseline Effect (1)	Spying IM1 + IM2 (2)	Spying IM1 IM2 + HM (3)	Cond. on Indoctri. (4)	Cond. on Pol. Arrests (5)	Cond. on All Arrests (6)
Panel F – Unemployment Duration						
County-Level Spying Density	0.014***	0.014***	0.015**	0.012**	0.012**	0.013**
	(0.005)	(0.005)	(0.006)	(0.005)	(0.005)	(0.005)
Number of Observations	1,719	1,506	1,506	1,719	1,719	1,719
Kleibergen-Paap *F*-Statistic	20.81	30.82	17.06	18.95	22.93	23.28
Panel G – Self-Employment						
County-Level Spying Density	-0.016**	-0.021***	-0.022**	-0.015**	-0.014**	-0.014**
	(0.007)	(0.008)	(0.008)	(0.007)	(0.006)	(0.006)
Number of Observations	1,611	1,411	1,411	1,611	1,611	1,611
Kleibergen-Paap *F*-Statistic	18.76	25.30	13.91	17.04	20.10	20.40
Panel H – Log Mean Income						
County-Level Spying Density	-0.056***	-0.046*	-0.046*	-0.056***	-0.053**	-0.054***
	(0.019)	(0.023)	(0.027)	(0.019)	(0.020)	(0.020)
Number of Observations	1,482	1,295	1,295	1,482	1,482	1,482
Kleibergen-Paap *F*-Statistic	16.80	18.09	10.34	15.08	17.72	18.06

Controlling for Distance to West Germany (I)

	Baseline Effect (1)	Distance To West (2)	Travel Time (3)	West Border (4)	Visit Program (5)
Panel A – Trust in Strangers					
County-Level Spying Density	-0.098***	-0.070*	-0.079**	-0.098***	-0.094***
	(0.034)	(0.037)	(0.037)	(0.034)	(0.033)
Number of Observations	1,795	1,795	1,795	1,795	1,795
Kleibergen-Paap *F*-Statistic	12.03	11.23	12.55	11.47	13.54
Panel B – Reciprocal Behavior					
County-Level Spying Density	-0.183**	-0.156**	-0.183***	-0.183***	-0.178***
	(0.069)	(0.069)	(0.068)	(0.066)	(0.065)
Number of Observations	1,588	1,588	1,588	1,588	1,588
Kleibergen-Paap *F*-Statistic	15.40	14.15	16.81	14.87	17.13
Panel C – Attend Elections					
County-Level Spying Density	-0.109**	-0.106**	-0.126**	-0.109**	-0.104**
	(0.052)	(0.051)	(0.051)	(0.052)	(0.047)
Number of Observations	1,583	1,583	1,583	1,583	1,583
Kleibergen-Paap *F*-Statistic	14.68	13.50	15.70	14.24	16.56
Panel D – Political Interest					
County-Level Spying Density	-0.261***	-0.309***	-0.299***	-0.259***	-0.260***
	(0.069)	(0.078)	(0.072)	(0.066)	(0.068)
Number of Observations	1,736	1,736	1,736	1,736	1,736
Kleibergen-Paap *F*-Statistic	19.12	17.91	20.14	16.38	19.69
Panel E – Political Engagement					
County-Level Spying Density	-0.181***	-0.179***	-0.191***	-0.183***	-0.178***
	(0.047)	(0.047)	(0.053)	(0.052)	(0.046)
Number of Observations	1,736	1,736	1,736	1,736	1,736
Kleibergen-Paap *F*-Statistic	19.12	17.91	20.14	16.38	19.69

Controlling for Distance to West Germany (II)

	Baseline Effect (1)	Distance To West (2)	Travel Time (3)	West Border (4)	Visit Program (5)
Panel F – Unemployment Duration					
County-Level Spying Density	0.014***	0.016***	0.014**	0.014***	0.014***
	(0.005)	(0.005)	(0.006)	(0.004)	(0.005)
Number of Observations	1,719	1,719	1,719	1,719	1,719
Kleibergen-Paap *F*-Statistic	20.81	19.60	22.13	17.90	21.01
Panel G – Self-Employment					
County-Level Spying Density	-0.016**	-0.018**	-0.019***	-0.016***	-0.016**
	(0.007)	(0.007)	(0.007)	(0.006)	(0.007)
Number of Observations	1,611	1,611	1,611	1,611	1,611
Kleibergen-Paap *F*-Statistic	18.76	17.72	19.97	16.19	18.90
Panel H – Log Mean Income					
County-Level Spying Density	-0.056***	-0.051***	-0.057***	-0.056***	-0.056***
	(0.019)	(0.019)	(0.019)	(0.018)	(0.018)
Number of Observations	1,482	1,482	1,482	1,482	1,482
Kleibergen-Paap *F*-Statistic	16.80	16.17	18.17	15.03	16.81

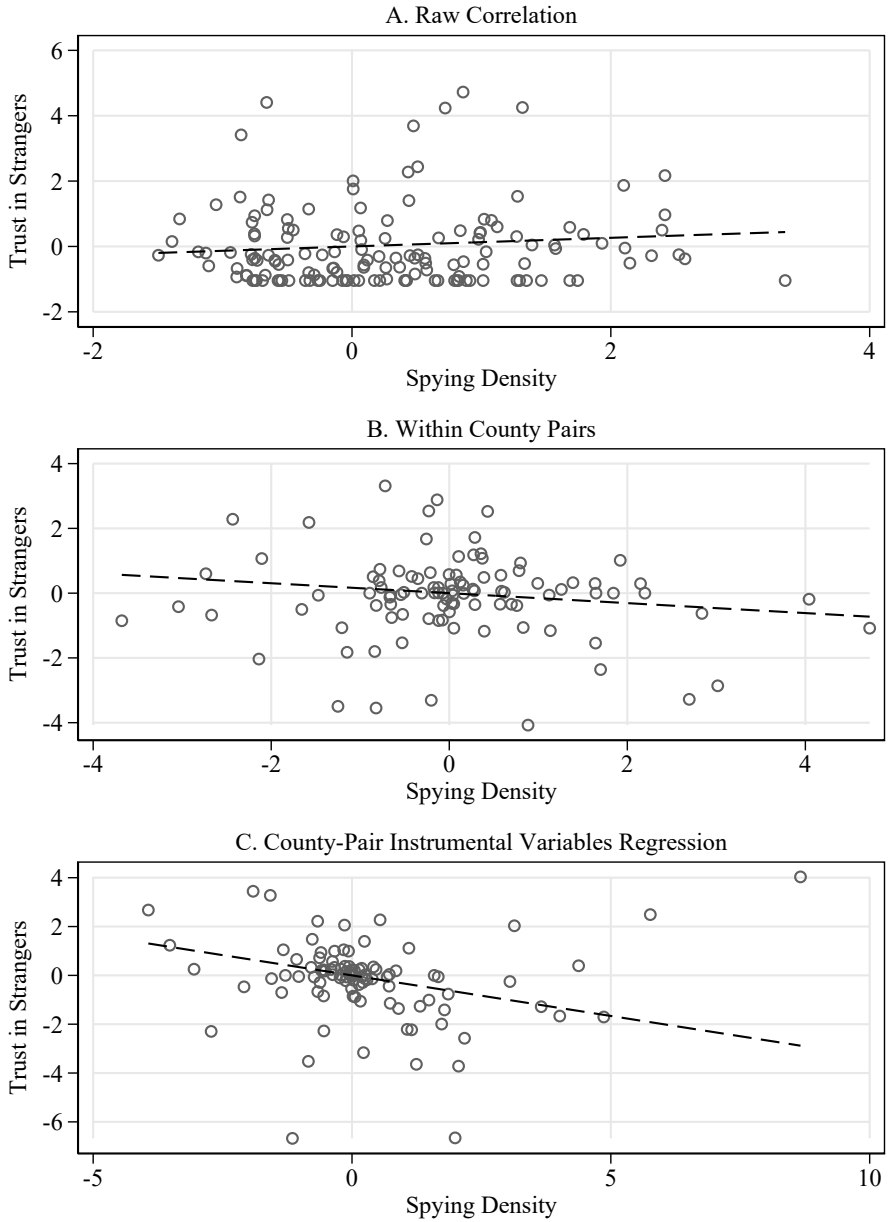
Effects on Risk Aversion and Personality Traits

		Big Five Personality Traits				
	Risk Aversion (1)	Extra-version (2)	Neuro-ticism (3)	Conscien-tiousness (4)	Open-ness (5)	Agree-ableness (6)
County-Level Spying Density	0.013	0.033	-0.096	-0.084	-0.034	-0.275***
	(0.086)	(0.071)	(0.073)	(0.052)	(0.055)	(0.074)
Number of Observations	1,874	1,650	1,653	1,642	1,650	1,647
Adjusted R-Squared	0.104	0.185	0.164	0.159	0.171	0.142
Kleibergen-Paap F-Statistic	14.26	13.25	13.09	13.52	13.53	13.34

Effect on Political Preferences

	Preferences for Restribution						Political Extremism		
	Total	Family	Unempl.	Sick	Old	Care	Total	Right	Left
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
County-Level Spying Density	0.000	0.017	0.014	-0.012	0.003	-0.036	0.095*	0.091	0.053
	(0.065)	(0.057)	(0.067)	(0.057)	(0.057)	(0.036)	(0.057)	(0.084)	(0.032)
Number of Observations	2,402	2,391	2,387	2,388	2,394	2,395	1,633	1,564	1,555
Adjusted R-Squared	0.191	0.149	0.137	0.140	0.142	0.137	0.139	0.154	0.110
Kleibergen-Paap F-Statistic	16.03	16.02	16.03	16.01	16.01	16.04	13.15	12.31	13.36

Scatterplots



Analyzing the Role of (Selective) Migration

	Moved County (1)	Trust in Strangers (2)	Reciprocal Behavior (3)	Attend Elections (4)	Political Interest (5)	Political Engagem. (6)	Unemploy. Duration (7)	Self-Employment (8)	Log Mean Income (9)
Panel A – Baseline Effects									
County-Level Spying Density	-0.029	-0.098***	-0.183**	-0.109**	-0.261***	-0.181***	0.014***	-0.016**	-0.056***
	(0.020)	(0.034)	(0.069)	(0.052)	(0.069)	(0.047)	(0.005)	(0.007)	(0.019)
Number of Observations	1,735	1,795	1,588	1,583	1,736	1,736	1,719	1,611	1,482
Adjusted *R*-Squared	0.363	0.149	0.181	0.121	0.149	0.121	0.161	0.093	0.253
Kleibergen-Paap *F*-Statistic	19.09	12.03	15.40	14.68	19.12	19.12	20.81	18.76	16.80
Panel B – Effects By Moving									
District-Level Spying Density									
× Stayed		-0.089**	-0.186***	-0.102**	-0.268***	-0.187***	0.014**	-0.015**	-0.049**
		(0.041)	(0.046)	(0.046)	(0.043)	(0.035)	(0.006)	(0.006)	(0.024)
× Moved		-0.061	-0.153***	-0.136**	-0.246***	-0.204***	0.021**	-0.025***	-0.050*
		(0.058)	(0.054)	(0.054)	(0.056)	(0.053)	(0.009)	(0.009)	(0.026)
Number of Observations		1,795	1,588	1,583	1,736	1,736	1,719	1,611	1,482
Adjusted *R*-Squared		0.148	0.188	0.121	0.151	0.126	0.163	0.096	0.263
Panel C – Accounting for Population Changes									
County-Level Spying Density		-0.097***	-0.180**	-0.112**	-0.261***	-0.182***	0.015***	-0.017**	-0.055***
		(0.034)	(0.069)	(0.052)	(0.069)	(0.047)	(0.005)	(0.007)	(0.019)
Number of Observations		1,795	1,588	1,583	1,736	1,736	1,719	1,611	1,482
Adjusted *R*-Squared		0.150	0.181	0.121	0.149	0.121	0.154	0.091	0.253
Kleibergen-Paap *F*-Statistic		12.03	15.40	14.68	19.12	19.12	20.81	18.76	16.80
Panel D – Spying Current County									
District-Level Spying Density		-0.089**	-0.188***	-0.098**	-0.270***	-0.187***	0.015**	-0.016***	-0.054**
		(0.038)	(0.046)	(0.044)	(0.043)	(0.035)	(0.006)	(0.005)	(0.026)
Moved × Spying Current County		0.019	-0.039	0.033	-0.008	0.018	0.011	0.004	0.021
		(0.045)	(0.046)	(0.051)	(0.035)	(0.042)	(0.008)	(0.008)	(0.017)
Number of Observations		1,795	1,588	1,583	1,736	1,736	1,719	1,611	1,482
Adjusted *R*-Squared		0.148	0.188	0.121	0.149	0.126	0.164	0.095	0.253

Appendix

Literature

References I

Acemoglu, D., Naidu, S., Restrepo, P. and Robinson, J. A. (2019). Democracy Does Cause Growth, *Journal of Political Economy* **127**(1): 47–100.

Alesina, A. and Fuchs-Schündeln, N. (2007). Goodbye Lenin (or Not?): The Effect of Communism on People's Preferences, *American Economic Review* **97**(4): 1507–1528.

Alesina, A. and Giuliano, P. (2015). Culture and Institutions, *Journal of Economic Literature* **53**(4): 898–944.

Alesina, A., Giuliano, P. and Nunn, N. (2013). On the Origins of Gender Roles: Women and the Plough, *Quarterly Journal of Economics* **128**(2): 469–530.

Algan, Y. and Cahuc, P. (2010). Inherited Trust and Growth, *American Economic Review* **100**(5): 2060–2092.

Algan, Y. and Cahuc, P. (2014). Trust, Growth, and Well-Being: New Evidence and Policy Implications, *in* P. Aghion and S. Durlauf (eds), *Handbook of Economic Growth*, Vol. 2, North Holland, Elsevier, chapter 2.

Arendt, H. (1951). *The Origins of Totalitarianism*, Harcourt, Brace and Company, New York.

Arrow, K. J. (1972). Gifts and Exchanges, *Philosophy & Public Affairs* **1**(4): 343–362.

Bruce, G. (2010). *The Firm – The Inside Story of the Stasi*, Oxford University Press, New York.

Butler, J. V., Giuliano, P. and Guiso, L. (2016). The Right Amount of Trust, *Journal of the European Economic Association* **14**(5): 1155–1180.

References II

Childs, D. and Popplewell, R. (1996). *The Stasi: The East German Intelligence and Security Service*, New York University Press, New York.

Dohmen, T., Falk, A., Huffman, D. and Sunde, U. (2009). Homo Reciprocans: Survey Evidence On Behavioural Outcomes, *Economic Journal* **119**(3): 592–612.

Dube, A., Lester, T. W. and Reich, M. (2010). Minimum Wage Effects Across State Borders: Estimates Using Contiguous Counties, *Review of Economics and Statistics* **92**(4): 945–964.

Friehe, T., Pannenberg, M. and Wedow, M. (2015). Let Bygones be Bygones? Socialist Regimes and Personalities in Germany, *DIW SOEPpapers* **776**.

Fuchs-Schündeln, N. and Hassan, T. A. (2016). Natural Experiments in Macroeconomics, *in* J. B. Taylor and H. Uhlig (eds), *Handbook of Macroeconomics*, Vol. 2, North Holland, Elsevier, chapter 12.

Fuchs-Schündeln, N. and Masella, P. (2016). Long-Lasting Effects of Socialist Education, *Review of Economics and Statistics* **98**(3): 428–441.

Fukuyama, F. (1995). *Trust*, Free Press, New York.

Fulbrook, M. (1995). *Anatomy of a Dictatorship: Inside the GDR 1949–1989*, Oxford University Press, Oxford.

Fulbrook, M. (2009). *A History of Germany 1918–2008: The Divided Nation*, 3 edn, Wiley-Blackwell, Malden, Oxford, Chichester.

References III

Gieseke, J. (2014). *The History of the Stasi: East Germany's Secret Police, 1945–1990*, Berghahn Books, New York, Oxford.

Gill, D. and Schröter, U. (1991). *Das Ministerium für Staatssicherheit. Anatomie des Mielke-Imperiums*, Rowohlt, Berlin.

Glaeser, E. L., Laibson, D. I., Scheinkman, J. A. and Soutter, C. L. (2000). Measuring Trust, *Quarterly Journal of Economics* **115**(3): 811–846.

Glitz, A. and Meyersson, E. (2019). Industrial Espionage and Productivity, *American Economic Review* . forthcoming.

Goldin, C. and Katz, L. (1999). Human Capital and Social Capital: The Rise of Secondary Schooling in America, 1910 to 1940, *The Journal of Interdisciplinary History* **29**(4): 683–723.

Guiso, L., Sapienza, P. and Zingales, L. (2009). Cultural Biases in Economic Exchange?, *Quarterly Journal of Economics* **124**(3): 1095–1131.

Guiso, L., Sapienza, P. and Zingales, L. (2010). Civic Capital as the Missing Link, *in* J. Benhabib, A. Bisin and M. O. Jackson (eds), *Handbook of Social Economics*, Vol. 1A, North-Holland, pp. 417–480.

Horsch, H. (1997). 'Hat nicht wenigstens die Stasi die Stimmung im Lande gekannt?' MfS und SED im Bezirk Karl-Marx-Stadt. Die Entmachtung der Staatssicherheit in den Regionen, Teil 3, *BF informiert* **19/1997**.

References IV

Jacob, M. and Tyrell, M. (2010). The Legacy of Surveillance: An Explanation for Social Capital Erosion and the Persistent Economic Disparity between East and West Germany. Mimeo, presented at the Sciences Po/IZA Workshop on Trust, Civic Spirit and Economic Performance in June 2010.

Knabe, H. (1999). Die feinen Waffen der Diktatur. Nicht-strafrechtliche Formen politischer Verfolgung in der DDR, *in* H. Timmermann (ed.), *Die DDR – Erinnerungen an einen untergegangenen Staat*, Vol. 88 of *Dokumente und Schriften der Europäischen Akademie Otzenhausen*, Duncker & Humboldt, Berlin, pp. 191–220.

Knack, S. and Keefer, P. (1997). Does Social Capital Have an Economic Payoff? A Cross-Country Investigation, *Quarterly Journal of Economics* **112**(4): 1251–1288.

La Porta, R., López de Silanes, F., Shleifer, A. and Vishny, R. W. (1997). Trust in Large Organizations, *American Economic Review: Papers and Proceedings* **87**(2): 333–338.

Müller-Enbergs, H. (2008). *Inoffizielle Mitarbeiter des Ministeriums für Staatssicherheit. Teil 3: Statistik*, Ch. Links Verlag, Berlin.

Nunn, N. (2008). The Long-Term Effects of Africa's Slave Trades, *Quarterly Journal of Economics* **123**(1): 139–176.

Nunn, N. and Wantchekon, L. (2011). The Slave Trade and the Origins of Mistrust in Africa, *American Economic Review* **101**(7): 3221–3252.

Popplewell, R. (1992). The Stasi and the East German Revolution of 1989, *Contemporary European History* **1**(1): 37–63.

References V

Putnam, R. (1995). Bowling Alone: America's Declining Social Capital, *Journal of Democracy* **6**(1): 65–78.

Putnam, R. (2000). *Bowling Alone: The Collapse and Revival of American Community*, Simon & Schuster, New York.

Reich, J. (1997). Sicherheit und Feigheit – der Käfer im Brennglas, *in* S. Suckut (ed.), *Staatspartei und Staatssicherheit. Zum Verhältnis von SED und MfS*, Ch. Links Verlag, Berlin, pp. 25–37.

Rodrik, D. and Wacziarg, R. (2005). Do Democratic Transitions Produce Bad Economic Outcomes?, *American Economic Review* **95**(2): 50–55.

Shleifer, A. (1997). Government in Transition, *European Economic Review* **41**(3–5): 385–410.

Smith, A. (1776). *An Inquiry Into the Nature and Causes of the Wealth of Nations*, University of Chicago Press.

Tabellini, G. (2010). Culture and Institutions: Economic Development in the Regions of Europe, *Journal of the European Economic Association* **8**(4): 677–716.

Vortmann, H., Goebel, J., Krause, P. and Wagner, G. G. (2013). Zur Entwicklung der Preisniveaus in Ost- und Westdeutschland – Zugleich eine Dokumentation verschiedener Preisniveau-Zeitreihen für das geteilte und für das vereinigte Deutschland, *DIW Discussion Papers* **1269**.

Wolle, S. (2009). *Die heile Welt der Diktatur. Herrschaft und Alltag in der DDR 1971–1989*, Ch. Links Verlag, Berlin.

Zak, P. J. and Knack, S. (2001). Trust and Growth, *Economic Journal* **111**(470): 295–321.