



1st May 1954 East Berlin

Wind of Change? Cultural Determinants of Maternal Labor Supply

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Motivation

- Women – in particular mothers – work less than observationally similar men
- This paper: **cultural determinants** of maternal labor supply
- Existing literature stressed
 - persistence of culture and deep historical roots (e.g. Fernández, 2007, Fernández & Fogli, 2009, Alesina et al. 2013)
 - but also some episodes of sudden change (see Giuliano 2016; 2018) in gender norms and female labour supply

→ When does culture persist and when does it change?

- Do migrants adhere to “childhood culture” or adjust to “current culture”?
- Can migrants (from a more gender egalitarian culture) induce a change in behavior of “natives” from a more gender traditional culture?

Unique setting of German division



Division after
WWII

- East : state-socialist country, encouraged full-time labour force participation of mothers
- West : traditional male bread-winner model
- In 1989, female LFP in East was 89% vs. 56% in West

Reunification
1989

- Two cultures thrown together, same institutional setting
- Large-scale migration
- Increased social interactions between East and West Germans

→ Exploit to understand better:

Persistence of childhood culture vs change through exposure in adulthood

- 1) Experience of migrants
- 2) Impact of migrants on natives

Sneak peek: Experience of migrants

Does childhood culture matter when immersed in a different current culture?

- Epidemiological approach of internal, first-generation migrants
- Robustness
 - Look at unobservables using auxiliary survey data
 - Compare to internal migrants and within commuting zones (“migration effect”)
 - Oster bounds
- Cross-border migrants: Large **asymmetry in persistence of childhood culture**
 - West Germans behave like East Germans when exposed to less traditional culture
 - East Germans adhere to less traditional childhood culture
- Return migrants: Learning likely one channel

Sneak peek: Impact of natives on migrants

Do less traditional East German migrants affect maternal labor supply decisions of more traditional West German natives?

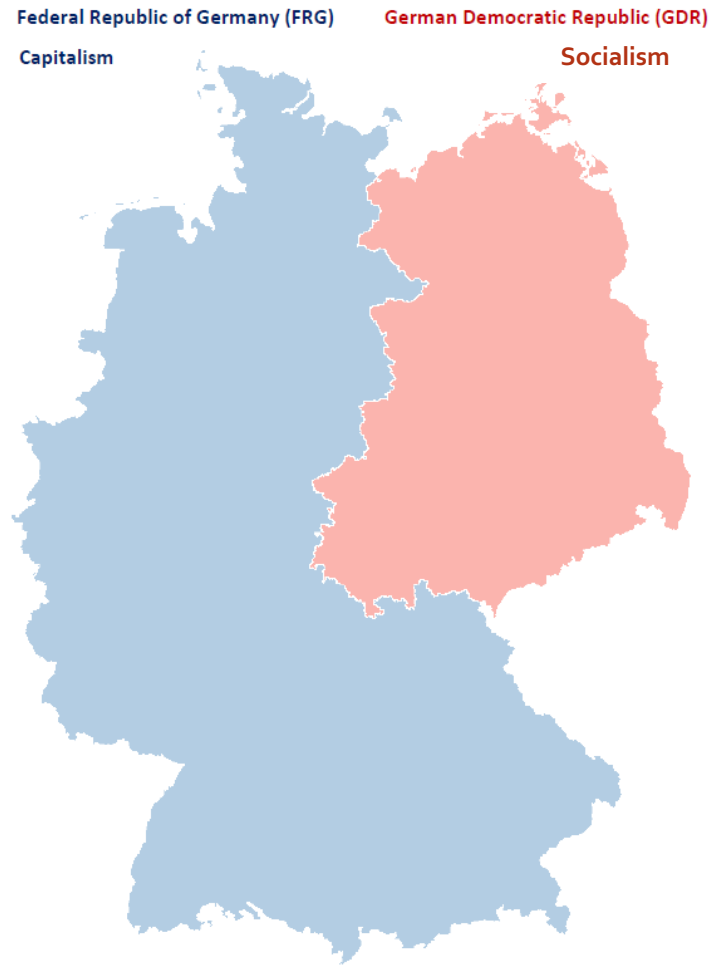
- DiD in West German firms around time of reunification: high vs low share of East German colleagues
- Robustness
 - Test robustness to large array of time-changing firm characteristics before birth as well as future firm characteristics
 - Use alternative control group (same employment growth)
 - Placebo regressions using men and older women

→ **Migration as a vehicle for cultural diffusion:** East German migrants speed up return to work of West German mothers



Story of the two Germanies

Divided Germany



- 1945: separation into Soviet (East) and Allied occupation zone (West)
- 1949: two states were officially established

Divided Germany – Policies

GDR (East):

- Equality of women proclaimed goal of state-socialist governments
 - GDR propagated duty to work
 - Policies to reconcile work and family: e.g., “Baby year” (1 year fully paid maternity leave), wide-spread childcare availability
- High labour force participation of mothers

FRG (West):

- Promoted more conservative male-breadwinner model
 - System deterred mothers from working (full time), e.g. lack of child care, tax and benefit system
- Women stayed home after they had child or went back part time after extended break

Divided Germany – Mama vs. Mutti

Federal Republic of Germany (FRG)

German Democratic Republic (GDR)

Capitalism

Socialism



Baking is fun with
BACKIN

Divided Germany – Mama vs. Mutti

Federal Republic of Germany (FRG)

Capitalism



German Democratic Republic (GDR)

Socialism



Mum is coming home in 10 minutes...

Fall of the Iron Curtain and reunification

November 9 1989



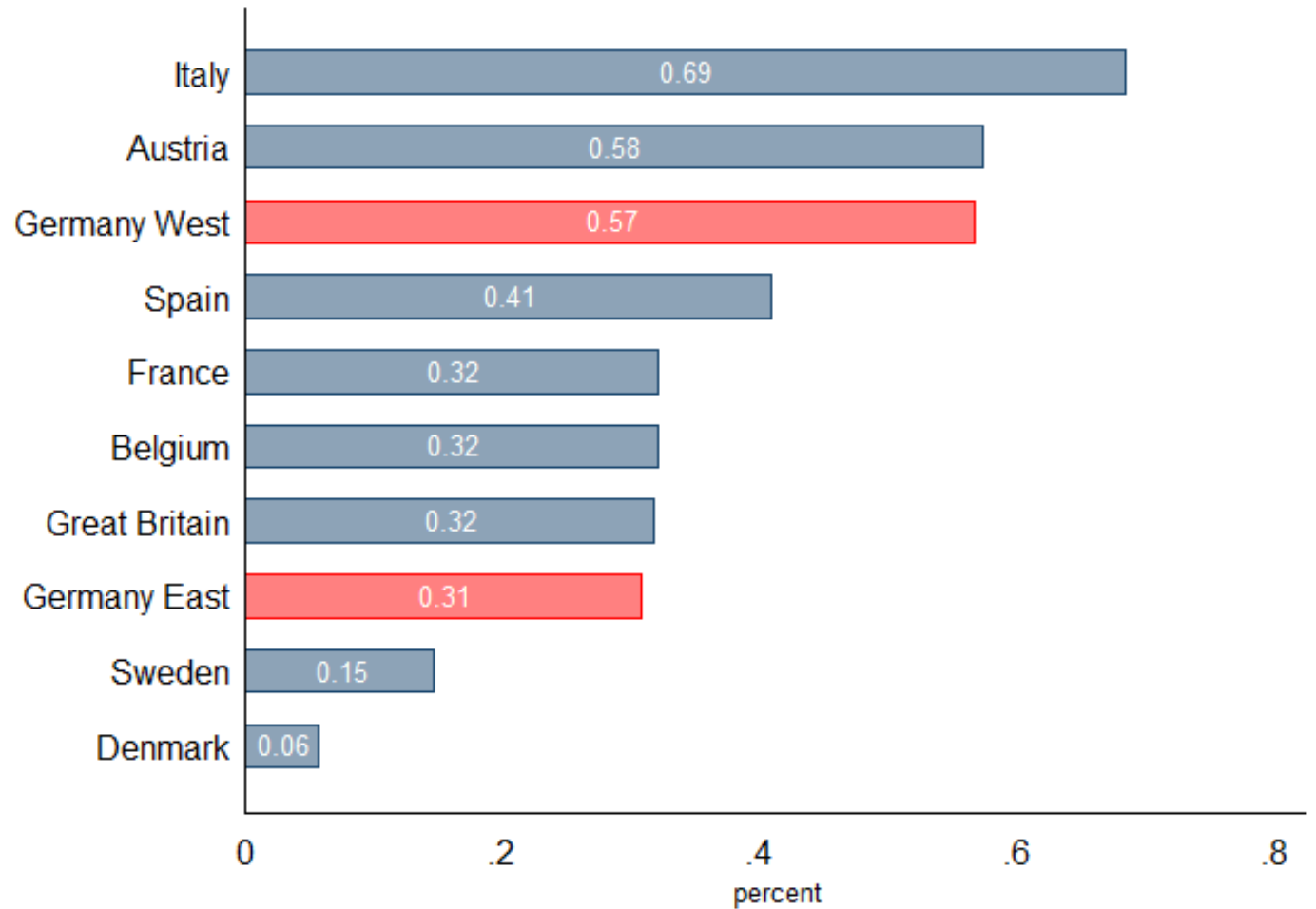
October 3 1990



- East Germany takes over West Germany's political , economic and legal institutions (including maternity leave legislation)
- Social interactions through migration and commuting

Attitudes towards working mothers 18 years later...

Do you agree: A pre-school child suffers if mother works?



Source: Own calculations based on European Value Survey (2008)



Data & descriptives

German social security records

- 50% random sample of employed women in Germany born between 1946 and 1994
- Complete daily employment history for each woman, including leave of absence due to childbirth
- Firm (establishment) identifiers to explore social interactions at firm level
- Full population data to get info on woman's colleagues

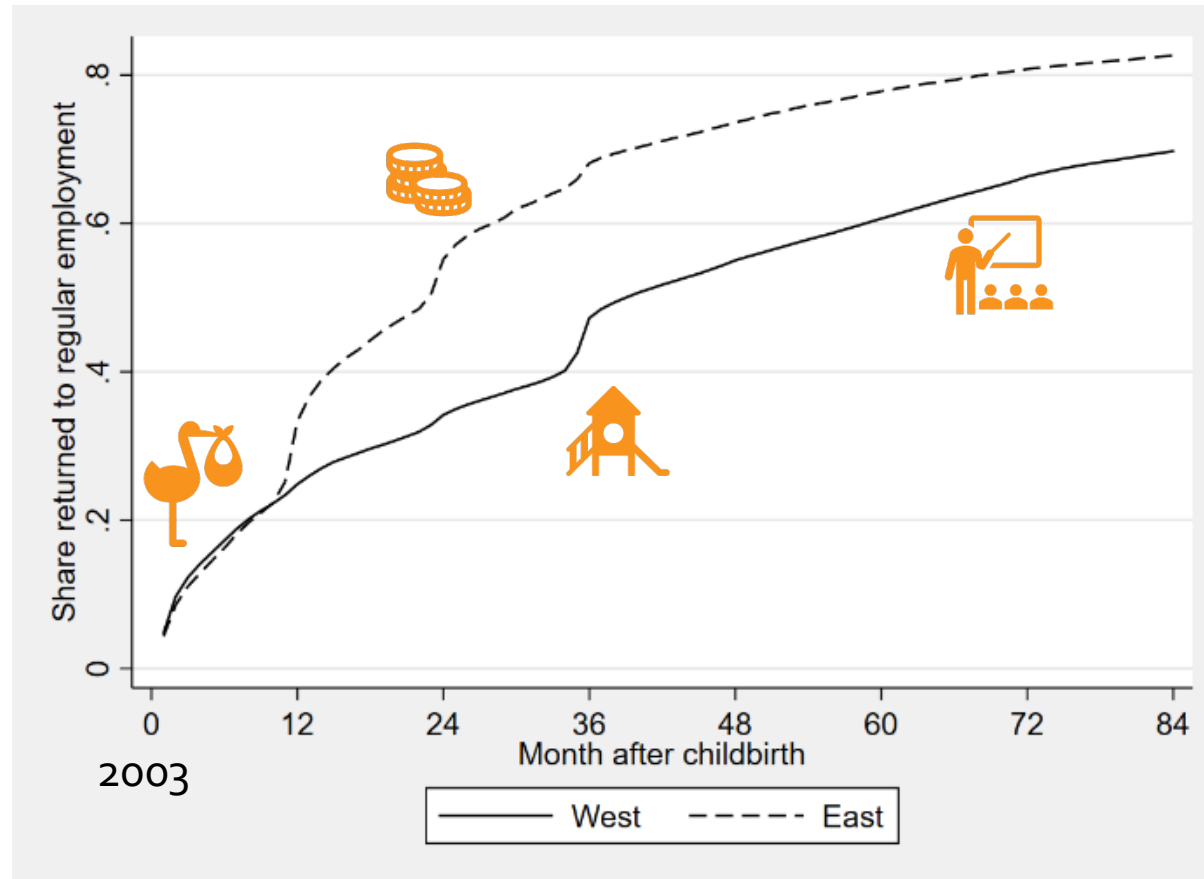
→ Focus on labour market transitions after **first births**

→ **Births between 2003 and 2006**: mothers made education and labour market decisions after reunification

Why to we focus on transition around first birth?

- Child penalties key driver of gender inequality (Kleven et al. 2019; Angelov et al., 2018)
- Gender norms particularly salient around childbirth (Kuziemko et al. 2020)
→ relevant margin when it comes to cultural differences between East and West
- Allows us to condition on extensive set of pre-birth characteristics (just before birth; during 3 years prior to birth)
 - Control set I: age, education, occupation, wage at birth, full-time at birth
 - Control set II: + work history 3 years prior to childbirth
→ compare women who were on the same career trajectory before birth

Transition to work after childbirth (2003): East vs West



Child penalties
Covariate-adjusted
Within commuting zones
Over time

- Many East German mothers act according to social and institutional norms of former GDR (even 20 years after reunification)



Strategy 1:

Movers: East Germans in West

How persistent is childhood culture when moving to a new culture?

Strategy movers: intuition

- Builds on epidemiological approach (Fernández 2007, Giuliano 2007, Fernández and Fogli 2009)
- Compares
 - East Germans who migrated to West Germany to “native” mothers
 - **within the same (West German) local labour market and workplace**
- Birth years 2003-2006

→ Experience of migrants themselves

→ Captures **persistent effect of less traditional childhood culture** when fully immersed to a more traditional current culture (as a minority)

[Sample descriptives](#)

East Germans in West Germany vs. natives

	same local labor market	same local labor market, controls set I	same local labor market, controls set II	same firm, controls set II	same firm, controls set II, long-term migrants
	(1)	(2)	(3)	(4)	(5)
Panel A: 4 years after childbirth					
regularly employed (excluding marginal employment)	0.101*** (0.00671)	0.0857*** (0.00717)	0.0849*** (0.00700)	0.0792*** (0.00821)	0.0776*** (0.0120)
employed (including marginal employment)	0.0795*** (0.00679)	0.0600*** (0.00692)	0.0587*** (0.00650)	0.0622*** (0.00656)	0.0671*** (0.0117)
full-time employed	0.0589*** (0.00442)	0.0570*** (0.00430)	0.0568*** (0.00435)	0.0509*** (0.00645)	0.0615*** (0.00949)
R-squared	0.009	0.042	0.043	0.289	0.304
local labor market*year of birth FE	yes	yes	yes	yes	yes
Firm FE	no	no	no	yes	yes
Mothers' characteristics at birth	no	yes	yes	yes	yes
Pre-birth employment history	no	no	yes	yes	yes
N East German migrants	14,959	14,789	14,789	9,352	3,076
N West German natives	322,803	311,717	311,717	194,269	108,364

→ Large differences even after substantial exposure to West German culture

[\(comparison literature\)](#)

Robustness checks

- Observables : Results robust to the inclusion of various individual controls
- Unobservables
 - Work-related attitudes ([SOEP](#)): East German migrants not different to East German stayers
 - Partner (SOEP): Spousal income differences too small to explain much of the gap
 - Household savings and savings rates similar (SOEP)
- Migration effect, e.g. family network [Table](#)
 1. Use West German **internal migrants** as alternative comparison group : migrated same distance within West Germany (280 km)
 2. Restrict our sample to firms only operating in **five integrated local labour markets** where moving is less costly
- Oster (2019) bounds: assume extreme differences between East German migrants and West German stayers to gauge how important selection on unobserved characteristics could be [Details](#) [Table](#)

→ Our results are robust!



Strategy 2:

Movers: West Germans in East

Is the West German culture as persistent as the East German one?

Strategy movers: intuition

- Compares
 - West Germans who migrated to East Germany to “native” mothers
 - **within the same (East German) local labour market and workplace**
 - Birth years 2003-2006
- Experience of migrants themselves
- Captures **persistent effect of more traditional childhood culture** when fully immersed to a less traditional current culture (as a minority)

West Germans in East Germany

	same local labor market	same local labor market, controls set I	same local labor market, controls set II	same firm, controls set II	same firm, controls set II, long-term migrants
	(1)	(2)	(3)	(4)	(5)
Panel A: 4 years after childbirth					
regularly employed (excluding marginal employment)	-0.00446 (0.00802)	0.0146** (0.00652)	0.0172*** (0.00607)	0.0122 (0.0116)	-0.0123 (0.0254)
employed (including marginal employment)	0.00615 (0.00910)	0.0210*** (0.00761)	0.0232*** (0.00723)	0.0249** (0.0123)	0.000743 (0.0217)
full-time employed	-0.0228*** (0.00607)	-0.00401 (0.00472)	-0.0000473 (0.00469)	0.00113 (0.0115)	-0.0224 (0.0187)
R-squared	0.011	0.084	0.114	0.379	0.385
Local labor market*year of birth FE	yes	yes	yes	yes	yes
Firm FE	no	no	no	yes	yes
Mothers' characteristics at birth	no	yes	yes	yes	yes
Pre-birth employment history	no	no	yes	yes	yes
N East German natives	66,195	63,894	63,894	38,859	17,450
N West German migrants	4,211	4,135	4,135	2,332	593

→ East-West gap much smaller in size than in West German firms and disappears with long exposure

Results so far

- East Germans adhere to less traditional childhood culture
- West German migrants deviate from more traditional childhood culture

→ **Asymmetric adjustment:**



- **Peer pressure** from East German colleagues and economic incentives (Giavazzi, Petkov, and Schiantarelli 2019)



- **Learning from colleagues:** West German mothers are uncertain about effects of maternal employment and learn from an East German environment (e.g. Fernandez 2013; Fogli and Veldkamp 2011)
- Change in **preferences/identity** for West German women



Strategy 3:

West German return migrants

Do West German women adjust behaviour even after past exposure?

Return migrants: intuition

- Compares
 - West German return migrants with past exposure to East
 - with West German colleagues who always remained in West
 - Birth years 1997-2006
- Captures effects of **past** full immersion to less traditional culture
- Speaks to learning vs peer pressure

West German return migrants: employment

	same local labor market	same local labor market, controls set I	same local labor market, controls set II	same firm, controls set II	relative to return migrants within West Germany
	(1)	(2)	(3)	(4)	(5)
Panel A: 4 years after childbirth					
regularly employed (excluding marginal employment)	0.0369*** (0.00967)	0.0426*** (0.00926)	0.0433*** (0.00924)	0.0387** (0.0171)	0.0437*** (0.0147)
employed (including marginal employment)	0.00650 (0.0106)	0.0125 (0.00983)	0.0132 (0.00976)	0.0296* (0.0170)	0.0116 (0.0142)
full-time employed	0.0567*** (0.00905)	0.0482*** (0.00937)	0.0481*** (0.00938)	0.0319* (0.0163)	0.0485*** (0.0118)
Local labor market*by year of birth FE	yes	yes	yes	yes	yes
Firm FE	no	no	no	yes	no
Mothers' characteristics at birth	no	yes	yes	yes	yes
Pre-birth employment history	no	no	yes	yes	yes
N West German return migrants	1,962	1,948	1,948	1,368	
N West German "natives"	834,204	825,771	825,771	598,032	5,420

→ **Past** exposure to less traditional culture matters

→ Asymmetric adjustment pattern not purely driven by peer pressure

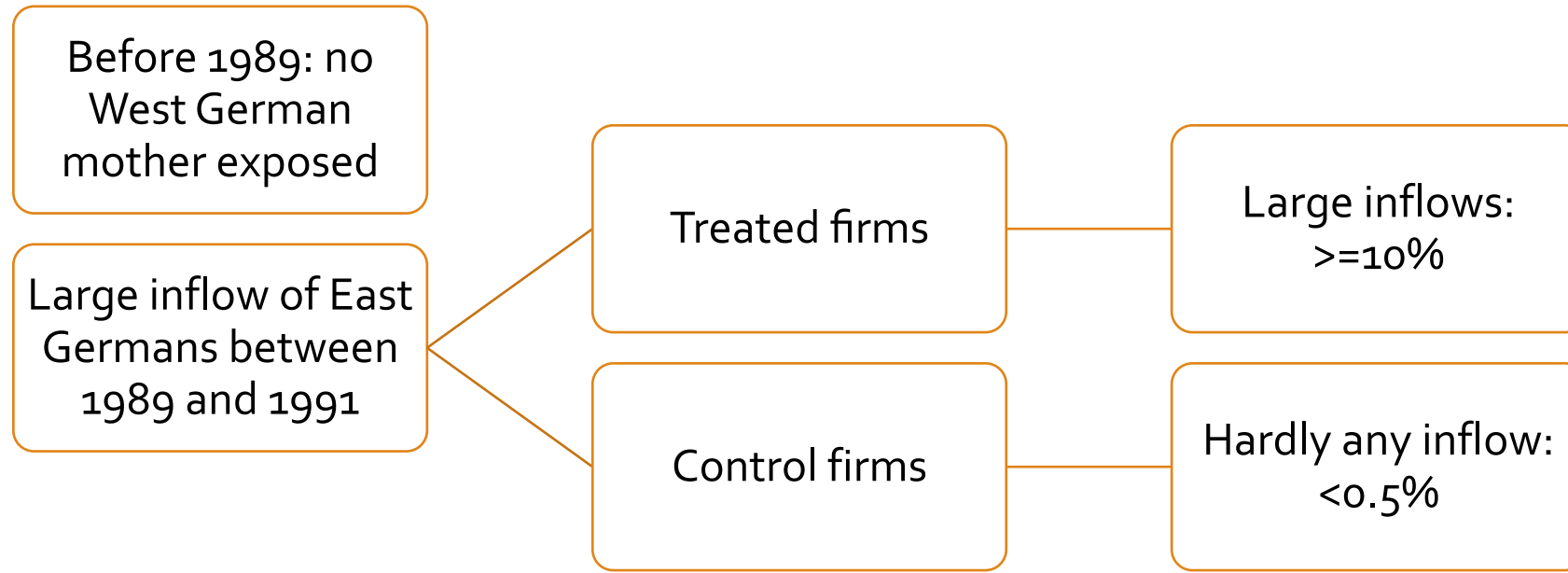


Strategy 4:

Arrival of East German colleagues in West German firms

Does horizontal transmission of culture happen with moderate exposure?

Arrival of East colleagues: intuition



- Exploit differential inflow of East Germans across smaller firms (at most 500 FTE) in same industry/labour market after reunification
- Use continuous DiD design before vs after cohorts: 1986-1988 vs 1992-1996

Arrival of East colleagues: What do we pick up?

- Exposure to less traditional peers in own, more traditional culture
- Effect on “natives” in host country
- complements literature on
 - peer effects of maternal employment (e.g., Maurin and Moschion 2009 and Nicoletti et al. 2018)
 - and immigration/culture literature (Jarotschkin and Zhuravskaya 2019; Schmitz and Weinhardt 2019)

Confounding factors

- **Local labour market and industry specific trends**
 - Deals with self-selection of East Germans into growing labour markets and industries
 - Accounts for potential migration effects on wages and employment
- **Key concern:** Firms that hired many East Germans are firms that are doing well, which in turn affects post-birth labour market outcomes of mothers
 - Test robustness to large array of time-changing firm characteristics before birth as well as future firm characteristics
 - Use alternative control group (same employment growth)
 - Placebo regressions using men and older women

Effect of East German colleagues – 4 years after childbirth

	local labor market and industry by year of birth FE (1)	individual controls set II (2)	firm controls (at birth) (3)	firm controls (at birth and 1 or 4 years after birth) (4)
Panel A: 4 years after childbirth				
regularly employed	0.0130*** (0.00438)	0.0123*** (0.00445)	0.0110** (0.00508)	0.0160*** (0.00575)
full-time employed	0.00149 (0.00381)	0.00211 (0.00361)	0.00222 (0.00433)	0.00750 (0.00486)
Local labor market*year of birth FE	yes	yes	yes	yes
Industry*year of birth FE	yes	yes	yes	yes
Mothers' characteristics at birth	no	yes	yes	yes
Pre-birth employment history	no	yes	yes	yes
Firm characteristics at birth	no	no	yes	yes
Firm characteristics 4 (Panel A) and 1 (Panel B) years after birth	no	no	no	yes
N	74,239	73,352	71,430	65,357

- 10 % points increase in share increases probability of employment by 1.6% points.
- Operates through part-time employment

Evidence for horizontal spillovers through migration

- After 1 year: treated mothers [\(results\)](#) [event study](#) [robustness](#)
 - are more likely to have returned to work and work full time
 - After 4 years: treated mothers
 - More likely to be working (part-time)
 - More likely to stay with prebirth employer
 - Mothers more likely to stay put with same firm and job
 - Threshold effect: Substantial migration shock needed (≥ 10 pp) [\(results\)](#)
 - Heterogenous spillovers: [\(results\)](#)
 - female colleagues and immediate peers in same occupation have stronger effect
- Arrival of more „progressive“ peers affects West German mothers' maternal labour supply, but exposure needs to be substantial

Take away

Asymmetry when cultures interact

- For East Germans, less traditional childhood culture persistent
- For West Germans, exposure to less traditional culture in adulthood positively and permanently affects maternal labor supply
- Learning a key driver of asymmetry

Migration can bring about cultural change

- Full immersion is not needed for transmission of culture
- But substantial shock is needed
- Workplaces important social network for cultural change

→ One reason for persistent motherhood penalties in gender traditional cultures might be the lack of direct contact to more gender egalitarian cultural values and beliefs



Thank you!

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