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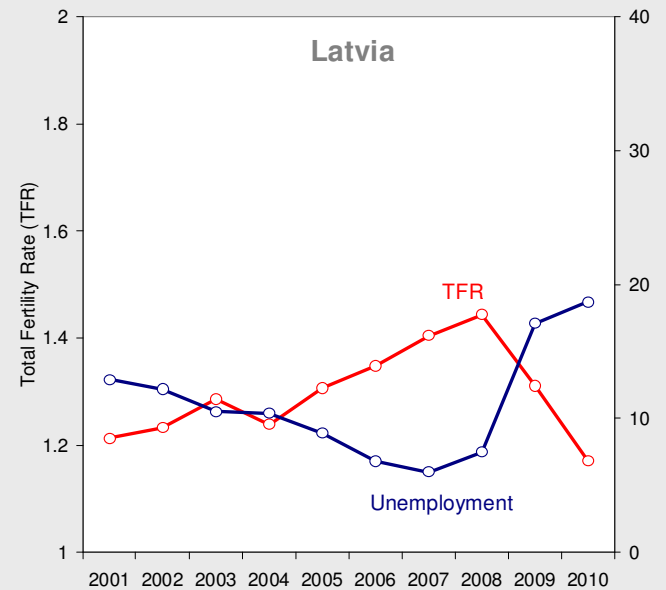
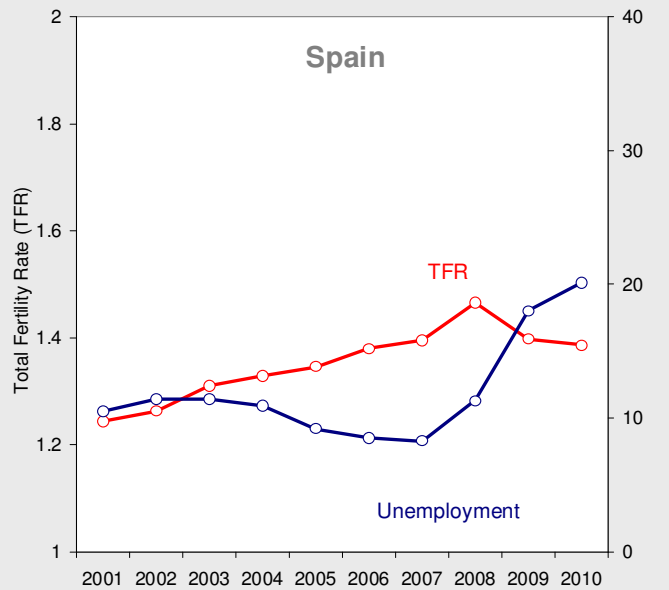
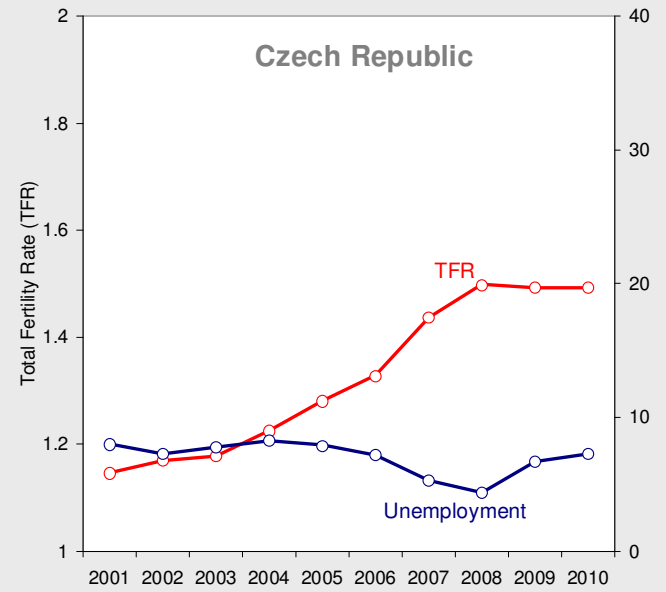
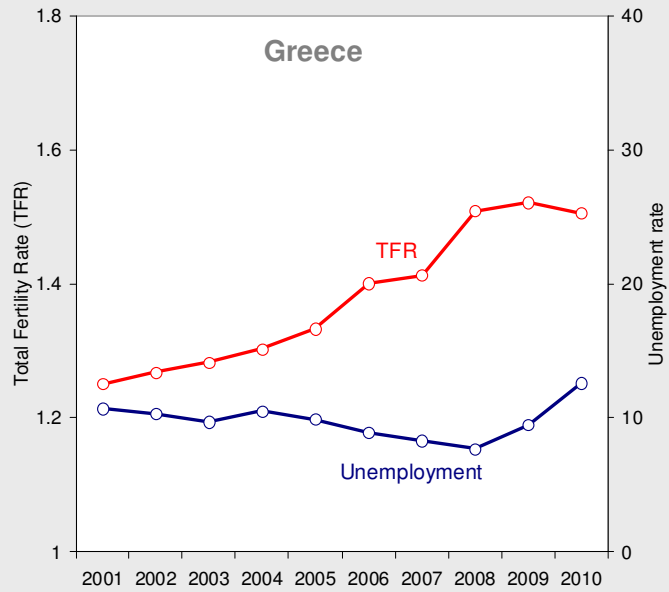
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# **Economic Uncertainty and Fertility in Comparative Perspective**

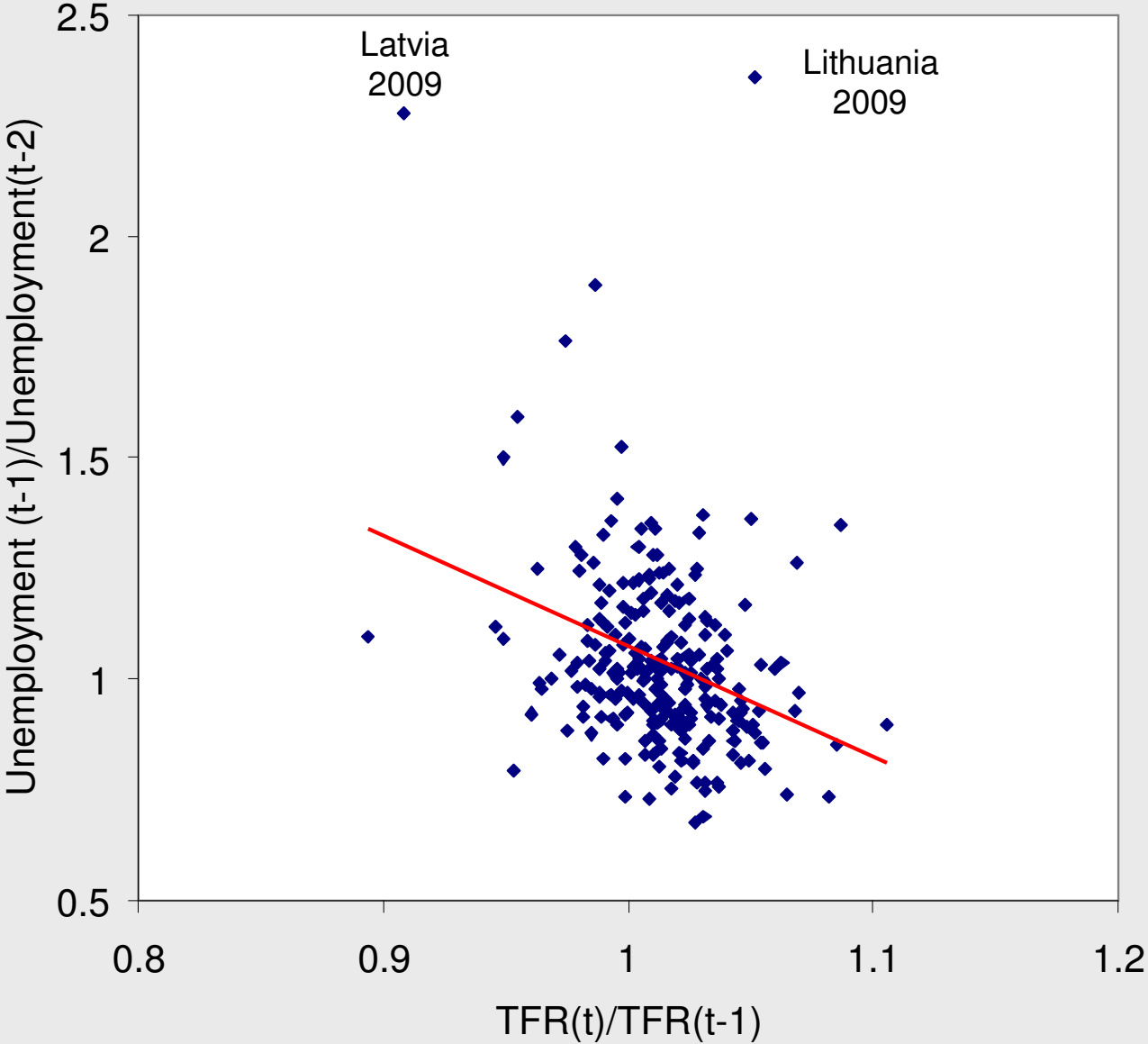
Michaela Kreyenfeld





Source: Goldstein et al 2012

# Changes in TFR and Unemployment 2001-2010 in Europe

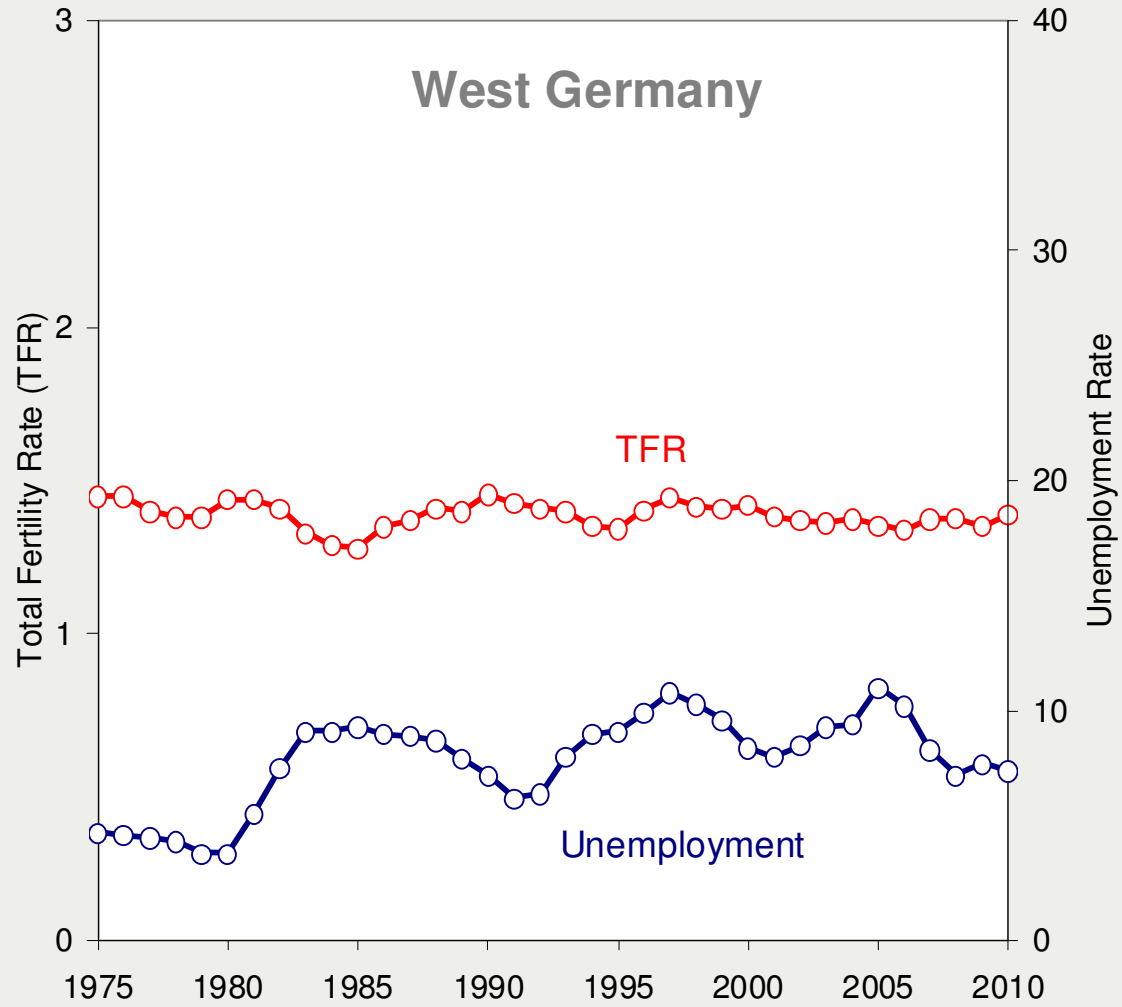


*Spearman's correlation coefficient*  
**-0.31\*\*\***

Source: Goldstein et al 2012



# Economic Uncertainty and Fertility





## **Micro-Level Evidence**



# Economic Uncertainty and Fertility

## Recent Evidence on Unemployment and First Birth Rates

<b>Germany (East)</b>	<i>Özan et al</i>
<b>Germany (West)</b>	<i>Özan et al</i>
<b>Germany</b>	<i>Schmitt</i>
<b>UK</b>	<i>Schmitt</i>
<b>France</b>	<i>Pailhé et al</i>
<b>Sweden</b>	<i>Lundström et al</i>
<b>Italy</b>	<i>Vignoli et al</i>

**Source:** Andersson, Gunnar, Kreyenfeld, Michaela and Pailhé, Ariane (2012): *Economic Uncertainty and Family Dynamics in Europe: Demographic Research (Special Issue)*





# Economic Uncertainty and Fertility

## Recent Evidence on Unemployment and First Birth Rates

		Female
<b>Germany (East)</b>	<i>Özan et al</i>	pos
<b>Germany (West)</b>	<i>Özan et al</i>	insig
<b>Germany</b>	<i>Schmitt</i>	pos
<b>UK</b>	<i>Schmitt</i>	pos
<b>France</b>	<i>Pailhé et al</i>	insig
<b>Sweden</b>	<i>Lundström et al</i>	insig
<b>Italy</b>	<i>Vignoli et al</i>	insig

**Source:** Andersson, Gunnar, Kreyenfeld, Michaela and Pailhé, Ariane (2012): *Economic Uncertainty and Family Dynamics in Europe: Demographic Research (Special Issue)*



# Economic Uncertainty and Fertility

## Recent Evidence on Unemployment and First Birth Rates

		<b>Female</b>	<b>Male</b>
<b>Germany (East)</b>	<i>Özan et al</i>	pos	insig
<b>Germany (West)</b>	<i>Özan et al</i>	insig	insig
<b>Germany</b>	<i>Schmitt</i>	pos	pos
<b>UK</b>	<i>Schmitt</i>	pos	pos
<b>France</b>	<i>Pailhé et al</i>	insig	neg
<b>Sweden</b>	<i>Lundström et al</i>	insig	neg
<b>Italy</b>	<i>Vignoli et al</i>	insig	insig

**Source:** Andersson, Gunnar, Kreyenfeld, Michaela and Pailhé, Ariane (2012): *Economic Uncertainty and Family Dynamics in Europe: Demographic Research (Special Issue)*



# Economic Uncertainty and Fertility

## Recent Evidence on Unemployment and First Birth Rates

		<b>Female</b>	<b>Male</b>	<b>Events Females</b>	<b>Events Males</b>
<b>Germany (East)</b>	<i>Özan et al</i>	pos	insig	139	87
<b>Germany (West)</b>	<i>Özan et al</i>	insig	insig	289	208
<b>Germany</b>	<i>Schmitt</i>	pos	pos	1.193	1.443
<b>UK</b>	<i>Schmitt</i>	pos	pos	745	850
<b>France</b>	<i>Pailhé et al</i>	insig	neg	3.244	2.401
<b>Sweden</b>	<i>Lundström et al</i>	insig	neg	4.172	4.128
<b>Italy</b>	<i>Vignoli et al</i>	insig	insig		204

**Source:** Andersson, Gunnar, Kreyenfeld, Michaela and Pailhé, Ariane (2012): *Economic Uncertainty and Family Dynamics in Europe: Demographic Research (Special Issue)*



# Economic Uncertainty and Fertility

## Challenges of Micro-Level Analysis

- **Sample size**
- **Differential response to employment uncertainty**
  - Career aspirations
  - Life course stage



## Economic Uncertainty and Fertility

“The uncertainties that **young adults** face seep into the partnership and parenthood domains of their lives” (Mills and Blossfeld 2005).



## German Register Data



## German Register Data

<b>Name of Data</b>	Biografiedaten ausgewählter Sozialversicherungsträger in Deutschland (BASiD)
<b>Type of data</b>	Register data (Combination of Employment and Pension Registers)
<b>Population</b>	Females of German nationality, covered in public pension scheme
<b>Data extract</b>	Cohorts 1940-77
<b>Censoring</b>	2004-2008



# German Register Data

## Sample Size

	<b>Months of exposure</b>	<b>Events</b>
Cohorts 1940-1949	632,430	4,424
Cohorts 1950-1959	565,622	3,340
Cohorts 1960-1969	712,365	3,483
Cohorts 1970-1977	618,055	2,058
Total	2,528,472	13,305

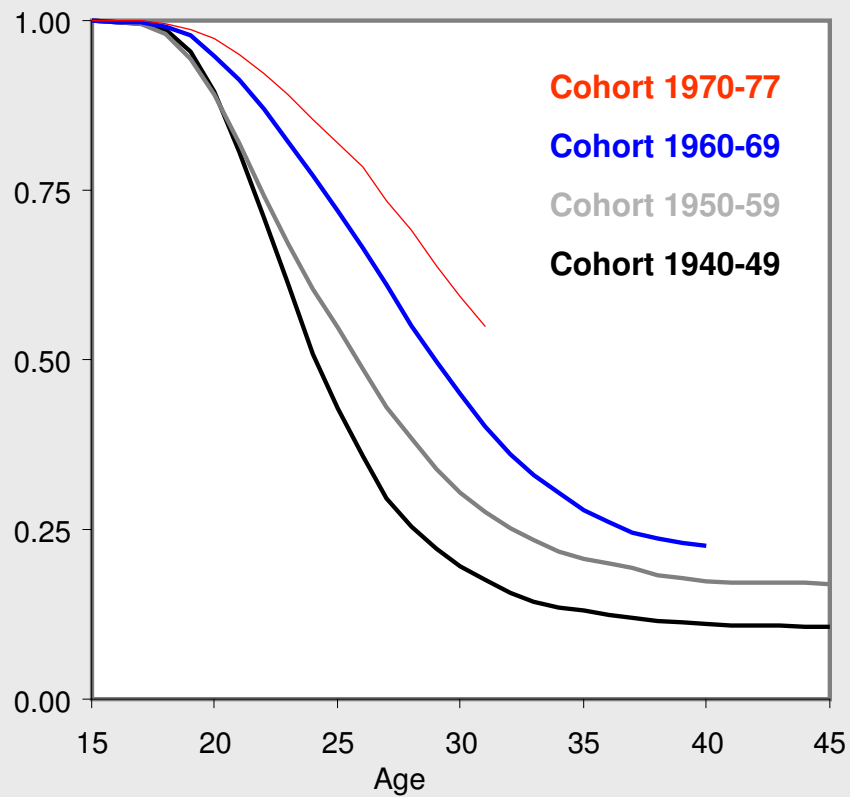




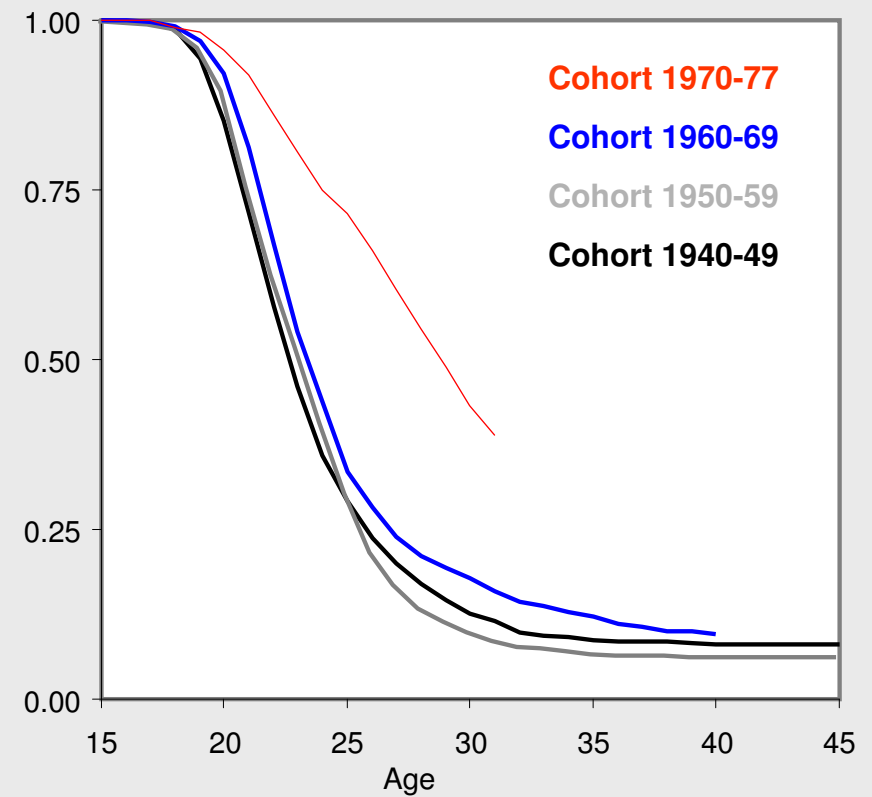
# German Register Data

## Kaplan Survival Curve to First Birth

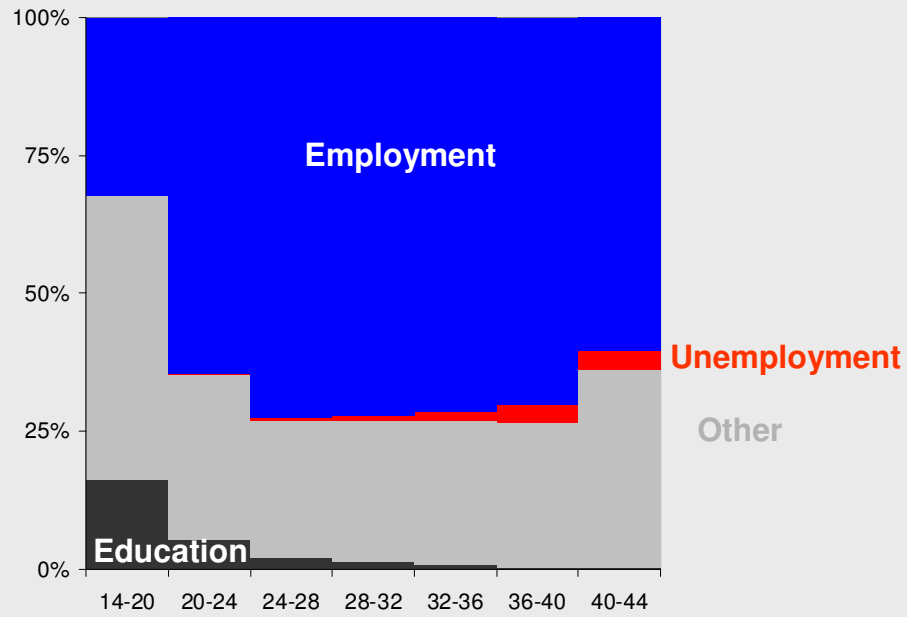
### West Germany



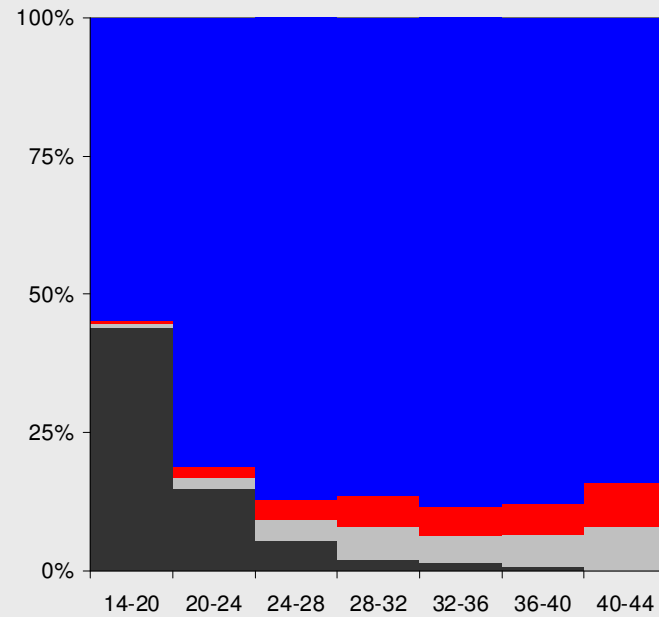
### East Germany



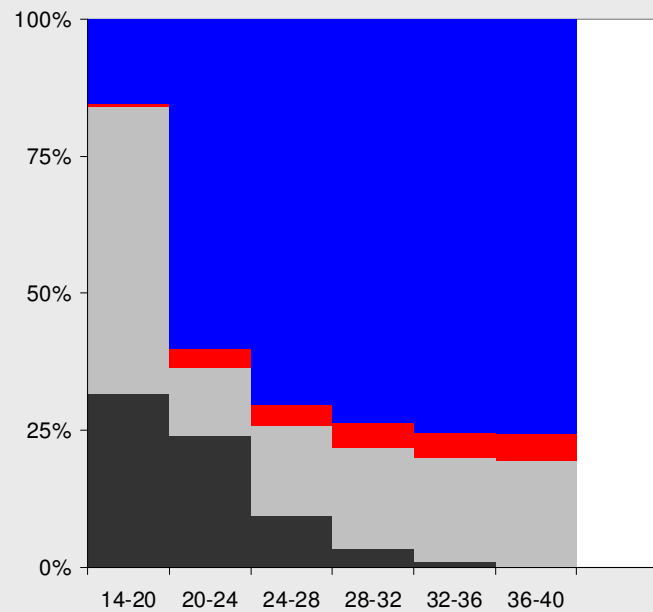
**Cohorts 1940-49 (West Germany)**



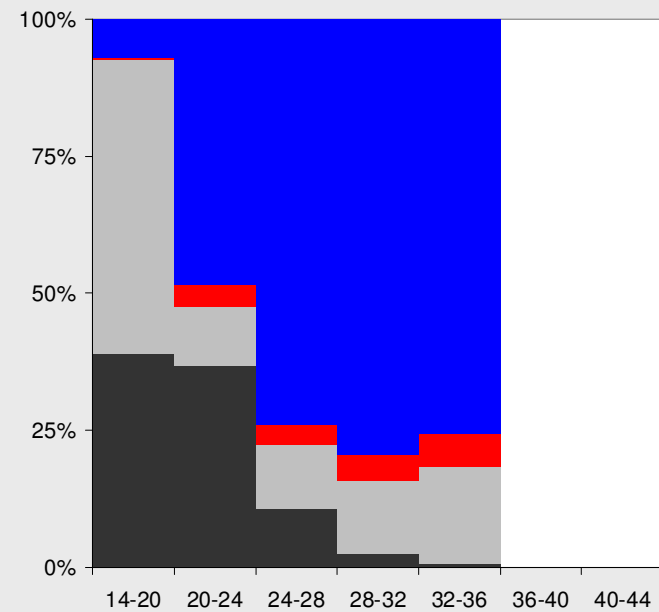
**Cohorts 1950-59 (West Germany)**



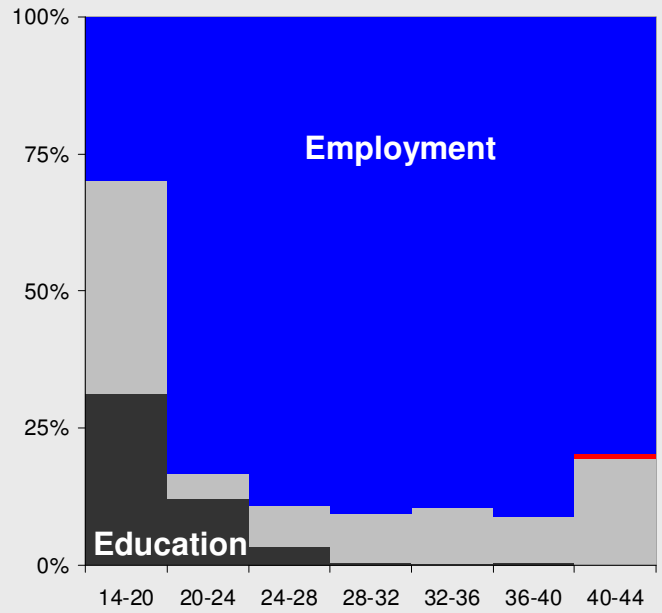
**Cohorts 1960-69 (West Germany)**



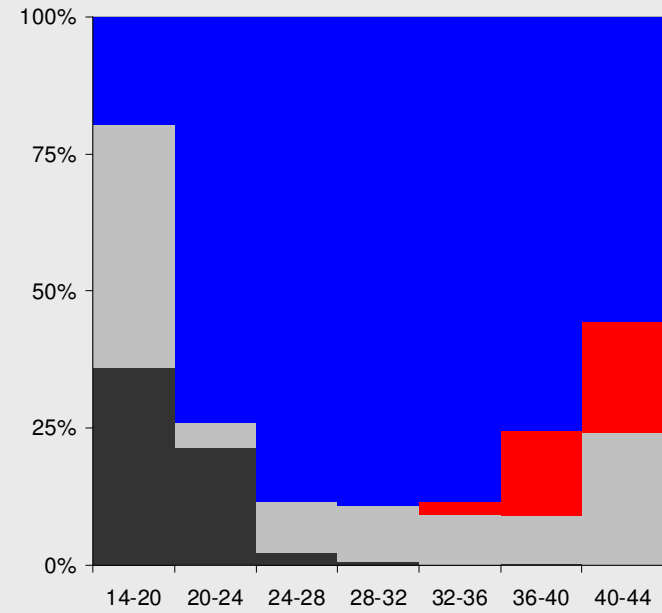
**Cohorts 1970-77 (West Germany)**



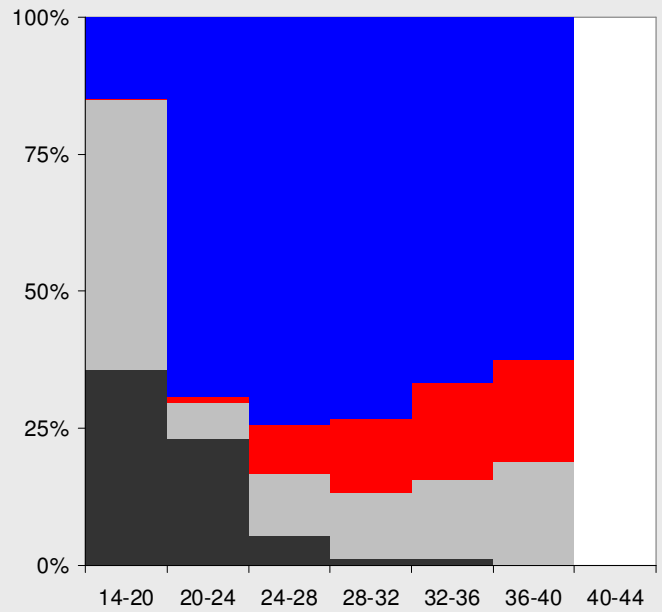
**Cohorts 1940-49 (East Germany)**



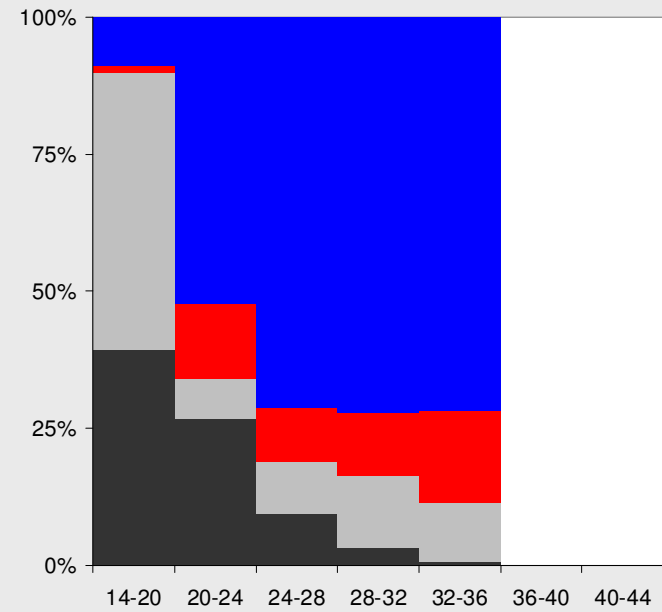
**Cohorts 1950-59 (East Germany)**



**Cohorts 1960-69 (East Germany)**



**Cohorts 1970-77 (East Germany)**





**Female Unemployment and Fertility:  
Results from Event History Model**



## Data

### Method

Piecewise Constant Model

### Event

First Birth (Backdated by nine months)

### Process Time

Duration since age 14

### Variables

Age (baseline), Cohort, Region (East, West)

Employment status (unemployed, employed, education, other)

Duration of unemployment

Cumulative occupational status



## Results

### Relative Risks of First Birth, West Germany

	1941-49	1950-59	1960-69	1970-77	
<b>Employment</b>	1	1	1	1	
<b>Unemployment</b>	1.12	1.04	1.17	1.30	***
<b>Other</b>	1.16 ***	0.59 ***	0.62 ***	0.57 ***	
<b>Education</b>	0.40 ***	0.48 ***	0.33 ***	0.22 ***	

**Notes:**

$p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$

Results from Piecewise Constant Model. Controlled for age (baseline) and cohort



## Results

### Relative Risks of First Birth, East Germany

	1941-49	1950-59	1960-69	1970-77
<b>Employment</b>	1	1	1	1
<b>Unemployment</b>	-	-	0.64	0.79
<b>Other</b>	0.19 ***	0.12 ***	0.16 ***	0.23 ***
<b>Education</b>	0.42 ***	0.42 ***	0.49 ***	0.22 ***

**Notes:**

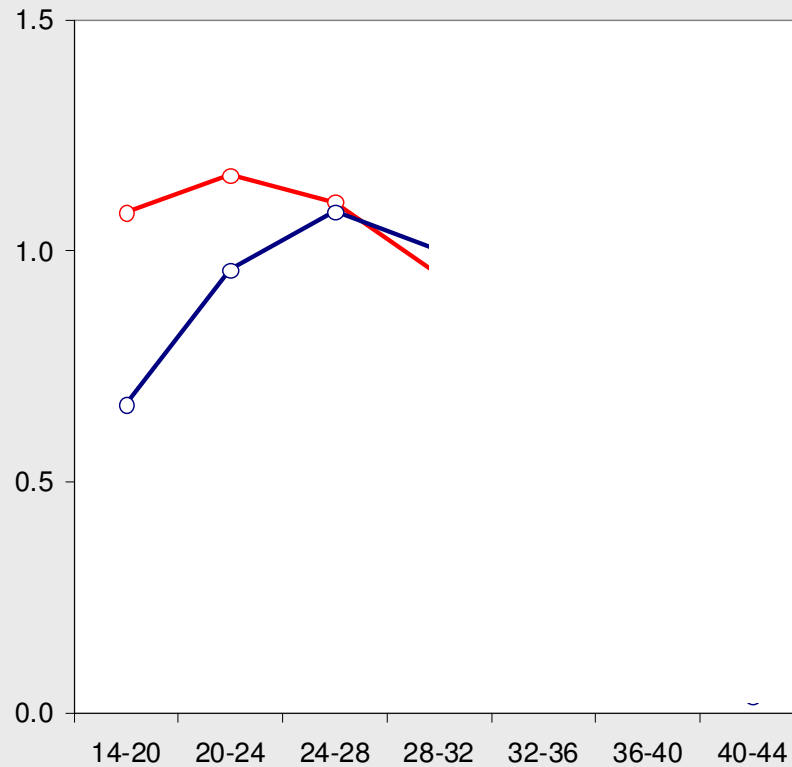
$p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$

Results from Piecewise Constant Model. Controlled for age (baseline) and cohort



# Results

## Relative First Birth Risks by Age, West Germany



Employment

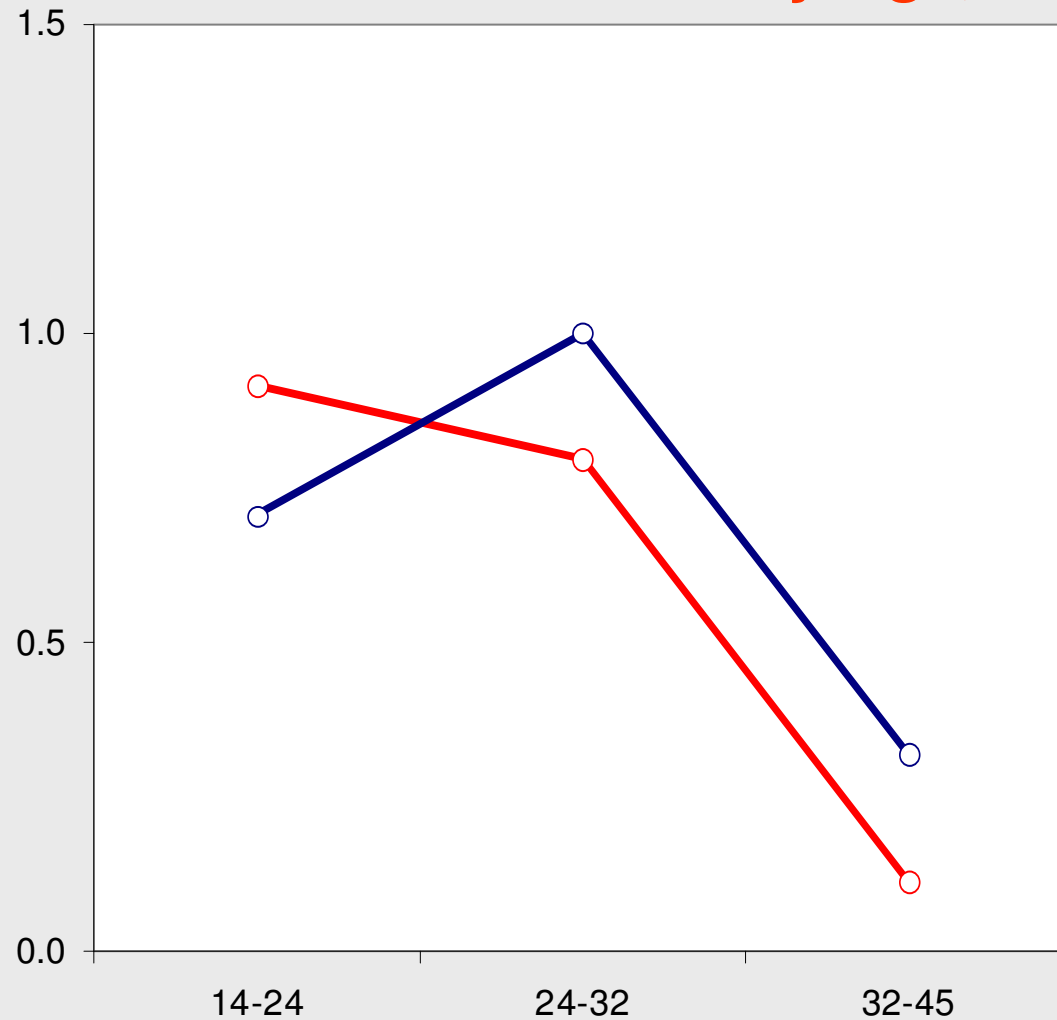
Unemployment





# Results

## Relative First Birth Risks by Age, East Germany (>1991)



Employment

Unemployment

**Thanks for your attention!**