

Pre-retirement employment protection

No harm when times are good?

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NATIONAL SCIENCE CENTRE
POLAND

Introduction

- Implications of employment protection legislation (EPL): benefits to the protected vs costs to the unprotected
 - universal vs. targeted protection: age, firm-type or sector specific
 - mixture of approaches: country, state and micro studies: negative overall employment effects (Lazear 1990); reduction of flow rates and productivity (Autor et al. 2007), higher outsourcing (Autor 2003); lower turnover with no employment effects (Kugler and Pica 2008)
 - few studies on age-targeted EPL (Deelen et al. 2009 on NL; Behaghel et al. 2008 on FR)

Introduction

- We use a unique change in policy to examine the role of age-specific EPL:
 - in Poland individuals with 4 or less years prior to reaching retirement age are covered by strict EPL (regulated by labour code and applying to employment, wages and hours; few exceptions)
 - we can thus look specifically at those who are soon to be covered
 - a reform which reduced retirement age by about two years in October 2017 for both men and women, as an unintended consequence also lowered the age of EPL eligibility

Data

- Individual-level administrative data on full population (of insured individuals)
 - matched information on: social security and health insurance (monthly), income tax (annual)
 - tracking individuals over time and across data sets with a unique identifier
- Information from January 1st 2015 to December 31st 2019 (2020 in progress, important for sample selection)
- Sample does not cover some groups (farmers, judges, uniformed services, etc.) and we exclude some groups covered by special pensions regulations (e.g. teachers).
- Workers on civil contracts and self-employed treated as non-employed as they are not subject to EPL

Employment protection and retirement age legislation

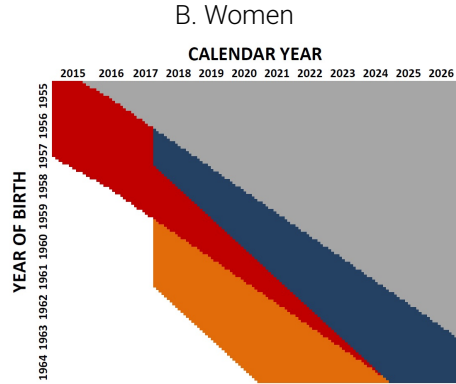
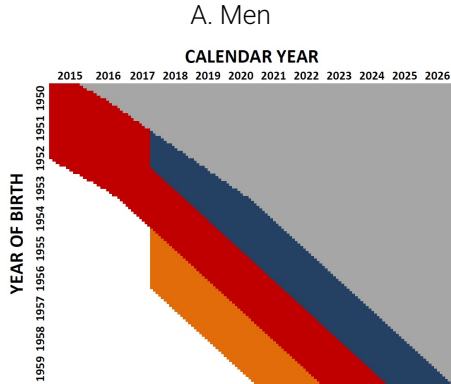
- Polish EPL: employer cannot terminate a contract if an employee has at most 4 years left until the retirement age and is eligible to retire at that time
- From 01.2013 gradual statutory retirement age increases from 60(W)/65(M) to 67 for all: for men by end of 2019, for women by end of 2040

Employment protection and retirement age legislation

- Polish EPL: employer cannot terminate a contract if an employee has at most 4 years left until the retirement age and is eligible to retire at that time
- From 01.2013 gradual statutory retirement age increases from 60(W)/65(M) to 67 for all: for men by end of 2019, for women by end of 2040
- Unpopularity of the reform used by right-wing opposition in 2015 presidential and parliamentary election campaigns with presidential declaration to return to pre-reform levels
- Both elections won by the opposition, President Duda presents changes of the legislation to Parliament in September 2015
 - long reservations of the government to present the changes in Parliament
 - finally, original bill presented to and swiftly passed in Parliament in November 2016, signed into law on December 6th 2016 to enter into force on October 1st 2017

Employment protection and retirement age legislation

- Lower retirement age implied as (unintended) consequence extension of EPL to younger cohorts:



- grey: month of retirement under the 67 system
- red: month of EPL protection under the 67 system
- navy: month of retirement under the 60/65 system
- orange: month of EPL protection under the 60/65 system

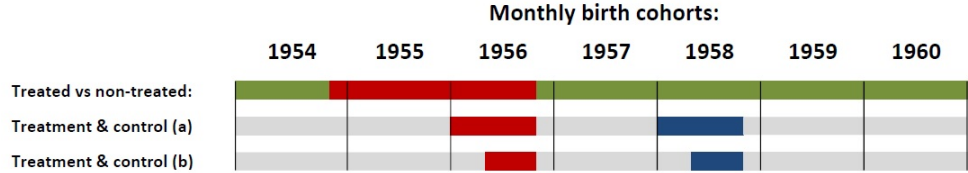
Implications for unprotected cohorts and identification

- Key identification challenge - in theory all men born after October 1954 and women after July 1959 are affected
- However, some become covered immediately in October 2017 as the reform enters into force (these are considered treated):
 - Men born between November 1954 and October 1956
 - Women born between August 1959 and October 1961
- Plus: there is the hold-up period since November 2016 when legislation is passed in Parliament
- We treat those born two years later as controls

Implications for unprotected cohorts and identification

- For analysis we select cohorts which are potentially most costly to employers (have most time left to retirement):

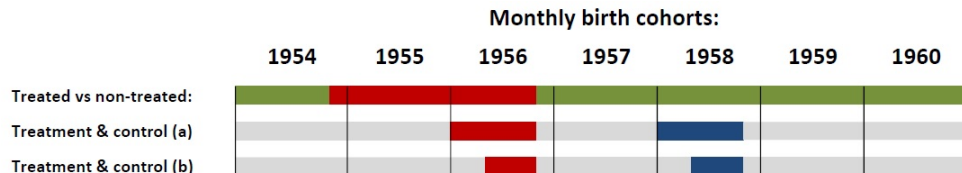
MEN: born 01-10.1956 (sample a) and born 05-10.1956 (sample b)



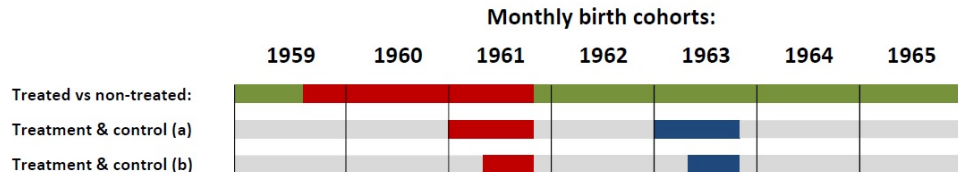
Implications for unprotected cohorts and identification

- For analysis we select cohorts which are potentially most costly to employers (have most time left to retirement):

MEN: born 01-10.1956 (sample a) and born 05-10.1956 (sample b)



WOMEN: born 01-10.1961 (sample a) and born 05-10.1961 (sample b)



Implications for unprotected cohorts and identification

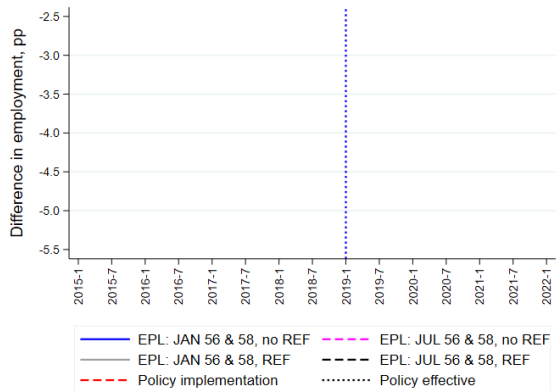
Stylised example (men):

- assumed 3 p.p. cohort difference, negative effect of EPL starts a few months prior to coverage
- full effect (assumed to be 0.55 p.p.) reached a few months after coverage starts
- relative effect of EPL disappears as the control group becomes treated two years later

Implications for unprotected cohorts and identification

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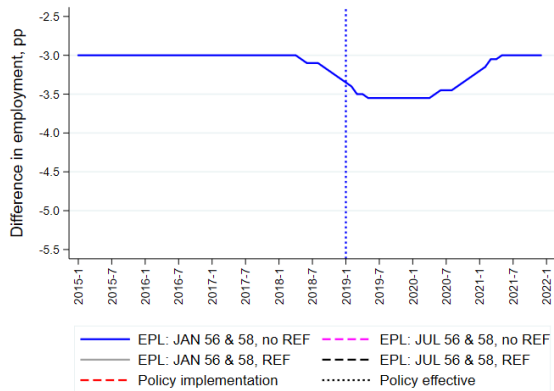
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 - **BEFORE REFORM:** Jan. 1956 cohort reach retirement age in Jan. 2023 => EPL coverage starts in **Jan. 2019**



Implications for unprotected cohorts and identification

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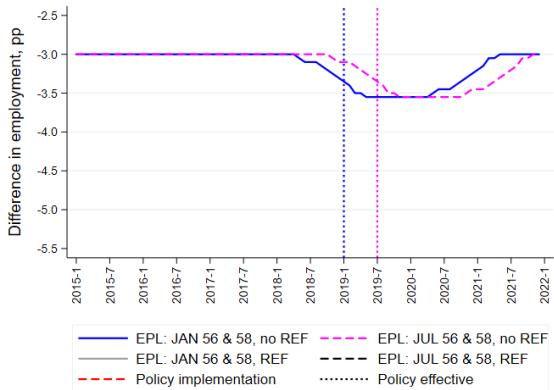
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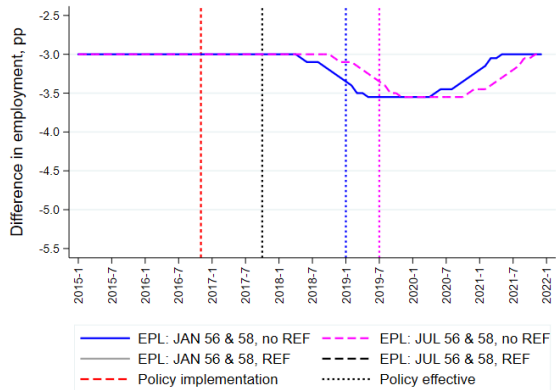
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Implications for unprotected cohorts and identification

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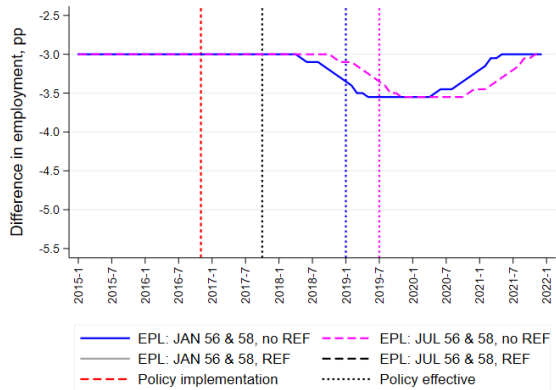
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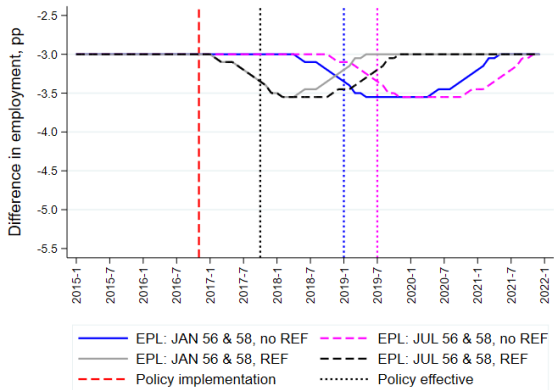
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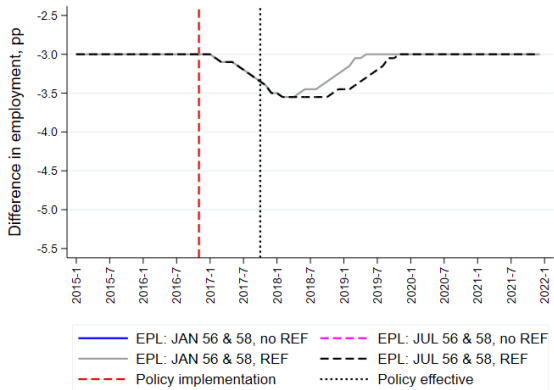
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Implications for unprotected cohorts and identification

Recap on identification:

o Design:

- for a number of (monthly) birth cohorts EPL becomes binding in October 2017, as a result of legislation passed through Parliament in November 2016
- employers have time to adjust their employment between November 2016 and October 2017

o Identification assumptions:

- common trends for treated and control cohorts prior to November 2016
- ...and reliable common trends after EXCEPT for effects of EPL

o Why the second assumption might fail:

- age-specific factors affecting employment (health) of treated and controls differently
=> use diff-in-diff-in-diff
- eligibility to early retirement may affect treated and control cohorts differently, conditional on age
=> sample selection

Implications for unprotected cohorts and identification

Event study set up:

$$Y_{ict} = \alpha + \sum_{j=Jan2015}^{Sep2016} \beta_j^1 T_{ic} 1[j = t] + \sum_{j=Nov2016}^{Dec2017} \beta_j^2 T_{ic} 1[j = t] + \gamma_t + \delta_c + \epsilon_{ict}$$

where:

Y_{ict} : employment indicator

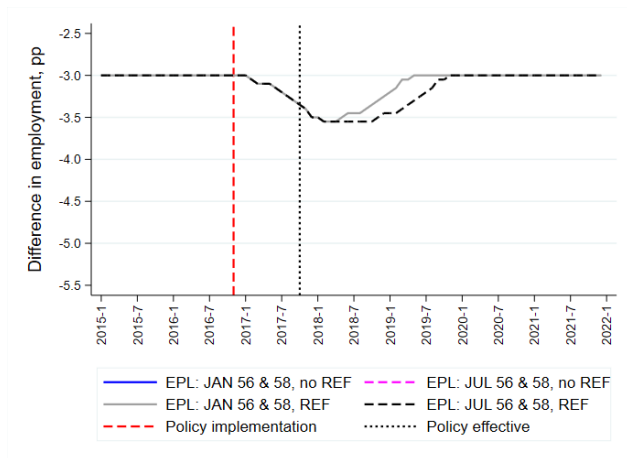
T_{ic} : identifier for treated cohorts

γ_t : time fixed effect

δ_c : cohort fixed effect

ϵ_{ict} : residual clustered at individual level

Coefficients of interest: β_j^2



Implications for unprotected cohorts and identification

Diff-in-diff set up:

$$Y_{ict} = \alpha + \beta \text{Post}_{ic} + \gamma_t + \delta_c + \epsilon_{ict}$$

where:

Y_{ict} : employment indicator

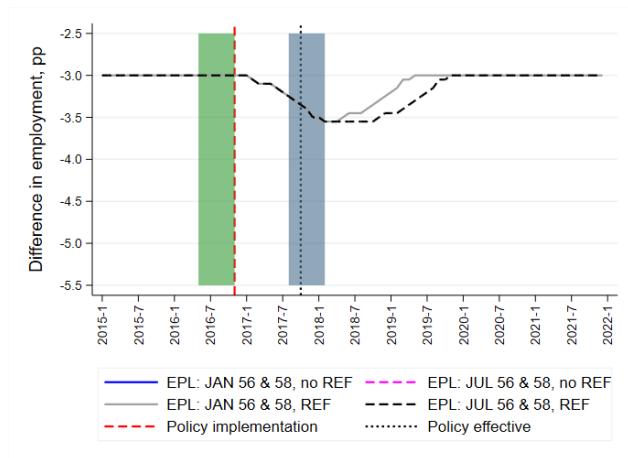
Post_{ic} : takes value of one if individual is born in 1956 cohort in May to October and obs. 09.17-02.18

γ_t : time fixed effect

δ_c : cohort fixed effect

ϵ_{ict} : residual clustered at individual level

Coefficient of interest: β



Samples: selection and sizes

- Early (bridge) pensions and disability pensions as key confounding factors:
 - access has been severely limited in Poland after 2008 but many still claim
 - we select out individuals in industries with special pension rights
 - we select out those who receive bridge or disability pensions: when observed at age 62 (M) or 57 (W)

Samples: selection and sample sizes

- Samples (a) and (b) - defined by the larger (10 monthly cohorts) and smaller (6 monthly cohorts) set of treated vs. control cohorts
- Samples (A) and (B) defined by treatment of early retired and disability pensions:
 - Sample A: select out those receiving either bridge (early) pensions or disability pensions by age 62/57
 - Sample B: select out those receiving bridge (early) pensions by age 62/57

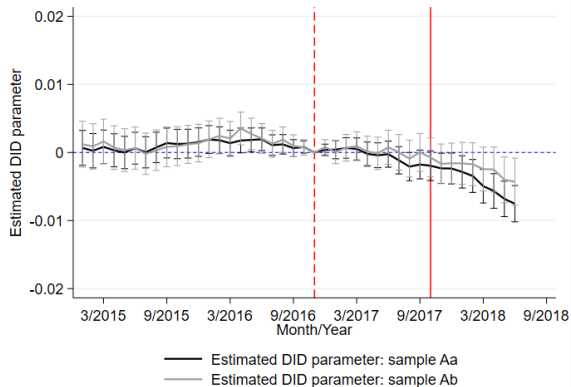
Employment protection legislation: sample sizes for estimation

	Men:				Women			
	Treated	Control	Treated (placebo)	Control (placebo)	Treated	Control	Treated (placebo)	cControl (placebo)
Aa	54316	64177	56096	58920	60175	60519	65433	60020
Ab	31542	37023	32802	34259	34915	34989	37314	34580
Ba	61539	72326	59517	66851	62675	63273	66941	62809
Bb	35842	41673	34884	39066	36405	36593	38241	36201

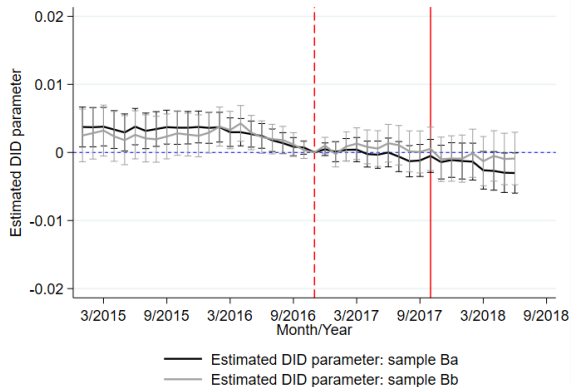
Source: Own calculations, based on Ministry of Finance administrative data set.

Event study results for men: double difference

Men: samples Aa and Ab

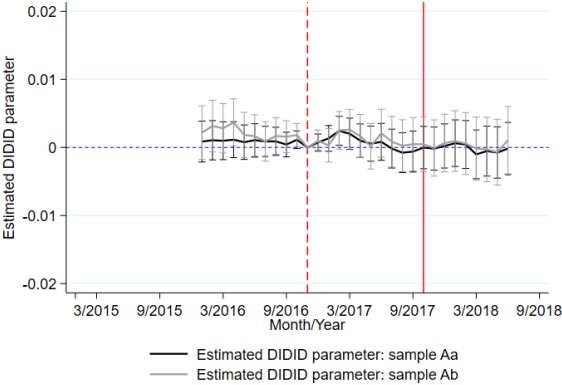


Men: samples Ba and Bb

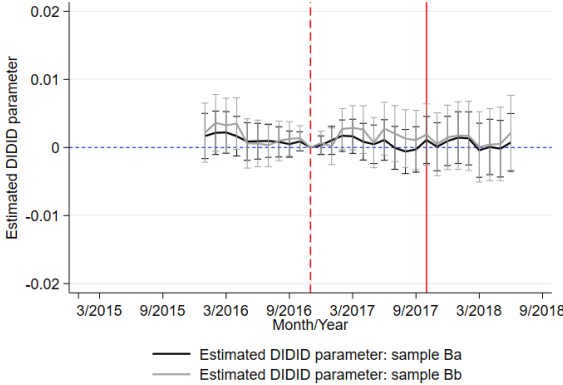


Event study results for men: triple difference

Men: samples Aa and Ab

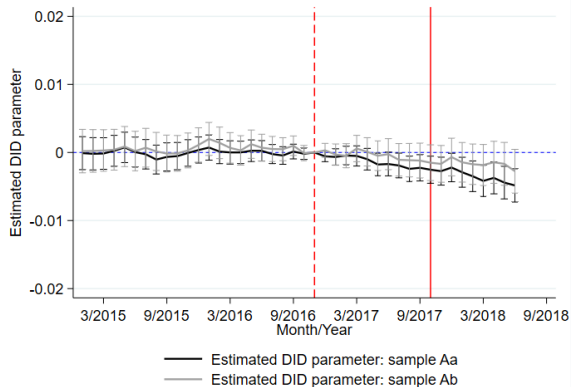


Men: samples Ba and Bb

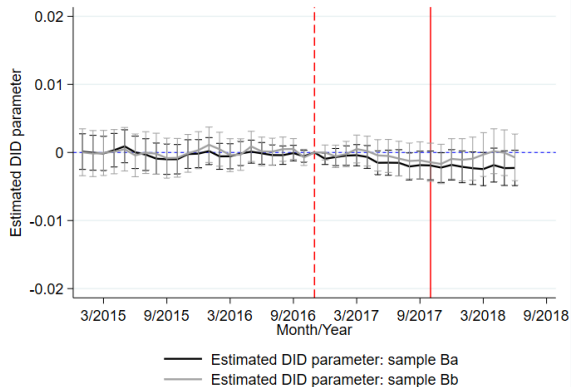


Event study results for women: double difference

Women: samples Aa and Ab

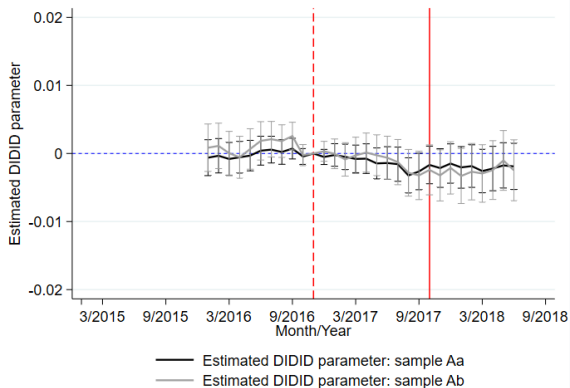


Women: samples Ba and Bb

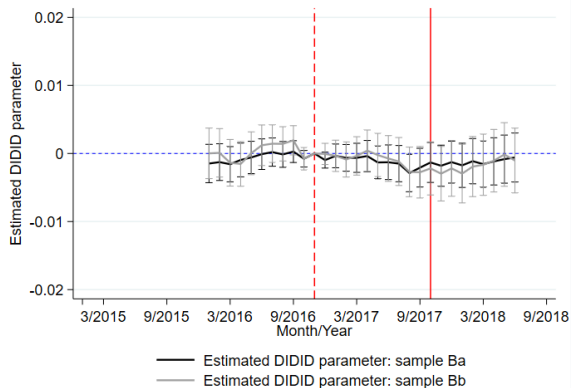


Event study results for women: triple difference

Women: samples Aa and Ab



Women: samples Ba and Bb



Regression results - coefficients of interest

DID and DIDID coefficients across samples for men and women

	Men			Women		
	Coeff.	St. error	Signif.	Coeff.	St. error	Signif.
DID estimates by sample:						
Aa	-0.0037	(0.0011)	***	-0.0027	(0.0010)	***
Ab	-0.0028	(0.0014)	**	-0.0020	(0.0013)	
Ba	-0.0028	(0.0012)	***	-0.0018	(0.0011)	
Bb	-0.0021	(0.0016)		-0.0014	(0.0014)	
DIDID estimates by sample:						
Aa	0.0019	(0.0015)		-0.0028	(0.0014)	***
Ab	0.0004	(0.0020)		-0.0036	(0.0018)	*
Ba	0.0007	(0.0016)		-0.0019	(0.0014)	
Bb	0.0006	(0.0022)		-0.0025	(0.0019)	

Source: Own estimates, based on Ministry of Finance administrative data set.

Conclusions and ongoing work

- Reform of retirement age used to examine the implications of age-specific EPL in Poland
- Preliminary results show no negative implications of employment protection on cohorts approaching eligibility:
 - initial heterogeneity analysis (regions, earnings quartiles) shows little variation
 - caveat: sample selection still needs to be refined, it is still work in progress
- Possible explanations:
 - there might actually be no negative effects
 - strong labour market demand and concerns about labour shortages in response to retirement reform

THANK YOU!