The changing demographic risk of temporary employment: A comparative study of European countries

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Background

- Is the risk of experiencing a fixed-term contract (FTC) changing across demographic groups over time and across countries?
- Why is the question important?
- What do the terms mean?
- Previous research
  - ▶ What do we know?
  - ▶ What do we not know?

Why the question is important

- Labor market risks are rising
  - ▶ Institutional changes (i.e. employment protection legislation)
  - ▶ Structural changes (i.e. technological change)
- Decline in more traditional 'standard' employment relationship (SER)
- Rise in more flexible 'non-standard' employment relationship (NSER)
  - ▶ Part-time
  - ▶ Self-employment
  - ▶ Temporary work
    - ★ Contract
    - ★ Seasonal
    - ★ Temporary help agency

Why do we focus on fixed-term contract (FTC)?

- FTC
  - Smallest type of NSER
  - Largest type of temporary work
  - More insecure, by definition
  - Involuntary
- Part-time employment
  - Largest type of NSER
  - Majority are voluntary
  - Majority have a permanent contract
- Self-employment (very heterogeneous)

Why are demographic trends important?

- Distribution and consequences
    - The distribution of FTC are not equal (young, low edu, low income)
    - The consequences of FTC are not uniform $(+, -, \varnothing)$
    - The unequal consequences exacerbate the unequal distribution
- Distribution and trends over time
    - Changes in who experiences what types of consequences

What do we know?

- We know a lot
  - OECD, (2002, 2015, 2018); Gebel & Giesecke, 2009; Allmendinger et al., 2013; Hipp et al., 2015
- Differences in levels across countries
- Constant trends over time within countries, especially after 2005
- The distribution
  - The young
  - Polarized with respect to education
  - Low income
  - Gender split
- Trends - little change in the distribution of temporary employment

What do we not know?

- Evidence is exclusively based on cross-sectional data
- Cross-sectional data only knows FTC > 0
- Does not distinguish between the number of FTC over time
  - ▸ FTC $= 1$
  - ▸ FTC > 1
- As a result, what looks like stability could hide change

Questions

1. Has the probability of a FTC changed by number of FTC?
   a. Over time?
   b. Across countries?
   c. Between demographic groups (age, edu, gender)?
   d. Interaction (time*country*groups)?

Data - Survey on Living and Income Conditions (EU-SILC)

- 3 overlapping panel waves
  - 2009 (2006 - 2009)
  - 2012 (2009 - 2012)
  - 2015 (2012 - 2015)
- Each country must be present in all 3 panel waves
- Each individual must be present in all 4 years of study period
  - Age 25-54
  - LFP (unemployed or employed)
  - Must be employed at least 1 time
  - Case-wise deletion for all missing values (age, edu, gender)
- 9,001 person, period observations in 5 countries
  - Austria, Netherlands, Spain, Sweden, and Ireland

Method - fully interacted logistic regression

$$y_e = \alpha + \sum_{c=1}^{C} \sum_{p=1}^{P} \sum_{k=1}^{K} (\beta_{p,c,k}) + \epsilon_{i,p,c,k} \tag{1}$$

$$y_s = \alpha + \sum_{c=1}^{C} \sum_{p=1}^{P} \sum_{k=1}^{K} (\beta_{p,c,k}) + \epsilon_{i,p,c,k} \tag{2}$$

$$y_m = \alpha + \sum_{c=1}^{C} \sum_{p=1}^{P} \sum_{k=1}^{K} (\beta_{p,c,k}) + \epsilon_{i,p,c,k} \tag{3}$$

Where:
y_e = $\Pr(FTC_{i,p,c} > 0)$, probability of individual (i) having *Ever* FTC in period (p) in country (c)
y_s = $\Pr(FTC_{i,p,c} = 1)$, probability of individual (i) having *Single* FTC in period (p) in country (c)
y_m = $\Pr(FTC_{i,p,c} > 1)$, probability of individual (i) having *Multiple* FTC in period (p) in country (c)
p = 3 periods (2006-2009, 2009-2012, 2012-2015)
c = 5 countries (AT, ES, NL, SE, IE)
k = $K \times 1$ vector of covariates for:
   Education (Primary, Secondary, Tertiary)
   + Gender (Female, Male)
   + Age (<35, 35 - 45, >45)

Theory - recommodification vs. individualisation

- Classical determinants of risks are age, gender, edu, *income**
- "Recommodification" of risks (Breen, 1997; Goldthorpe, 2002)
  - ▶ Classical determinants of risk increase
  - ▶ Risks shift between groups
- "Individualisation" of risk (Beck, 2000; Esping-Anderson and Regini, 2000)
  - ▶ Classical determinants of risk decrease
  - ▶ Risks shift within groups
- Country-level changes (Streeck, 2014)
  - ▶ Differences between countries remain
  - ▶ Trends within countries are similar

Hypotheses

1. *H*1: Within stability, there is change
   a. Probability of FTC>0 is constant
   b. Probability of FTC=1 is declining
   c. Probability of FTC>1 is rising
2. *H*2: The changing distribution in the probability of FTC
   a. Increasing heterogeneity or "individualisation" in the risk of FTC =1
   b. Decreasing heterogeneity or "recommodification" in the risk of FTC >1
3. *H*3: Country level comparisons
   a. Differences across countries remain
   b. Similarity in the trends

Descriptive means

	Austria	Spain	Ireland	Netherlands	Sweden	All countries
Dependent variables:						
FTC > 0	0.105	0.306	0.127	0.165	0.152	0.210
FTC = 1	0.071	0.116	0.078	0.053	0.091	0.090
FTC > 1	0.033	0.190	0.049	0.112	0.061	0.120
Control variables:						
Panel periods:						
2006 - 2009	0.284	0.329	0.319	0.280	0.404	0.318
2009 - 2012	0.396	0.362	0.360	0.375	0.374	0.373
2012 - 2015	0.320	0.309	0.321	0.345	0.223	0.309
Demographic characteristics:						
25 − 34	0.146	0.189	0.146	0.171	0.179	0.173
35 − 44	0.370	0.398	0.448	0.392	0.411	0.394
45 − 55	0.484	0.414	0.406	0.437	0.411	0.432
Primary edu	0.081	0.326	0.175	0.114	0.051	0.195
Secondary edu	0.533	0.225	0.214	0.383	0.400	0.340
Tertiary edu	0.386	0.449	0.611	0.503	0.550	0.464
Male	0.545	0.542	0.479	0.501	0.483	0.525
Observations	1931	3929	411	1724	1006	9001
Percent of total	0.215	0.437	0.046	0.192	0.112	1

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Model fit - not good

	FTC > 0	FTC $= 1$	FTC > 1
McFadden R^2	0.095	0.053	0.109

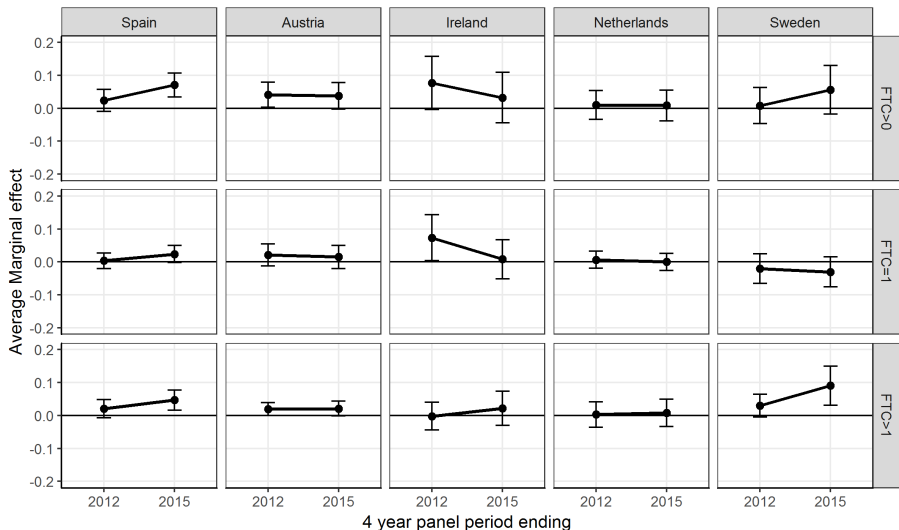- McFadden R^2
  - Represents the improvement from null model to fitted model
  - "...values of 0.2 to 0.4 for rho-squared represent excellent fit." (McFadden, 1979)

Average marginal effect (AME)

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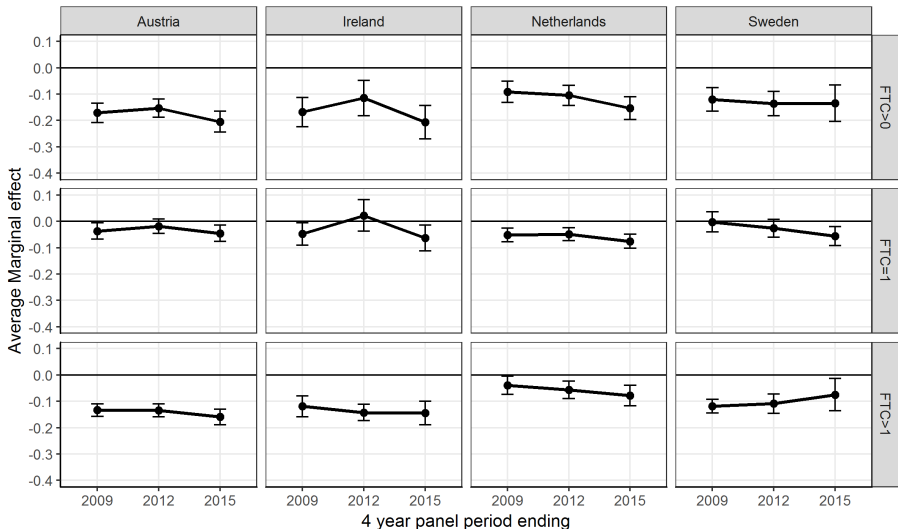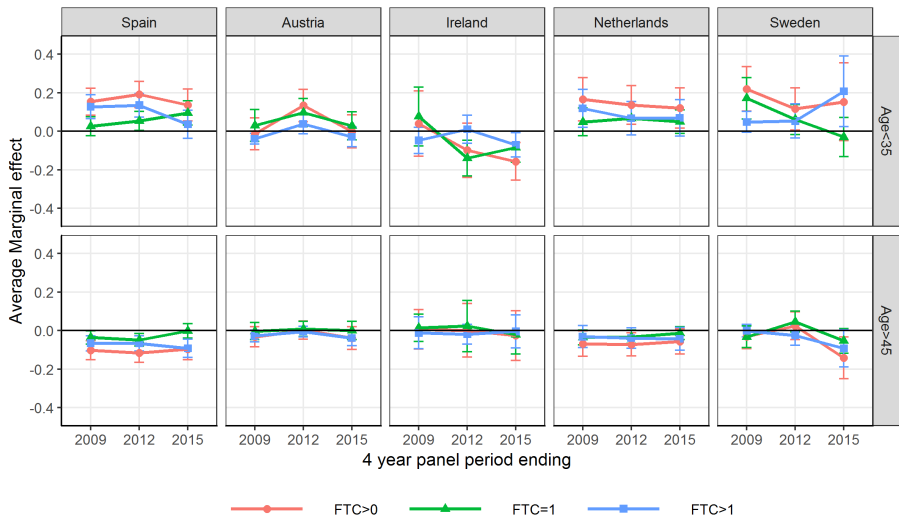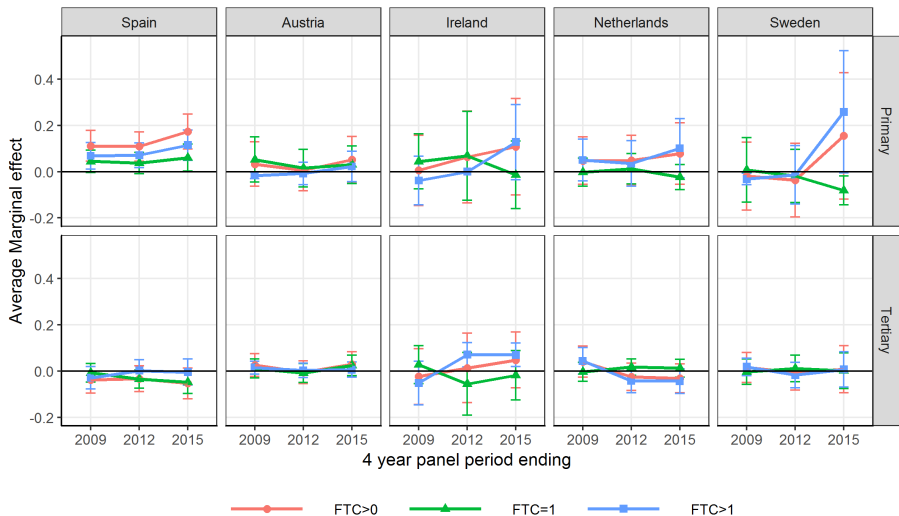Descriptives
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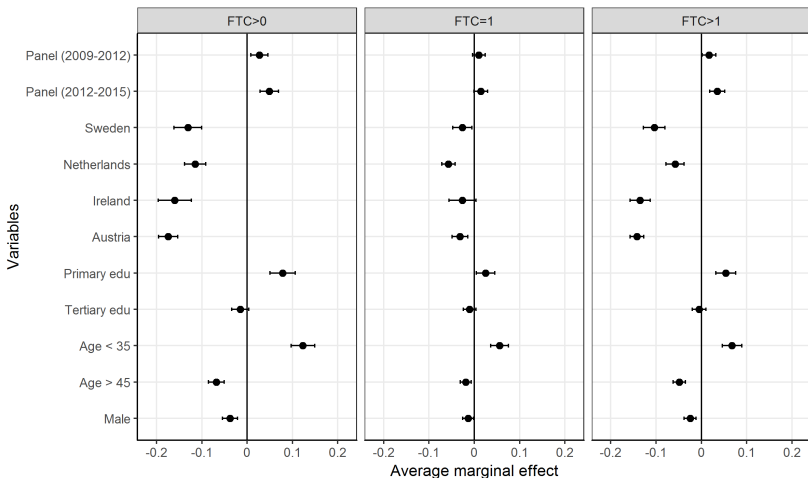
Average marginal effect (AME) of *Period*

Average marginal effect (AME) of *Country*

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Average marginal effect (AME) of *Age*

Average marginal effect (AME) of *Edu*

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Average marginal effect (AME) of *Male*
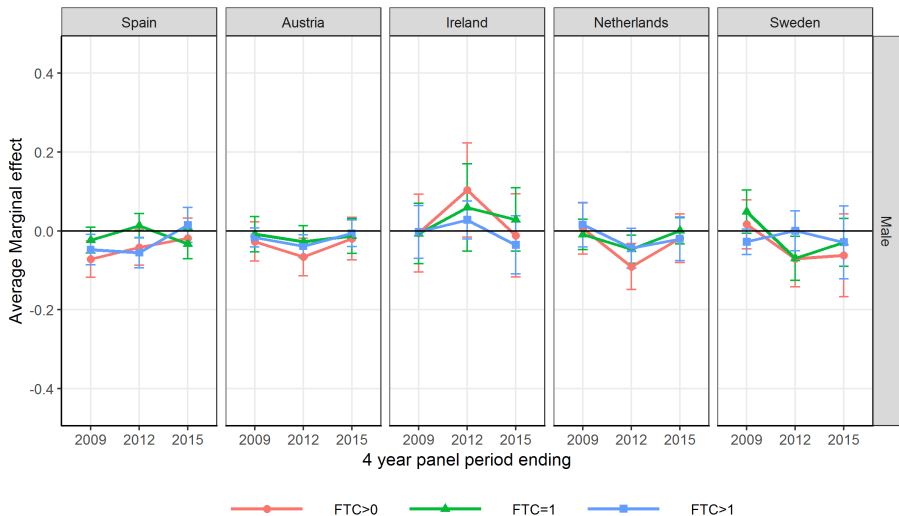
Summary of results

- FTC trends are generally stagnant
- Spain and Sweden are the exception
  - ▶ Spain
    - ★ Rising number of *ever* FTC (+24%)
    - ★ Rising number of *single* FTC (+13%)
    - ★ Rising number of *multiple* FTC (+24%)
  - ▶ Sweden
    - ★ Rising number of *ever* FTC (+9%)
    - ★ Declining number of *single* FTC (-22%)
    - ★ Rising number of *multiple* FTC (+81%)
- Demographic trends are constant

Summary of hypotheses

- Model fit is not good - FTC is more associated with individual characteristics than group characteristics
- H1 (mixed): FTC is rising over time
  - ▶ AME is positive across countries, but . . .
  - ▶ Not everywhere - only Sweden and Spain
  - ▶ Primarily because of rising *multiple* FTC
- H2 (reject): Demographic differences are constant
- H3 (reject): Country differences in risk of FTC > 0 are constant
  - ▶ Countries are similar in the risk of *single* FTC
  - ▶ Countries are different in the risk of *multiple* FTC

Conclusion

- Confirm previous work
  - ▶ FTC is constant over time
  - ▶ The distribution of FTC is also constant over time
- Contribute new knowledge
  - ▶ Risk of *single* FTC is constant
  - ▶ Risk of *multiple* FTC is rising

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Thank you