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Working from home and the explosion of enduring divides: income, employment and safety risk

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The socio-economic consequences of the pandemic
Modelling, empirics and policy designs

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Outline

- Context
- Research Questions
- Data
- Empirical analysis
- Discussion

Covid-19 Pandemic and its (on-going) impact on the labor market

The outbreak of the Covid-19 Pandemic has produced a dramatic shock on national productive structures.

In Europe the adoption of layoff schemes funded by national governments has avoided a massive rise in unemployment.

However, **the impact of the pandemic has not been equal**: the most vulnerable segments of the population (*like temporary, female and irregular workers*) have been hardly hit.

On the other hand, many of those who have continued to work during the lockdown (i.e. *essential workers*) have frequently faced higher risk of contagion and increased workload.

Telework as a “must” in pandemic times

During the lockdown, tele-work practices have been implemented worldwide. According to OECD (2020) 2 out of 5 workers were working from home in April 2020.

In Italy, **between 6,5 and 8 million of workers** were estimated to work from home against the **500.000 teleworkers before the pandemic**. In 2019, only 5.4% of workers in the EU-27 usually worked from home (*constant share since 2009*), with Italy below the European average (3,6%).

From being an opportunity, tele-work becomes a “must” for the majority of workers, despite the absence of clear rules, adequate tools and flexible organisation schemes.

Research questions

The aim of this work is twofold:

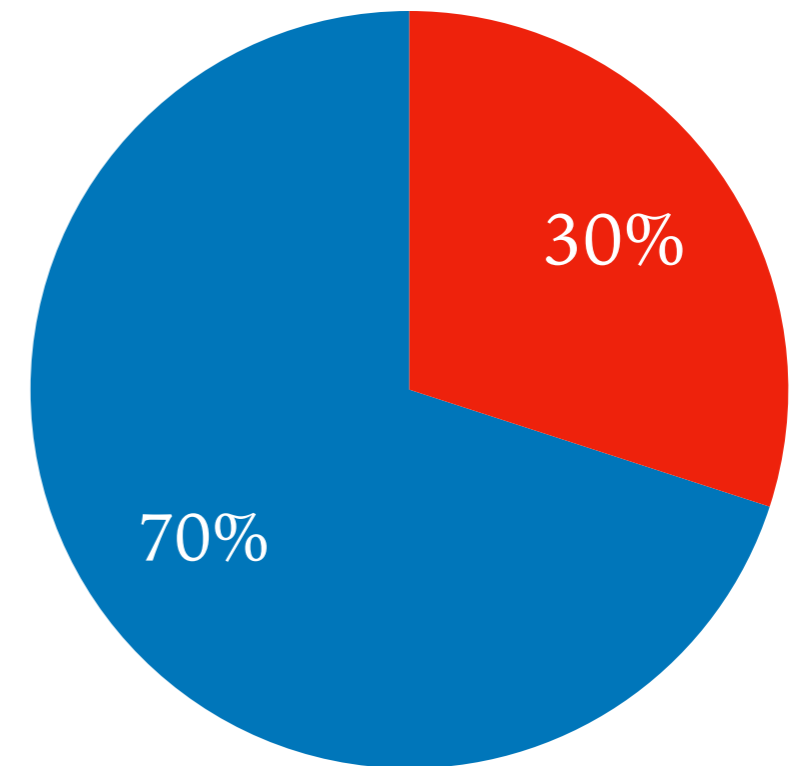
1. Which are the jobs that can be performed from home and those that cannot? How do these jobs distribute across the occupational structure?
2. Which are the socio-economic risks faced by those who cannot work from home? Do *Not From Home* workers face higher unemployment risk, low income risk and health safety at work risk with respect to *From Home* workers?

Database	Description	Original Unit of Observation	Year	Variables of interest
ICP - INAPP & ISTAT	Italian Occupation Survey	5-digit occupations	2012-2016 (ICP II wave)	Selection from: <ul style="list-style-type: none"> ✓ Section G “Generalised Work Activities” ✓ Section H “Working Condition”
Occupations database - INAIL	Database on accidents and fatalities at work	5-digit occupations	2017	<ul style="list-style-type: none"> ✓ Accidents at work ✓ Occupational illness
RFLC - ISTAT	Labour force survey	Individual worker (more than 85.000 observations)	2011-2017	<ul style="list-style-type: none"> ✓ Monthly wage ✓ Employment status ✓ Socio-demographic variables ✓ 4-digit occupation

Not From Home indicator

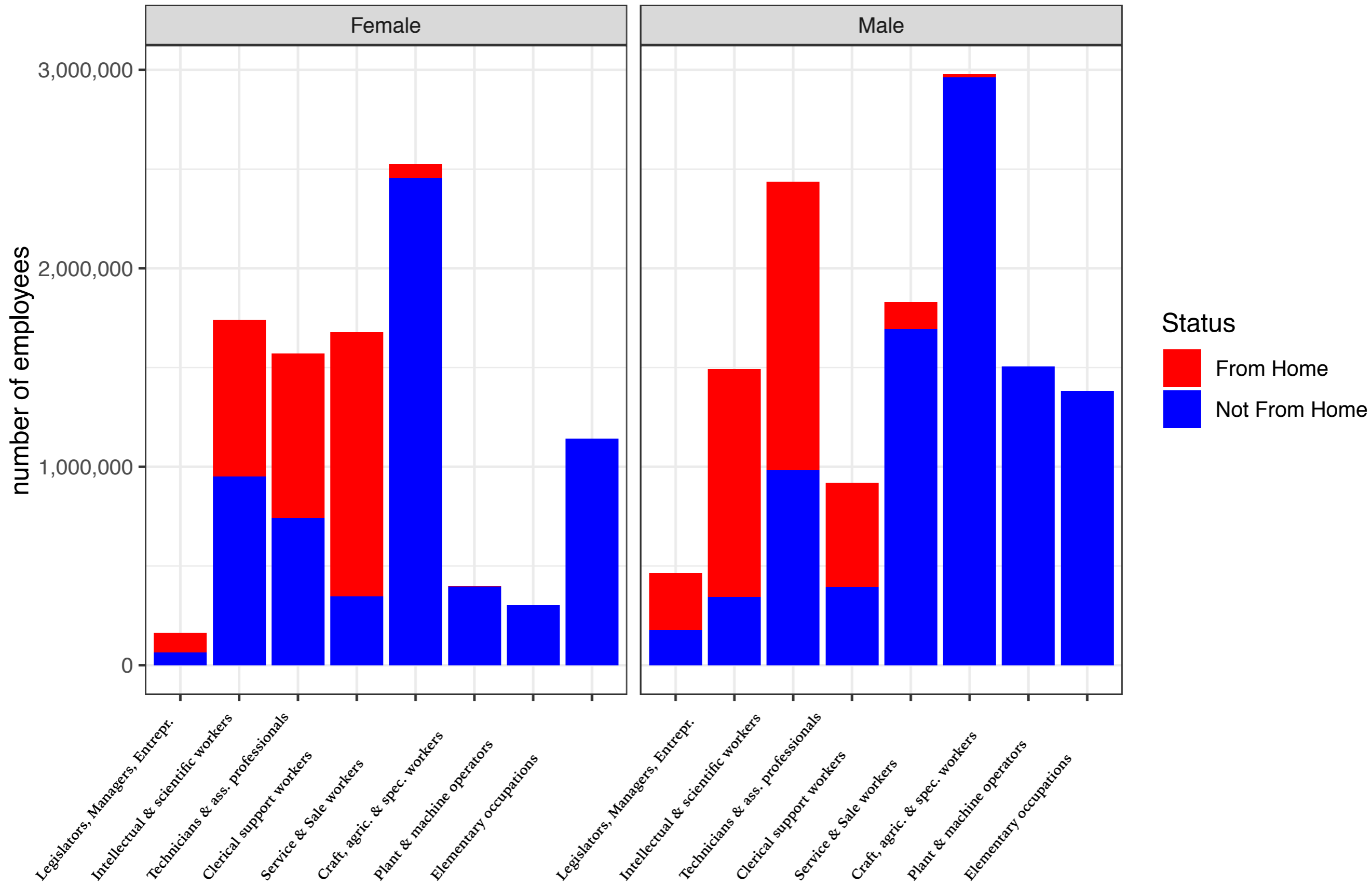
The binary indicator is built following Dingel and Neiman(2020) with few modifications

Subgroup	Questions (n.)	Threshold
Outdoor activities	3	If any question ≥ 60 , then "Not from home" = 1
Use of machine or specific equipment	12	If any question ≥ 60 , then "Not from home" = 1
Bio-chemical risk exposure	5	If any question ≥ 60 , then "Not from home" = 1
Highly physical or manual activities	7	If any question ≥ 60 , then "Not from home" = 1
Social contact	2	If any question ≥ 60 , then "Not from home" = 1
Mail use	1	If any question < 40 , then "Not from home" = 1

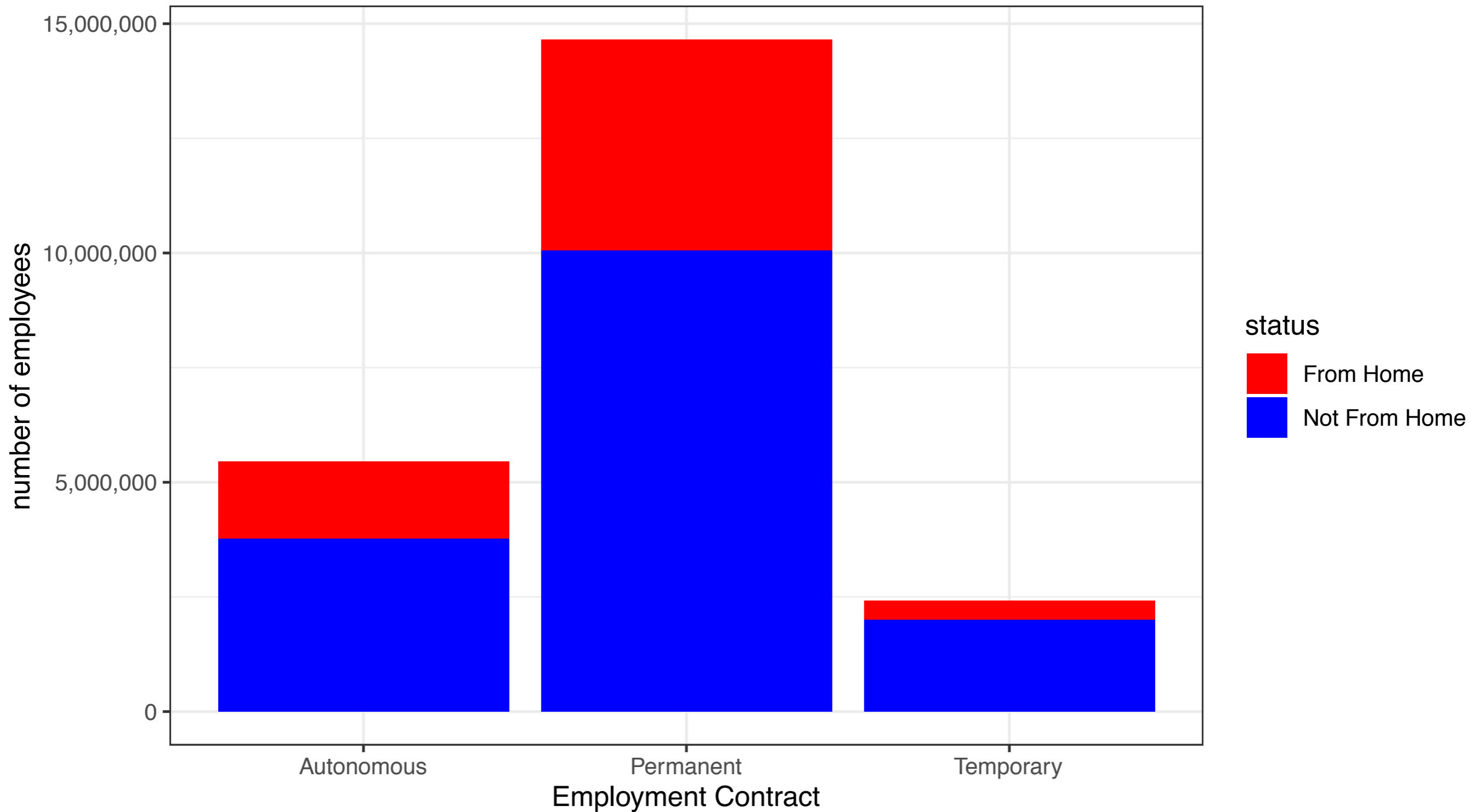


● From Home ● Not From Home

Distribution of *NFH* and *FH* male and female workers across 1-digit groups



Contractual framework of *NFH* and *FH* workers

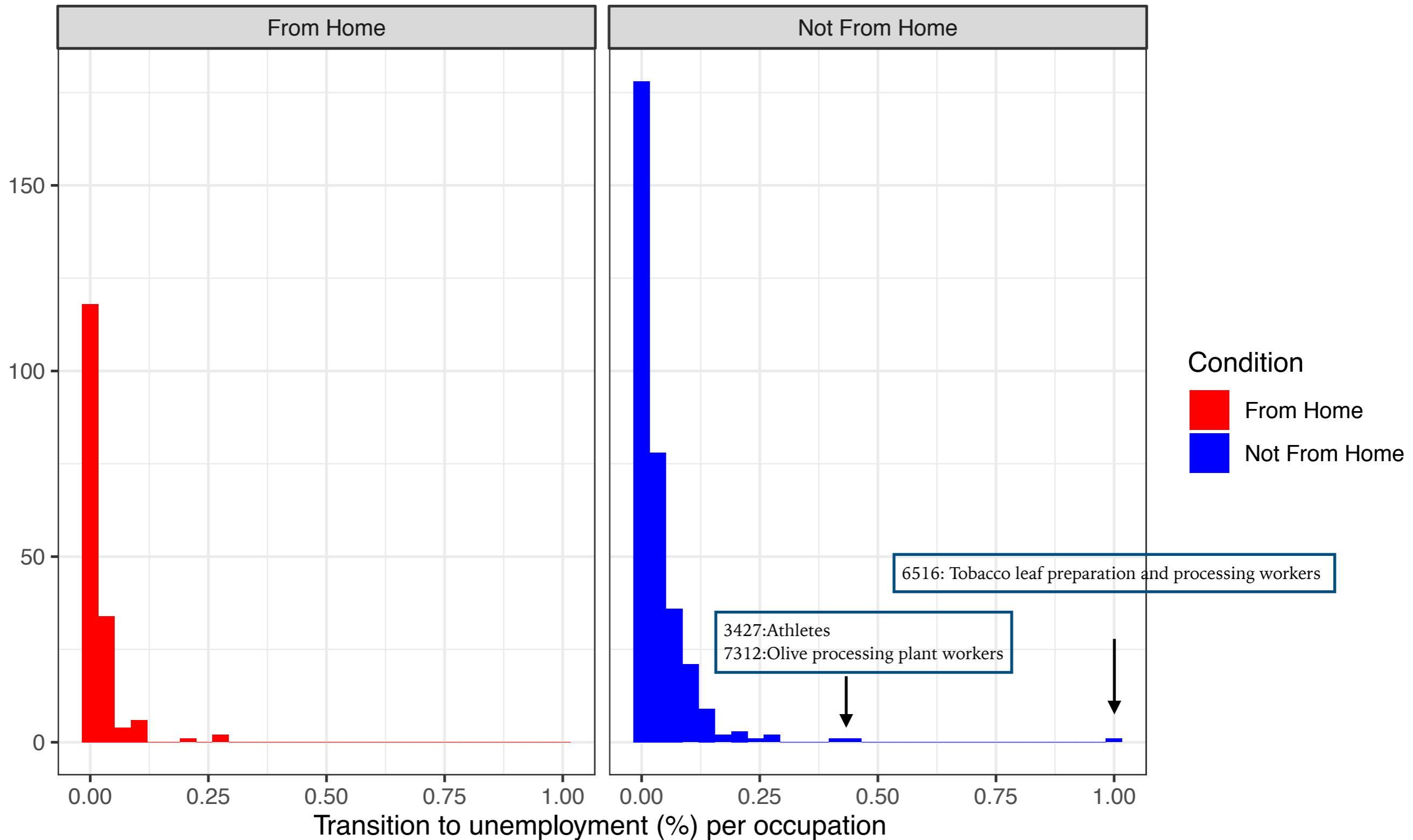


Research questions

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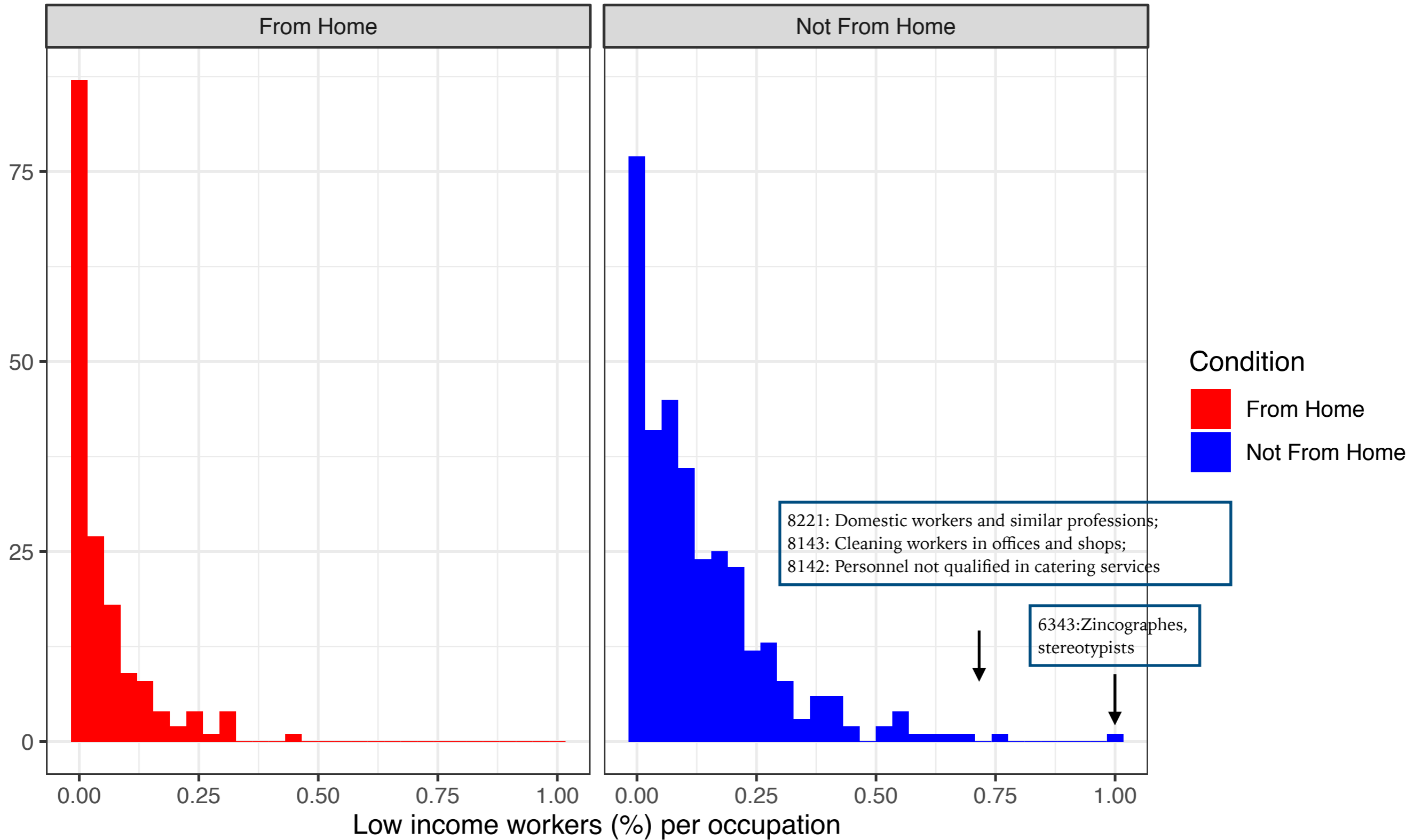
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Transition to unemployment



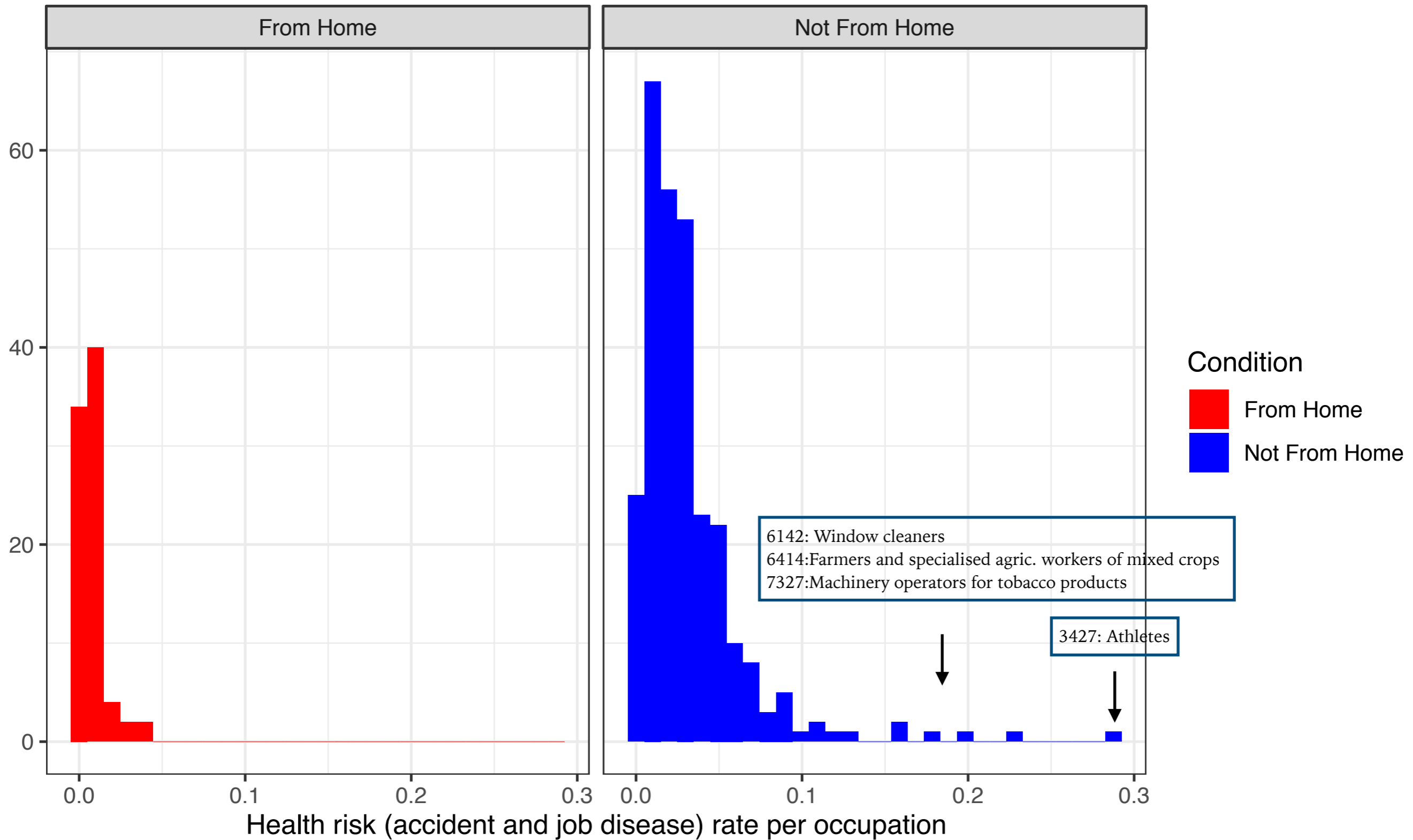
*% transition events by occupation (2016-2017) based on micro ISTAT-ICP (weighted)

Low income



*% low income events by occupation (2016-2017) based on micro ISTAT-ICP (weighted)

High Health Risk



*Accident and job disease rate by occupation (2016-2017) based on ISTAT-ICP

Empirical analysis ⁽¹⁾

The econometric strategy applies the probit binary response methodology.

We estimate for each **individual i** those factors affecting the probability of:

- (1) Transition from employment to unemployment;
- (2) Earning a low wage (*first quartile of the entire income distribution*).

For each **occupation j** those factors affecting the probability of:

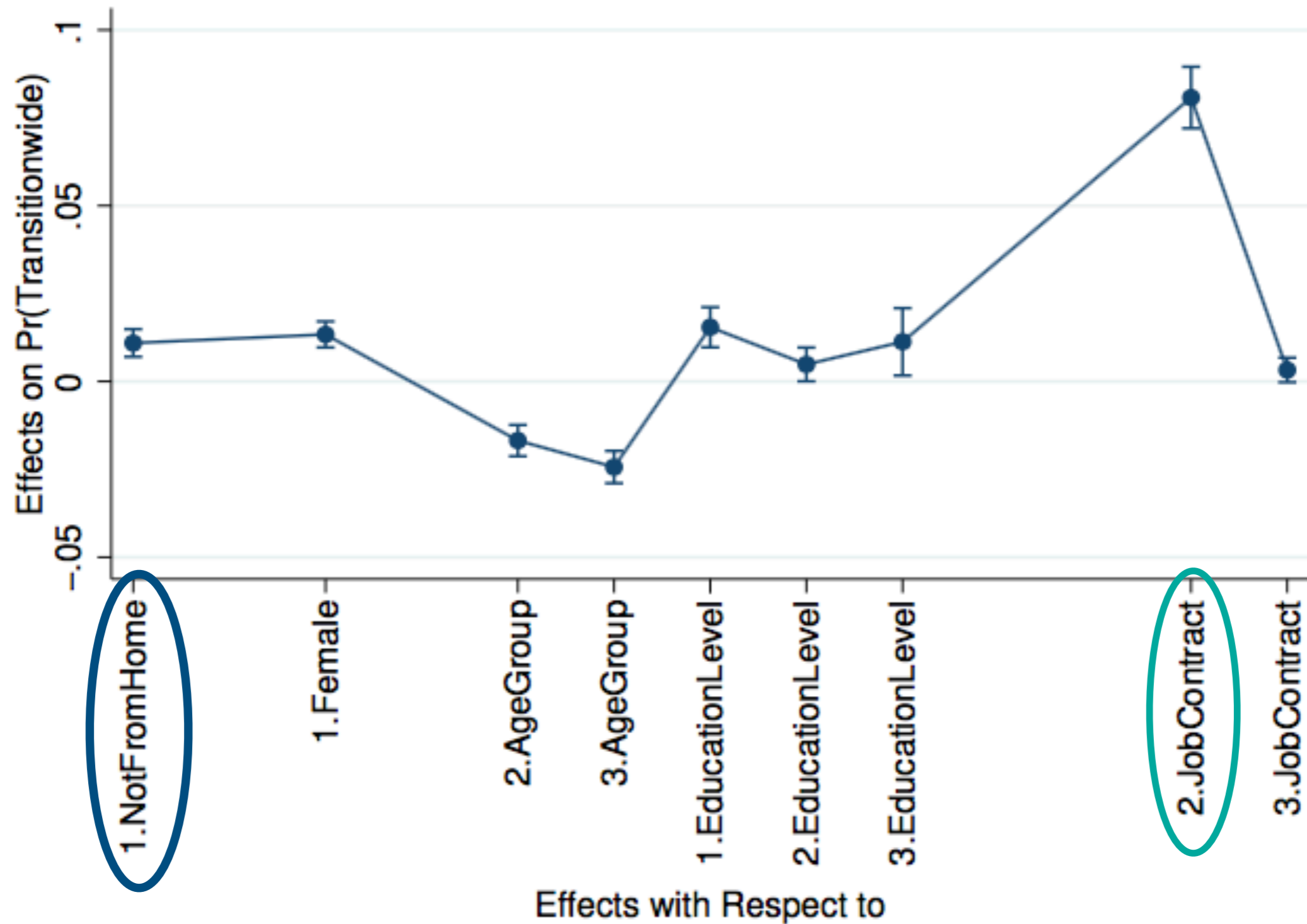
- (3) Facing high health risk at work (*third quartile of the health rate*);
- (4) Earning a low (median) wage (*robustness check*).

Empirical analysis (2)

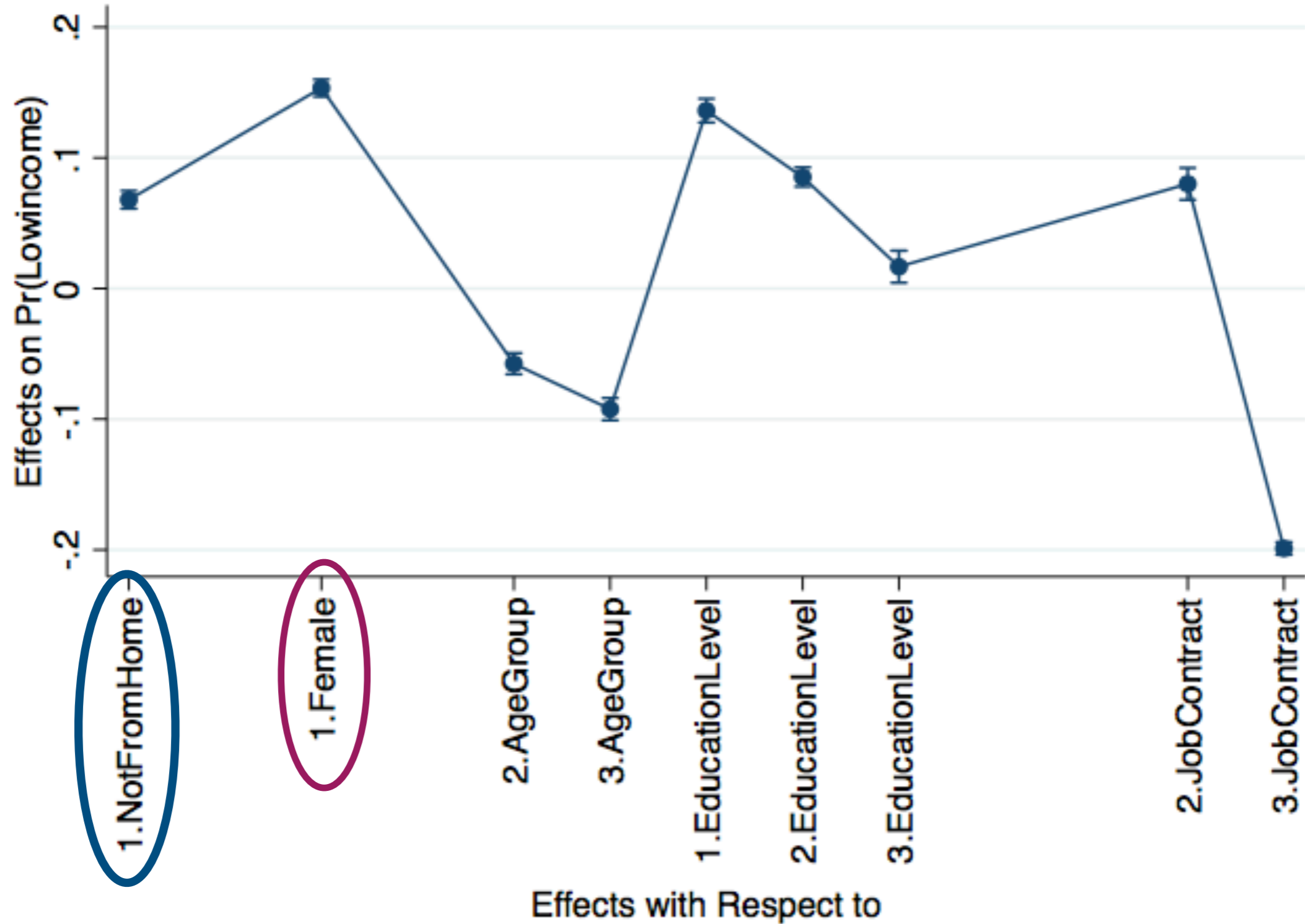
We include a set of explanatory variables:

- i. gender (*female, male*);
- ii. level of education (*lower secondary, secondary, bachelor, master*);
- iii. age group (*16-35, 36-50, 51-70*);
- iv. type of employment contract (*temporary, permanent, autonomous*);
- v. geographical area (*north, south, center*)
- vi. sector (*nace sectors 1-18*)

AME on Unemployment Risk

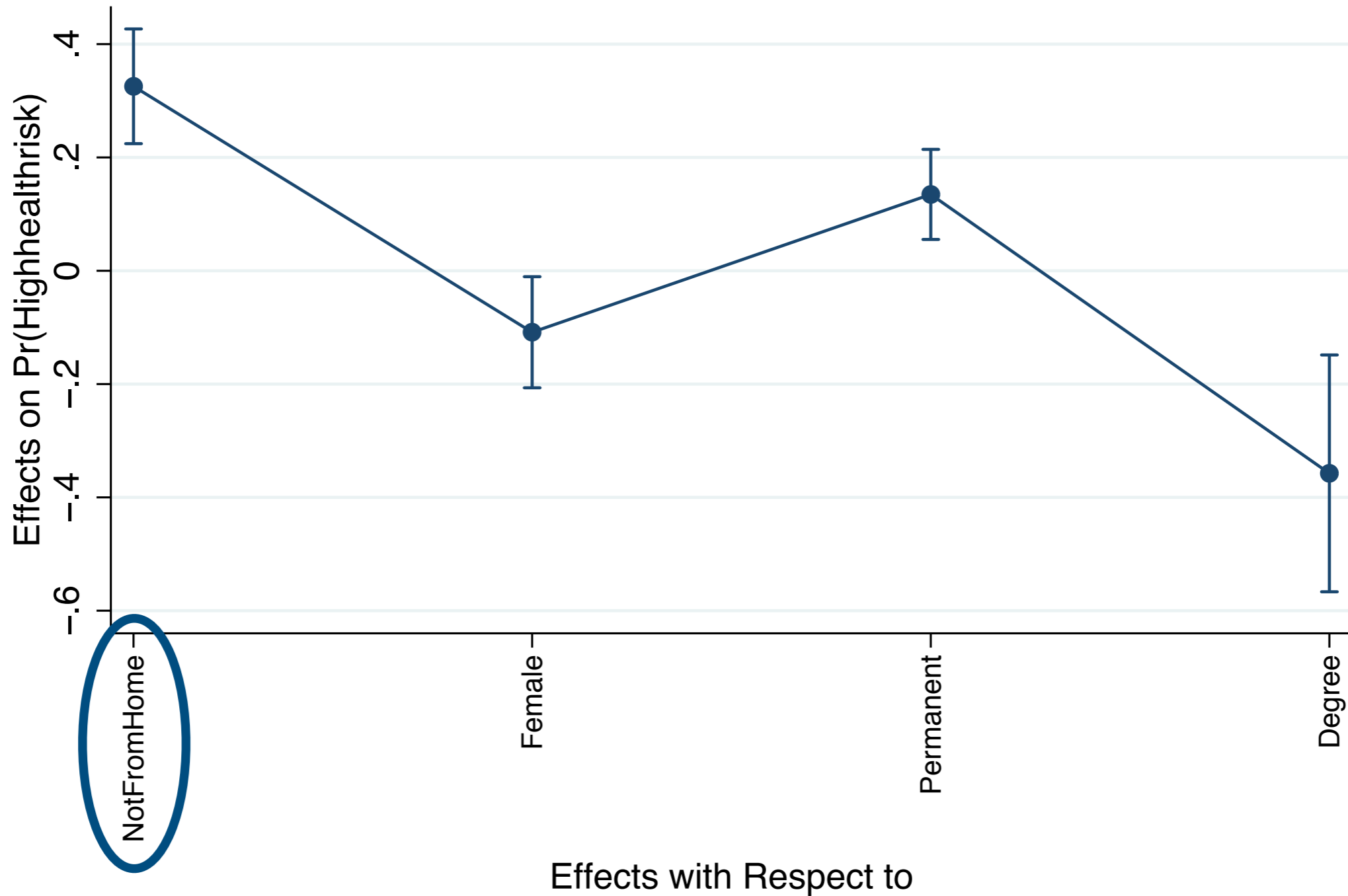


AME on Low Income



AME on Health at Work Risk

Average Marginal Effects with 95% CIs



Risk Stratification

Top 5 *Not from Home* jobs recording conflating risks (*descending order by female share*)

4 digit code	Occupation	Female (share)
8143	Unqualified staff in charge of cleaning services in offices and shops	74
5222	Food preparation, cooking and distribution personnel	72
5122	Retail sales assistants	68
8141	Unqualified cleaning staff in accommodation services and ships	67
5223	Waiters and similar professions	61

Discussion ⁽¹⁾

Performing a *From Home* job represents a possibility only for a limited number of Italian workers: **about 30% of the entire working population.**

Our econometric results show that *NFH* workers record, in normal times, higher probabilities of losing job, earning low wage and experiencing accidents or job illness at work.

First available statistics confirm the higher incidence of job losses among *NFH* and precarious workers during the pandemic.

Despite the utility of tele-work as safety net in time of pandemic, its wide application can also become an **inequality-enhancing mechanism.**

Discussion ⁽²⁾

The distinction of *NFH* and *FH* workers turns out to be revealing of **stratifying vulnerabilities** in terms of income remuneration, employment stability and safety at work.

Public policy intended to guarantee workers' income and job security should account for the **enduring divide** between the two groups of workers.

Furthermore, industrial relations and collective bargaining should address the **regulation of tele-work**, in particular with respect to workers' surveillance, prolonged working hours, unpaid overtime and tools/space suitability for working.

THANK YOU!

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