THE EFFECT OF THE END OF HIRING INCENTIVES ON JOB AND EMPLOYMENT SECURITY

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THIS PAPER

Focus on hiring incentives →

- What happens to the working career of subsidized workers **when HI are in place**?
- What happens **when they end**?

We study the long-term impact of the policy, evaluating the risk of non-employment in a causal setting:

- Higher job security?
- Higher employment security?

WHAT DO WE KNOW ON HIRINGS

- Although the literature is not super-abundant, we have some results on the impact of the **introduction** of hiring incentives on hirings
  - Positive effect of tax credits **on gross but not on net** hires in the **US** (Neumark and Grijalva 2017), **Mexico** (Bruhn 2020) and **Sweden** (Sjögren and Vikström 2015)
  - Positive effect of tax credits on **net employment growth** in small firms in **France** (Cahuc et al. 2019)
- Positive effect on **gross hires** in **Italy** (Ardito et al. 2023)
  - More pronounced in small vs. large firms
  - Small firms substitute temporary for permanent employment
  - Non-marginal workers (prime-age, domestic, high-skilled) in marginal firms (small, non-innovative) are benefitted the most

What happens when the **subsidies are over**?

WHAT HAPPENS WHEN THE SUBSIDIES ARE OVER?

The literature on this aspect is surprisingly scant, despite the widespread use and generosity of this kind of policy

- Batut (2021): in the case of a hiring subsidy designed for small firms in **France** in 2009 separations do not increase once the policy terminates
- Sjögren and Vikström (2015) find that in **Sweden** subsidies lead to a higher probability of pursuing the work relationship after their end; furthermore, increasing the length of the subsidies leads to a higher probability of retaining the job once the incentives are over.
- Delpierre (2019): if workers hired are placed into low-skilled positions, then they are more likely to experience a separation at the end of the subsidized period (**Wallonia**)

HIRING SUBSIDIES IN ITALY IN 2015

- Focus on the hiring incentives introduced in **Italy** with the **budget law for 2015** to support open-ended employment. They consisted of:
  - A **100% reduction** of social security contributions (with a cap at about 8000 euro)
  - For **three years**
- **Eligibility** → all firms (not in agriculture or public sector, or domestic services) hiring with an open-ended contract workers who had:
  - No open-ended contracts in the previous six months
  - No apprenticeship contracts in the same company
- We ask two questions (with a reference to the old debate on flexicurity):
  1. **Job security**: what is the impact of the subsidies on the **duration of the subsidized contract**?
  2. **Employment security**: what is the impact of the subsidies on the **duration of employment** across different jobs?

CAUSAL IDENTIFICATION

- The institutional setting lends itself to a **diff-in-diffs** identification strategy
- The **treated units** are:
  - Workers eligible to the hiring incentive…
  - …who started an open-ended contract during March-December 2015

  → We can estimate an Intention To Treat
- We follow the working career of these workers **until the end of 2019**
- The **control units** are the non-eligible workers who started an open-ended contract in the same time frame

CAUSAL IDENTIFICATION

- The **pre-treatment period** samples the potentially eligible and non-eligible workers who started an open-ended contract during **March-December 2010**, followed until the end of 2014 to allow a comparable observation period before the intervention is introduced

CAVEAT: EPL changes for large firms (>15 employees) in March 2015
→eligible and non-eligible workers should have been affected in the same way
→all analyses by firm size to be on the safe side

* We exclude the first quarter of 2015 (and of 2010) to exclude high-EPL open-ended contracts signed when firms already new that EPL would decrease soon
→ highly selected individuals

CAUSAL EFFECT

- To estimate the causal effect of the existence and the end of the hiring subsidies on the duration of the contract, a non-linear difference in difference (**DiD**) specification has to be fit into a (**competing-risk) duration model** (discrete time):

$$\Pr(Y_{i,t} = k) = \Lambda(\sum_{t=1}^{42} \alpha_t + \beta R_i + \gamma E_i + \sum_{t=1}^{42} \delta_t R_i E_i + \varepsilon X_i + u_i)$$

- In this context, calculating the causal effect is not straightforward. As proved by Blundell and Dias (2009), and Puhani (2012), the average treatment effect is computed in the following way:

$$E[Y_t = k \mid R_t = 1, E_t = 1, R_tE_t = 1, X] - E[Y_t = k \mid R_t = 1, E_t = 1, R_tE_t = 0, X]$$

INTUITION

To estimate the effects of the end of hiring incentives for open ended contracts, we use a comparison of **four** different **hazard rates** of separation each **month**:

- the hazard rates of the eligible workers in regime "before"
- and in regime "after"
- and the hazard rates of the non-eligible workers (the control group) in regime "before"
- and in regime "after"

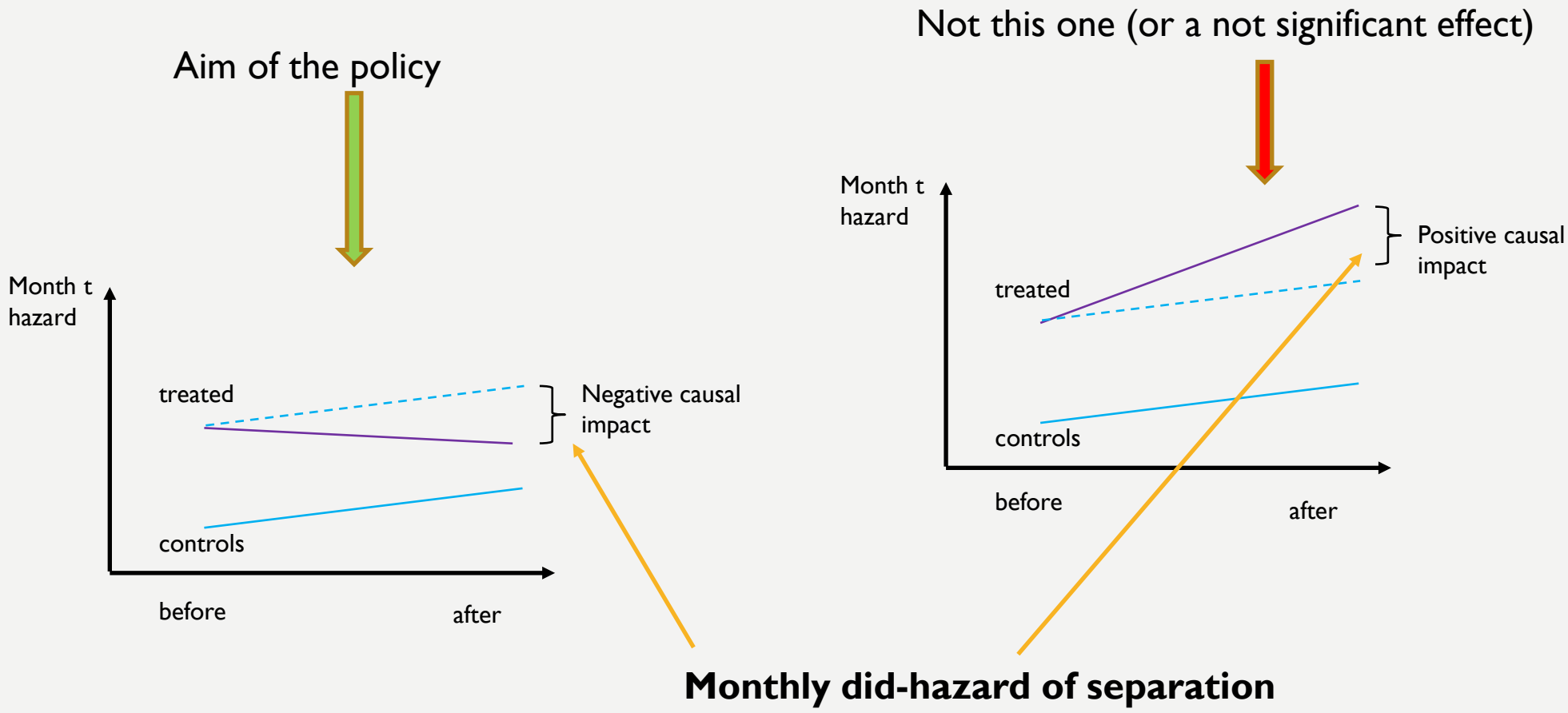
Notice: the hazard of separation is higher for eligible than for non-eligible workers – they are weaker on the labour market and in fact they are the target of the policy.

Will this disadvantage decrease after the policy is implemented?

I.e. we look for a negative did-hazard → the gap shrinks

If we estimate a positive did-hazard → the disadvantage increases

GRAPHICAL INTUITION …



DATA

- The population of **all labour market flows** (including transformations from temporary to open-ended employment) observed in Piedmont, Italy, in the period 2008-2019 (COB data)
  - Piedmont makes around 7% of national GDP and of workforce
- Merged to the **archive of active firms** maintained by the national statistical office to retrieve firm size at the establishment level and account for the discontinuity in EPL legislation (ASIA data)
- **Demographics**: age, gender, nationality, education, domicile
- **Job**: type of contract, time schedule, occupation (ISCO 5-dgt), sector (NACE 5-dgt), start, end and transformation dates

SELECTION ON PARTICIPATION?

Does the policy under scrutiny induces idle persons to join the labour market?

➔To be on the safe side we select only individuals attached to the labour market

➔i.e. we select only those individuals with a job spell in the period preceding their entry in the sample

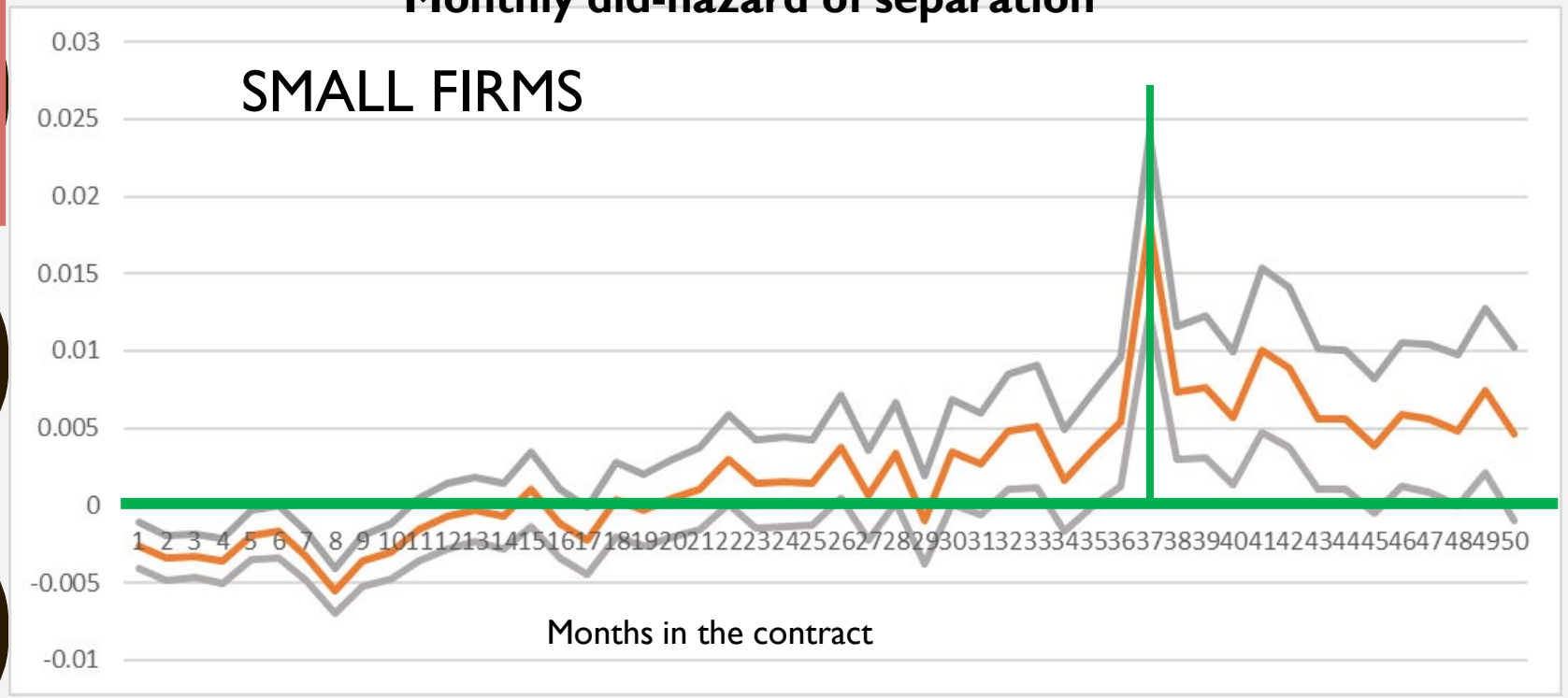
- from 18 months to 6 months before entry

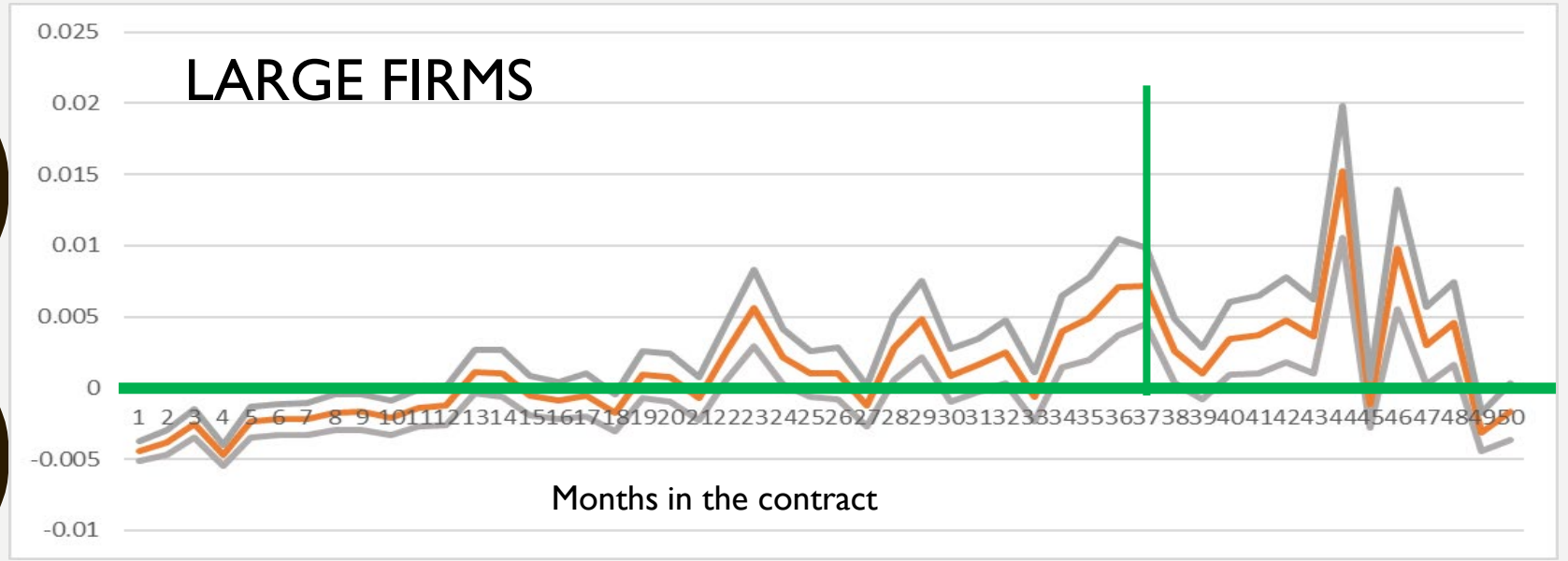
We will see that selection into participation of eligible workers seems important mostly for employment security

Job Security

Focus on the duration of the subsidized open-ended contract.
Do they last longer than unsubsidized ones (in a causal sense)?

Monthly did-hazard of separation





Short lived protective effect
Benchmark hazard (hazard of the treated in the period pre) for eligible workers in the first 6 months (average)

Small firms: 0.0779468
Large firms: 0.0310606

➔ Very small decrease in the hazard

Peak of separations at or around the 37th month
Benchmark hazard for eligible workers at month 37

Small firms: 0.033
Large firms: 0.018

➔ The hazard doubles

Large firms: peaks at month 40+ are likely due to mergers – to be checked

The protective effect is less pronounced if we do not control for selection into participation

A CLOSER LOOK

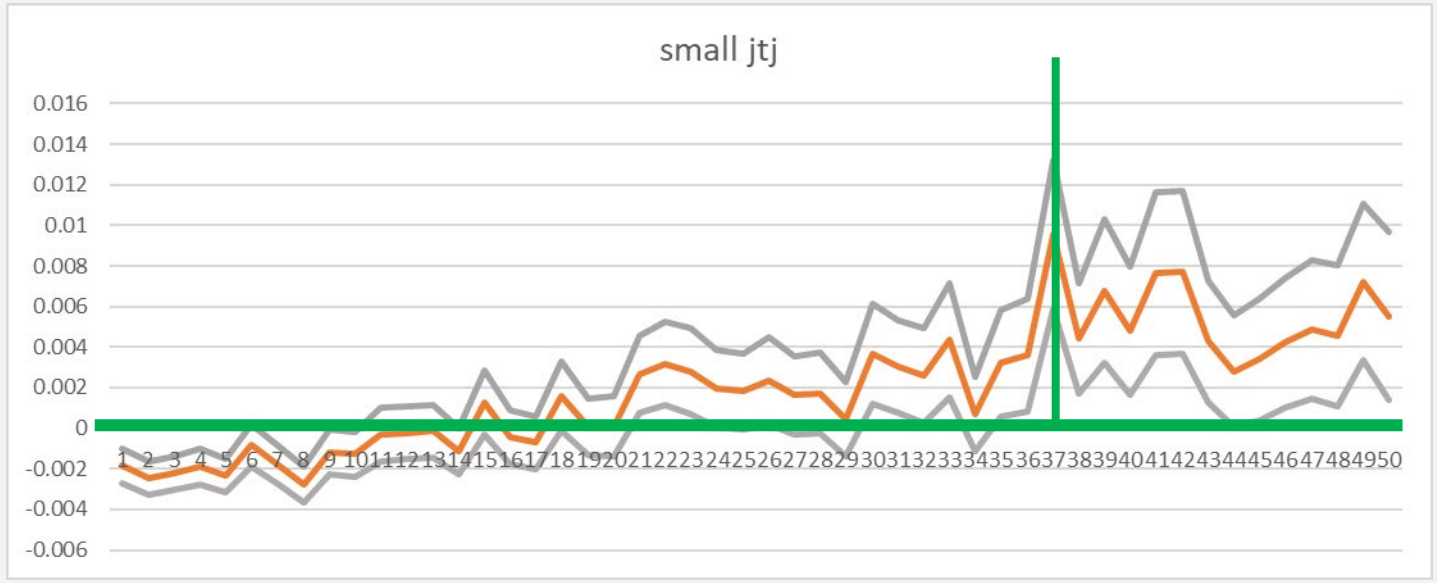
Subsidized job can:

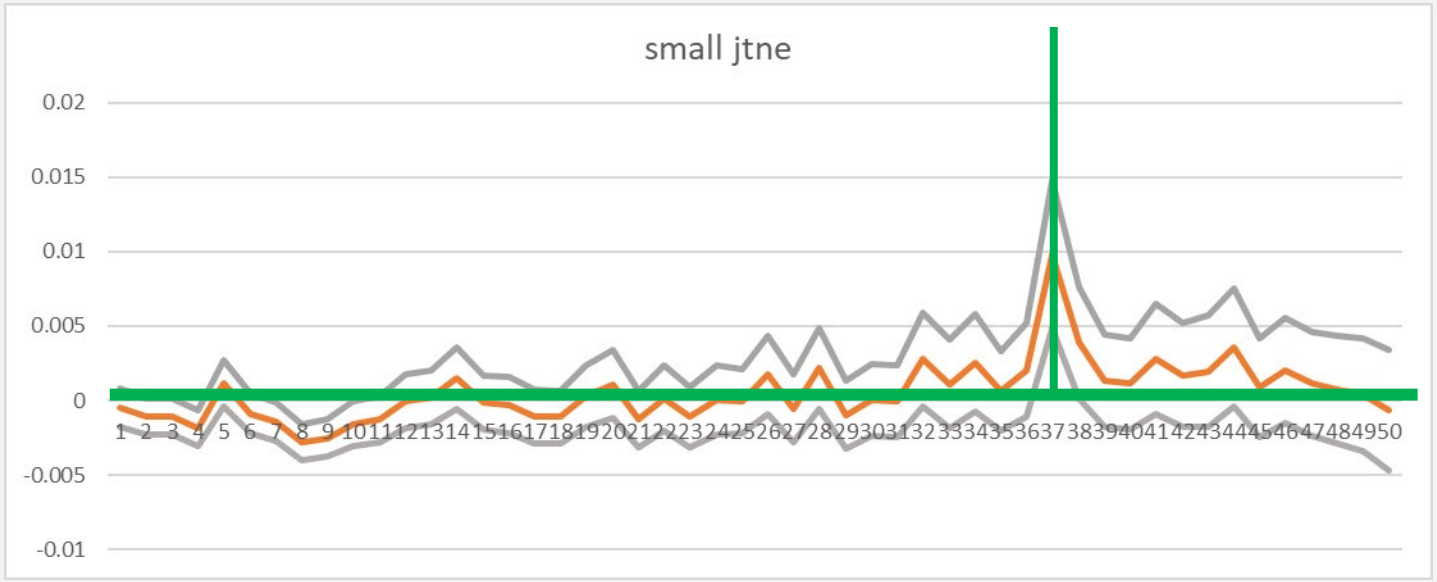
- Continue
- End in a job-to-job transition
- End in non-employment

→ competing-risk duration model

SMALL FIRMS

Monthly did-hazard of separation

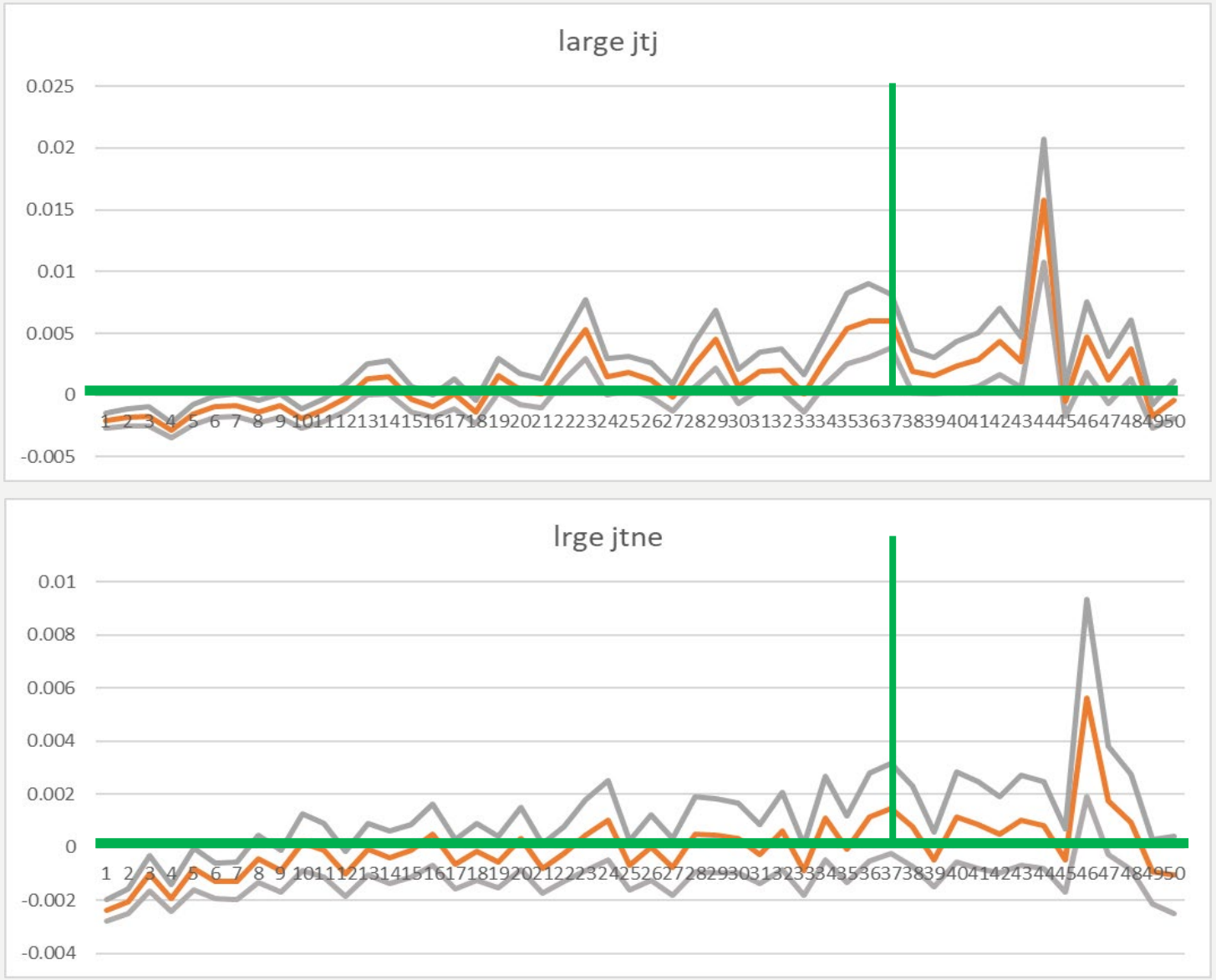




- **A protective** effect is mostly visible in the first 9 months of the job spell for those who will then move to another job
- Then increasing trend of jtj exits
- The subsidy causes a **peak of separations** at its end, i.e. after 36 months, both outcomes
- No other significant impact on jtne

LARGE FIRMS

Monthly did-hazard of separation



- Protective effect in the very first months of the job spell, both exits
- Excess jtj movements appear after two years of tenure
- No other significant impact on jtne

HETEROGENEITY

- By gender, nationality, age, education, occupation, skill, being incumbent, sector, innovativeness of the sector
- Only **native** Italians and **graduate** workers do not face a significant increase in the hazard of job termination at month 37

SUMMING UP – JOB SECURITY

- The disadvantage of eligible workers wrt the risk of separation does not disappear in the long run

→Short lived protective effect

→Then no significant effect

→Finally a peak of separations at the end of the subsidy

- However, an excess of jtj movements emerges in the long run
- Do they lead to higher employment security?

Employment Security

Focus on the duration of "uninterrupted" employment spells starting with the open-ended subsidized job.

Do they last longer than employment spells starting with an unsubsidized job (in a causal sense)?

ESTIMATION STRATEGY

Same as above, with some **relevant changes**

- Instead of the single OE contract, our unit of analysis will be a reasonably **uninterrupted spell of employment**, i.e. where breaks last less than one quarter (any kind of contract after the first one)
- Or – as a further check - where breaks last less than two quarters
- Time is measured in **quarters**

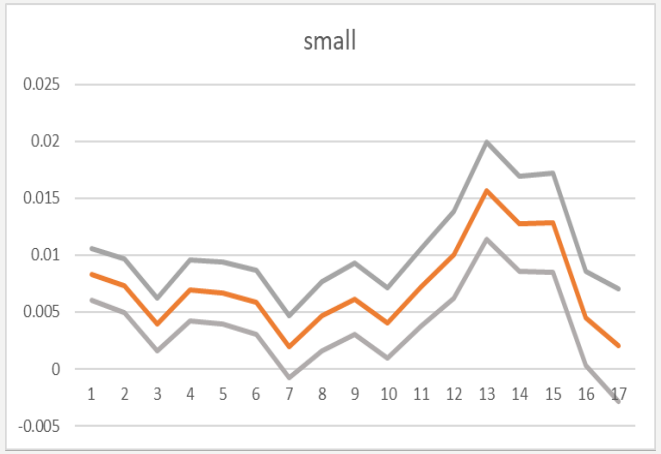
UNINTERRUPTED EMPLOYMENT SPELLS (UP TO 1Q OF NON-EMP)

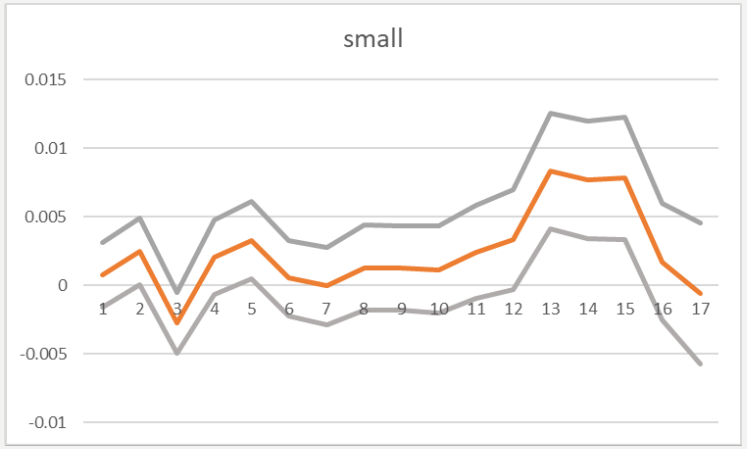
A large share of employment spells is made of only one job spell
→ they are a mix of job and employment security
→ focus only on employment spells made of more than one job spell

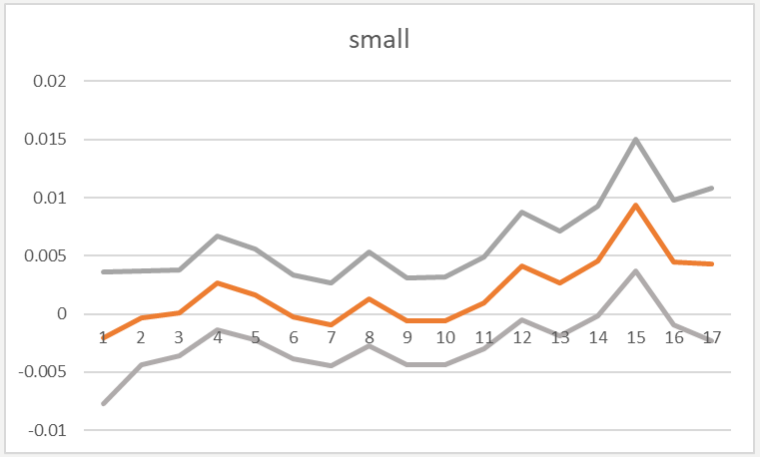
No selection on participation

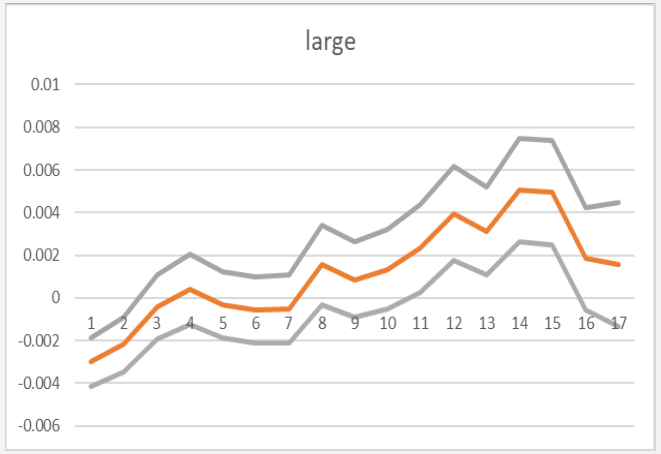
Yes selection on participation

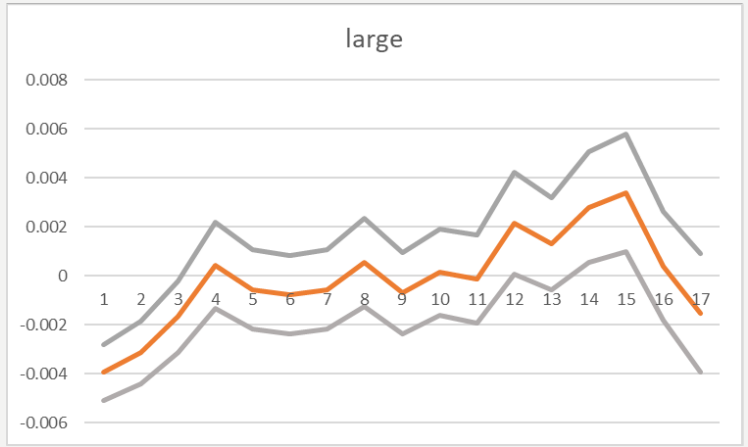
Selection & many spells

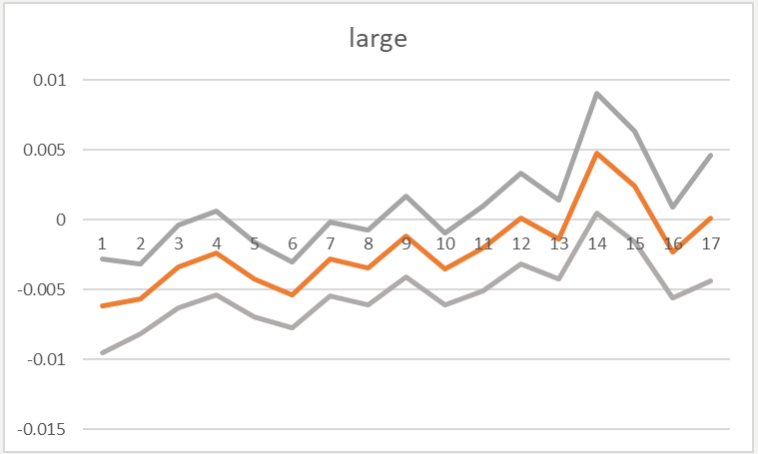












UNINTERRUPTED EMPLOYMENT SPELLS (UP TO 2Q OF NON-EMP)

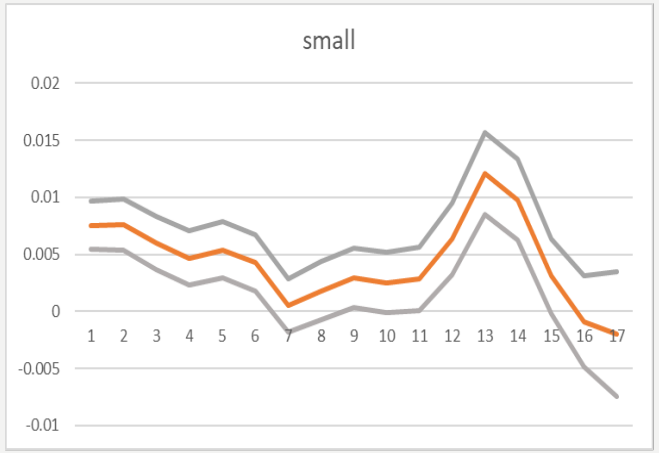
Same message

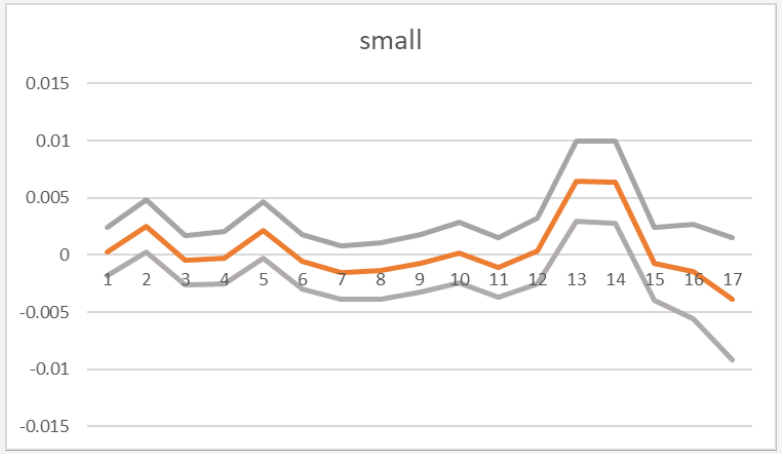
Longer but small and not permanent protective effect

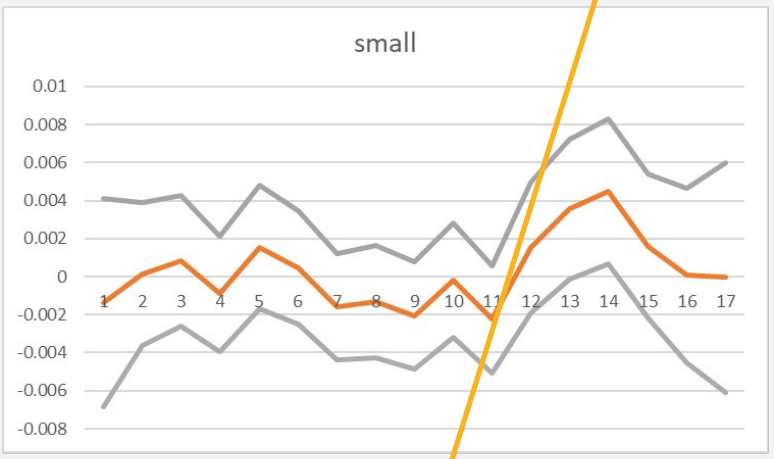
No ER selection-all spells

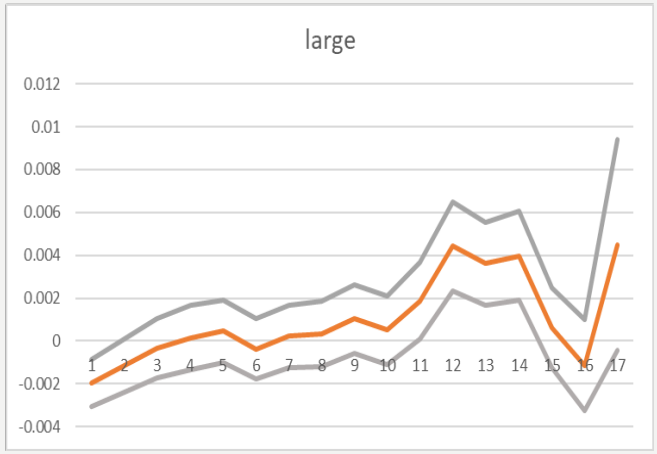
ER all spells

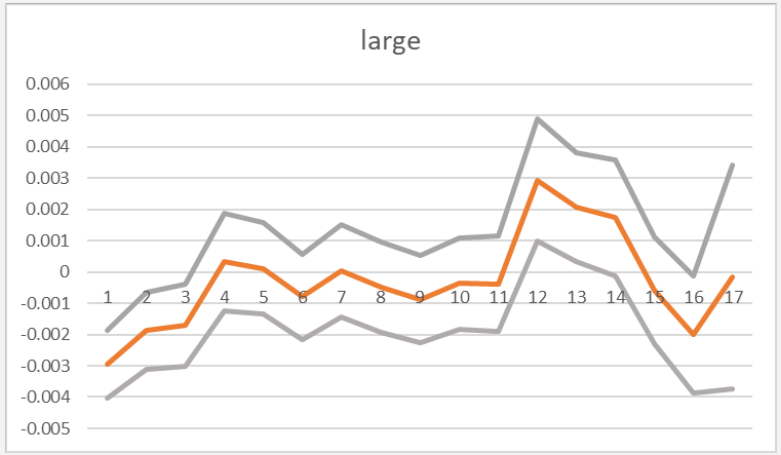
ER many spells

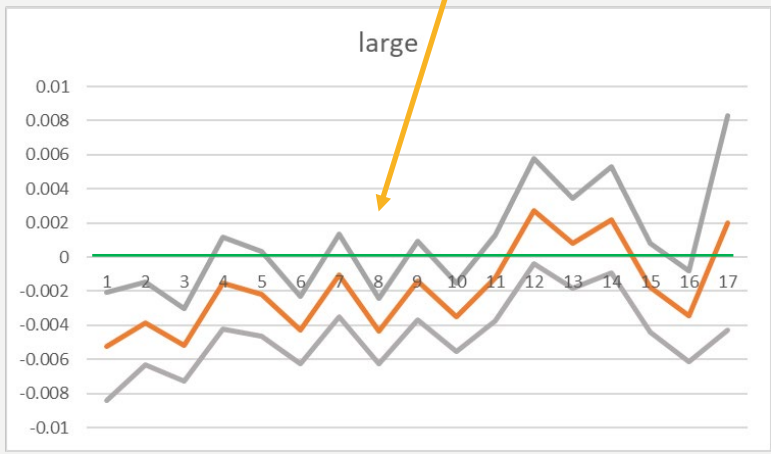












HETEROGENEITY

- No subset of workers enjoy a protective effect in the long run
- Young or high-skilled workers show a negative did hazard in quarter 17 only

TO SUM UP

- The subsidy causes a **peak of separations** at its end, i.e. after 36 months
- Individuals **not** experiencing the peak of job termination at month 37 are somehow higher human capital workers (graduates)
- A short lived and small protective effect emerges on the subsidized job
- The excess jtj movements does not result in a protective effect in the long run in the ability to gain employment security (only maybe for young or high-skilled workers)

The absence of a permanent decrease in the hazard of experiencing a long non-employment spell is the most negative aspect emerging from our work:
costly hiring subsidies are not effective in promoting long lasting employment security for the beneficiaries