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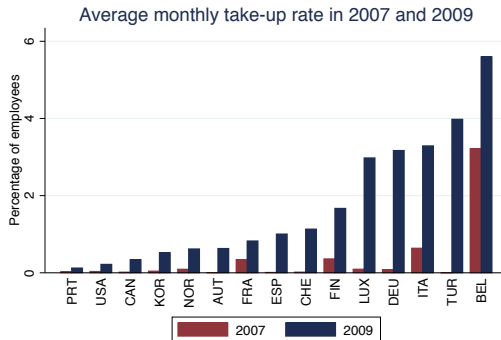
Gli effetti della Cassa Integrazione Guadagni in tempi di crisi *Short-time work programs at times of crisis*

Giulia Giupponi Camille Landais
London School of Economics

Motivation

Short-time work (STW)

- Subsidy for hour reductions to firms experiencing temporary shocks
- Two potential objectives:
 - ▷ **Insurance:**
Insure workers against variations in employment at “intensive” margin as opposed to extensive margin (layoff)
 - ▷ **Stabilization:**
Prevent potentially excessive layoffs in response to shocks and stabilize unemployment
- Policy tool **aggressively used during Great Recession**, especially in Italy



- Yet, **little knowledge about effects of STW** on firms and workers
 - ▷ Lack of good-quality data
 - ▷ Lack of credible sources of identification

This project: Uncovering the effects of STW

- Leverage **unique data from INPS** records and **unique policy setting**:
 - ▷ Universe of administrative data on STW at individual and firm level
 - ▷ Quasi-experimental variation from Italian STW policy rules
- Offer compelling evidence on effects of STW:
 1. On contemporaneous firms' **employment, output and balance sheet**
 2. On **long-term effects** of STW on firms and workers
 3. On **reallocation** in the labor market

Institutional features of the Italian STW program

Cassa Integrazione Guadagni

- Subsidy for hour reductions available to workers in the private sector
- Replaces about 80% of foregone earnings due to hours not worked
- **Weak conditionality requirements:**
 - ▷ Simply provide justification for economic need & recovery plan
 - ▷ No prohibition of dismissals/layoffs
 - ▷ Workers: No training provision or search requirement
- **Minimal cost to firm** \approx 3-4.5% of subsidy

Cassa Integrazione Guadagni Straordinaria (CIGS)

- Main pillar of STW during Recession
- Targets **severe firm shocks**: company crisis, restructuring, reorganization and insolvency
- Duration = up to 12 months (with possibility of extension)
- **Eligibility requirements:**
 1. **Size**: having employed more than 15 FTE employees in 6 months prior to application
 2. **Industry**: operating in specific industries (essentially within manufacturing, construction, retail and transportation sectors)

Identifying effects of STW during the Great Recession

- **Causal effect** of STW:

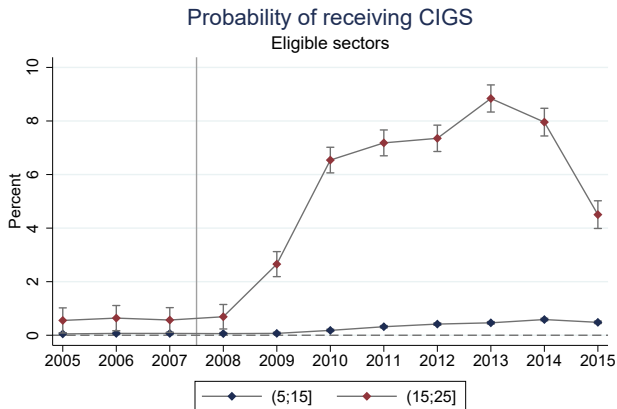
- Take two identical groups of firms / workers
- Randomly choose one group and give them access to STW
- Compare for two groups outcomes before vs during Recession

- Our **quasi-experimental design**:

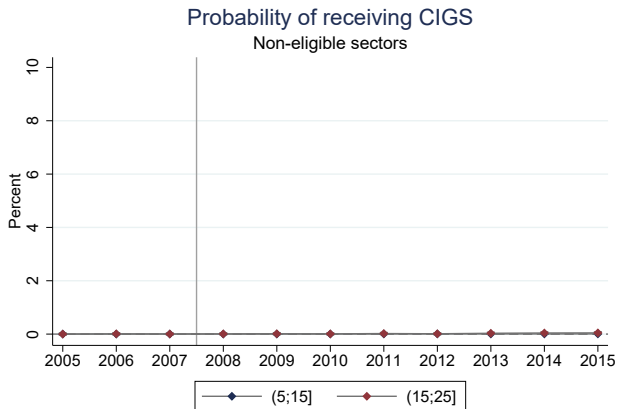
Exploit variation in eligibility for CIGS based on **size** and **industry**

1. Compare firms **just above and below the 15-FTE threshold** in eligible industries
2. Control for effect of other policies changing at 15 threshold using **non-eligible industries in similar sectors**

Quasi-Experimental Design: CIGS Treatment

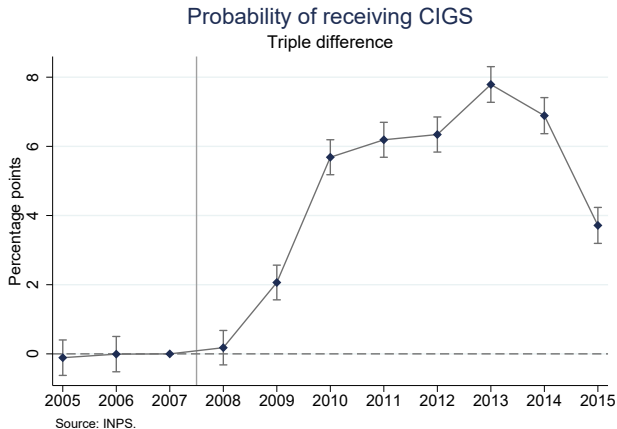


Quasi-Experimental Design: CIGS Treatment



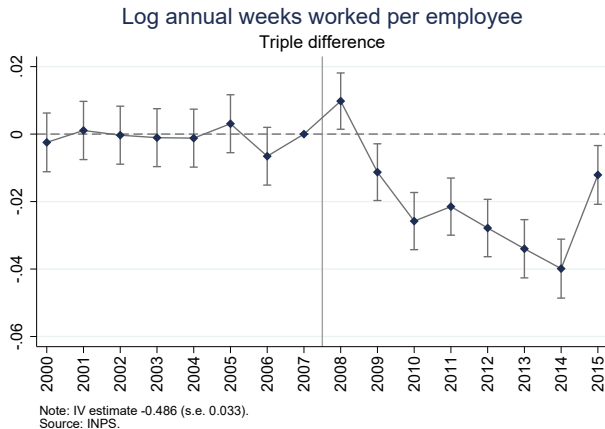
Source: INPS.

Quasi-Experimental Design: CIGS Treatment



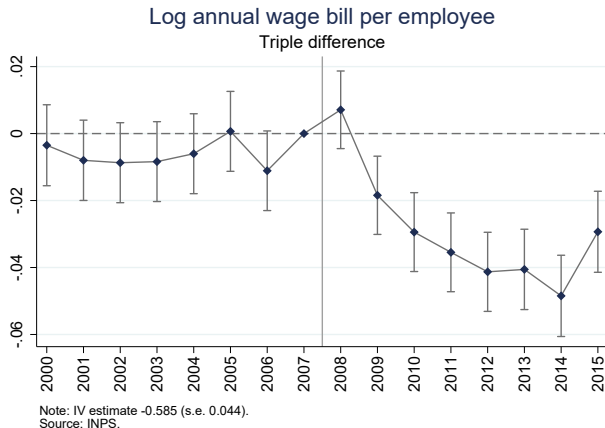
Other programs

Employment: Large negative intensive-margin response



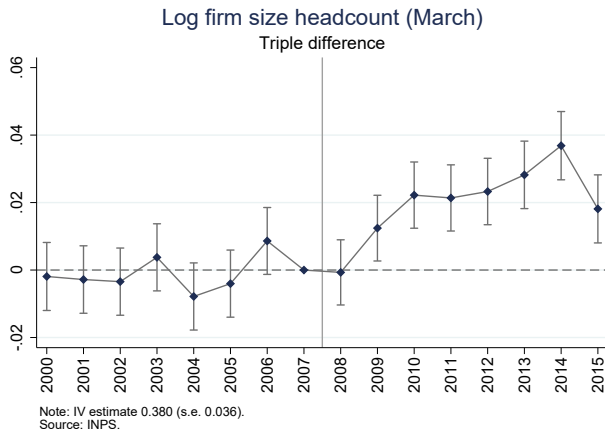
- ▷ **STW decreases # of weeks worked per employee by $\approx 40\%$**

Employment: Large negative intensive-margin response



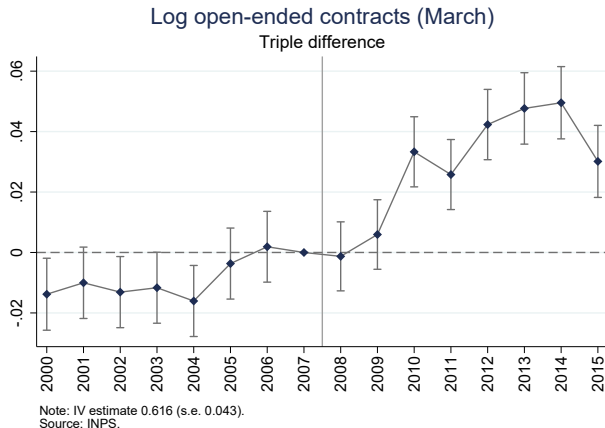
- ▷ **STW decreases wage bill per employee by $\approx 45\%$**

Employment: Large positive extensive-margin response



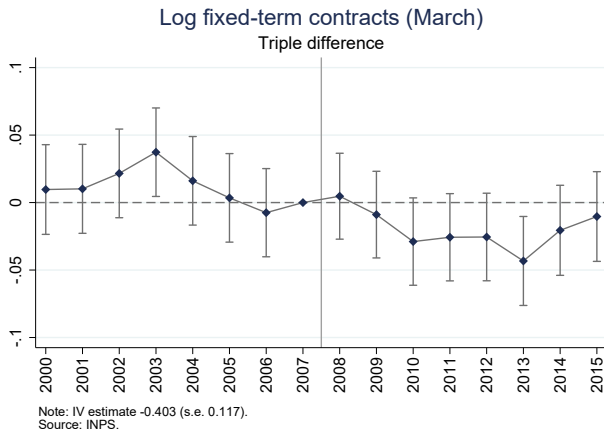
▷ **STW increases headcount employment by $\approx 45\%$**

Employment: Dual labor market effects



- Open-ended employment largely benefits from STW: ↑ by $\approx 85\%$

Employment: Dual labor market effects

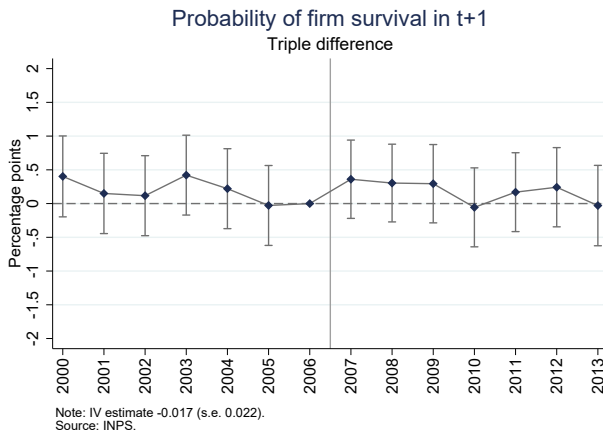


▷ While fixed-term contracts are substituted away: ↓ by $\approx 35\%$

Decomposition of employment effects

- Positive effect on employment is primarily due to ↓ **in outflows**
- This is entirely to the **benefit of workers on open-ended contracts**:
 - Experience sharp reduction in outflows
 - And only mild reduction in inflows
- **Fixed-term contracts used as buffers**:
 - Suffer large increases in outflows

No effect on firm survival



- ▶ Firm survival one year after increases by less than 2%

No effect on output or productivity

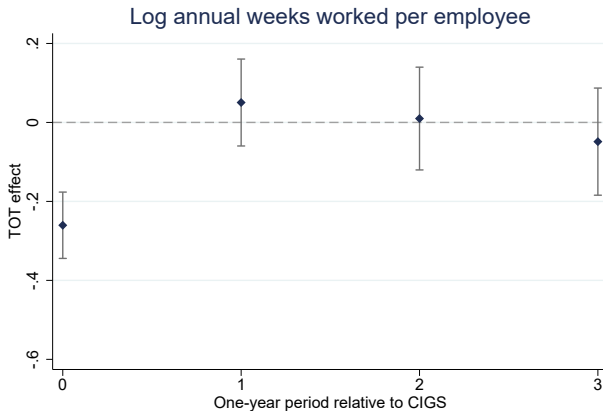
Balance-sheet outcomes				
	Revenues per weeks worked	Profits per weeks worked	Labor productivity	Liquidity / Total assets
CIGS	2.529 (4.251)	0.264 (2.450)	1.644 (1.710)	4.260* (2.311)

- ▶ **STW does not affect revenues or profits**
- ▶ **But increases firms' liquidity**

Dynamic effects

- Previous analysis captures **contemporaneous** effects of STW on firms
- Important to also uncover **dynamic** effects of STW take-up on outcomes in subsequent years
- Explore dynamic effects of STW
 - ▷ On firms
 - ▷ On workers, to capture longer term insurance value of STW
- Develop methodology to identify long-term effects when treatment is dynamic

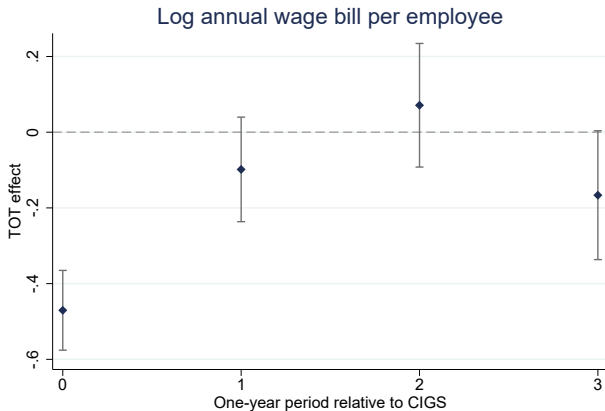
Employment effects dissipate immediately after treatment



Source: INPS.

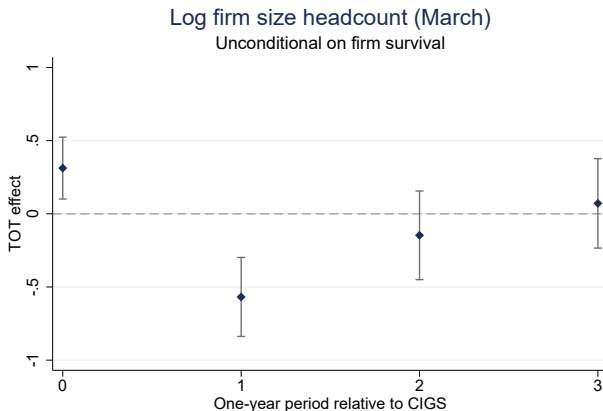
- ▷ **1 year after treatment, intensive margin responses disappear**

Employment effects dissipate immediately after treatment



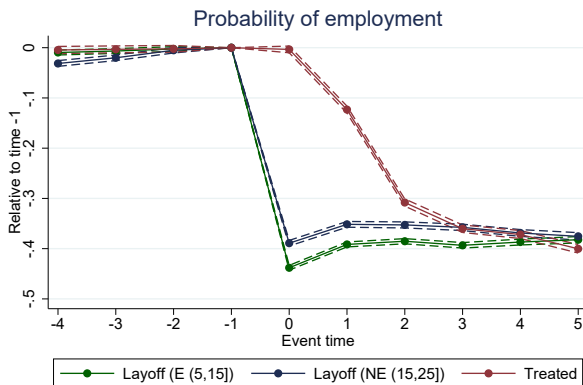
- And wage bill per worker goes back to previous level

Retiming in extensive employment response



- Positive effects on employment during treatment get reversed when treatment disappears (intertemporal substitution)

Limited positive long term effects for workers



Note : Conditional on individual and calendar year fixed effects.
Source: INPS.

- ▷ STW workers not more likely to be employed in medium or long run
- ▷ No effect on earnings in medium or long run Earnings

Reallocation effects: Selection and heterogeneity

- To assess reallocation effects and welfare consequences of STW programs, key to understand:
 - Which firms are more likely to take up (*selection*)
 - How the effect of STW varies across different firms (*heterogeneity*)
- Three questions:
 1. : Are firms taking up STW the most likely to layoff workers absent STW?
 2. : Is STW just subsidizing low productivity firms?
 3. : Is STW helping financially constrained firms?

Reallocation effects: Selection and heterogeneity

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 - STW well targeted = firms that take it up most would have laid off workers absent STW
 2. : Is STW just subsidizing low productivity firms?
 3. : Is STW helping financially constrained firms?

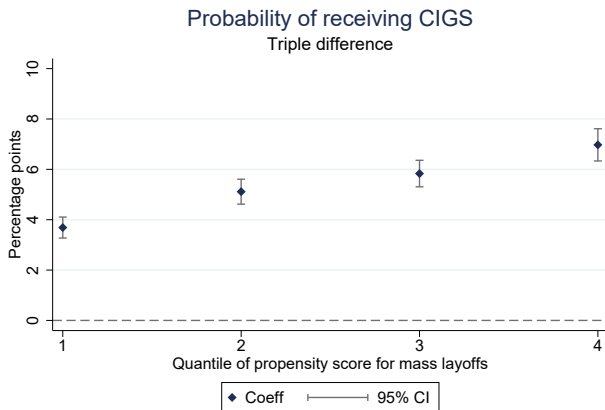
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 - If low-**productivity** firms select more, then STW subsidizes low-productivity matches and prevents efficient reallocation of labor
 3. : Is STW helping financially constrained firms?

Reallocation effects: Selection and heterogeneity

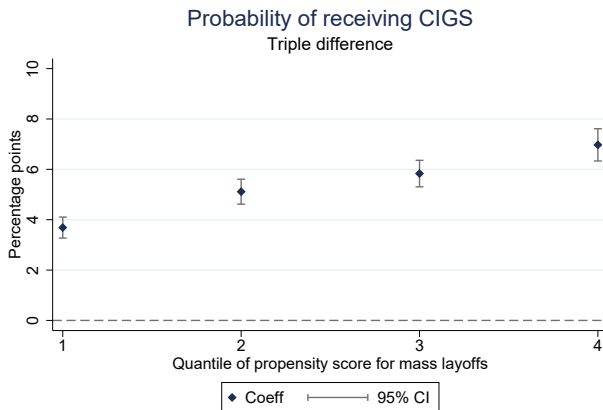
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 3. : Is STW helping financially constrained firms?
 - If **financially constrained** firms select more, STW injects liquidity and may prevent excessive layoffs

Firms more likely to layoff have larger take-up rates



- Create model to predict mass layoffs using non-eligible firms

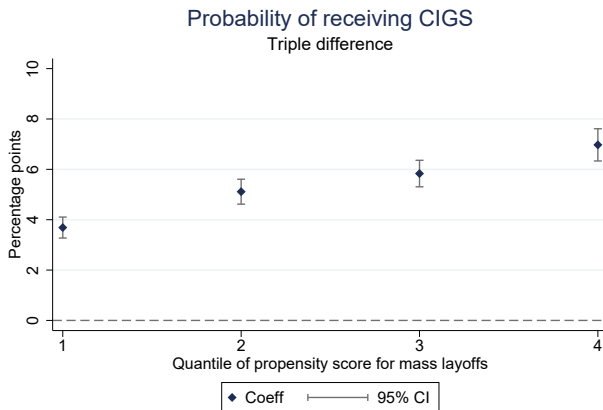
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Source: INPS.

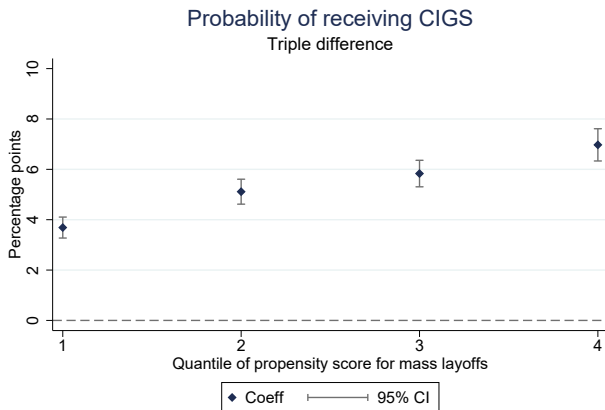
- Use model to predict mass layoffs for eligible firms

Firms more likely to layoff have larger take-up rates



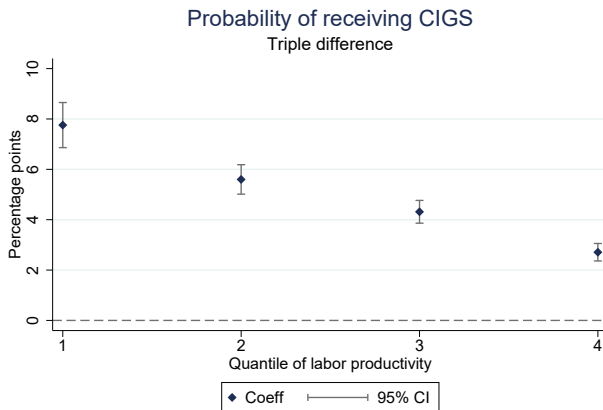
- Firms that are highest risk of layoffs are 80% more likely to use STW

Firms more likely to layoff have larger take-up rates



- Yet, low risk firms still do take up significantly

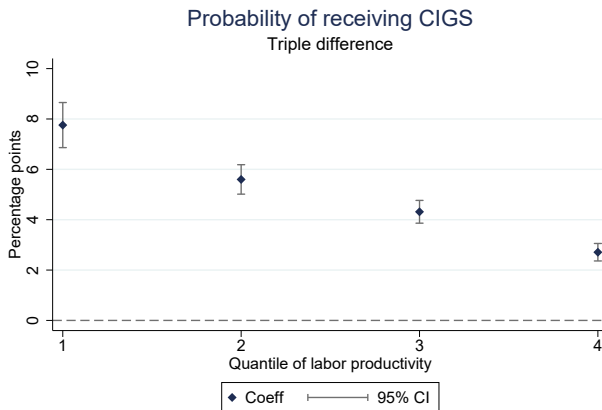
Low-productivity firms use STW more



Source: INPS.

- Rank firms according to pre-recession labor productivity levels

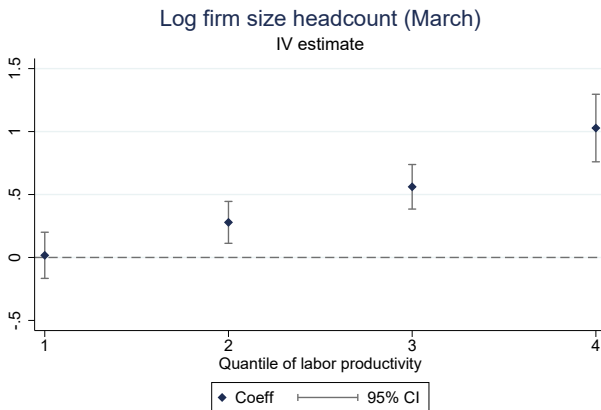
Low-productivity firms use STW more



Source: INPS.

- Low productivity firms significantly more likely to receive STW

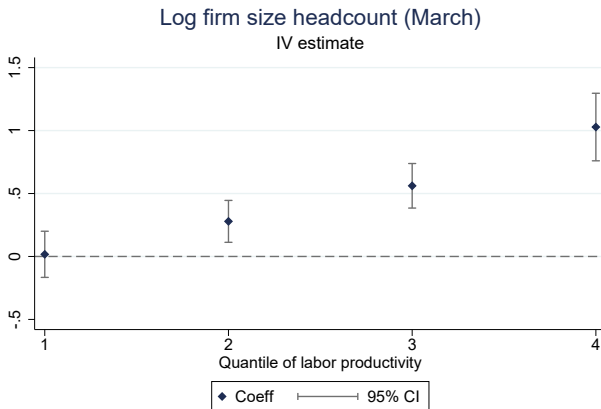
Yet with limited effects on employment



Source: INPS.

- Yet, zero effect of STW on employment for low labor productivity firms

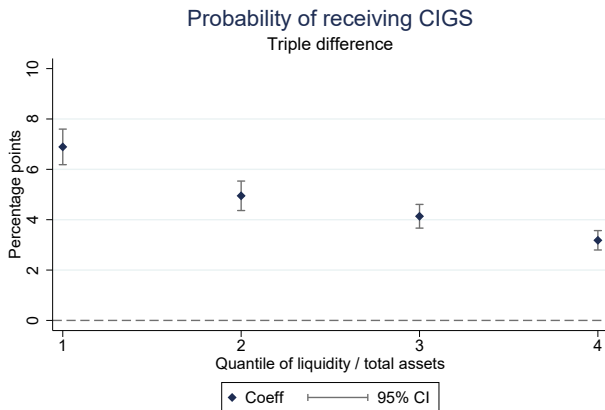
Yet with limited effects on employment



Source: INPS.

- Larger effect for high productivity firms experiencing temporary shock

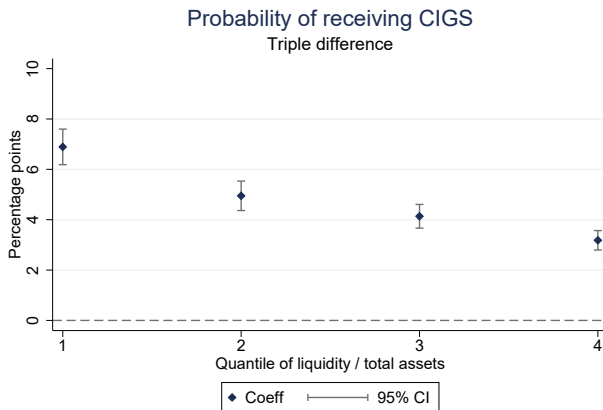
Liquidity constrained firms also take up more strongly



Source: INPS.

- Rank firms according to pre-recession levels of liquidity

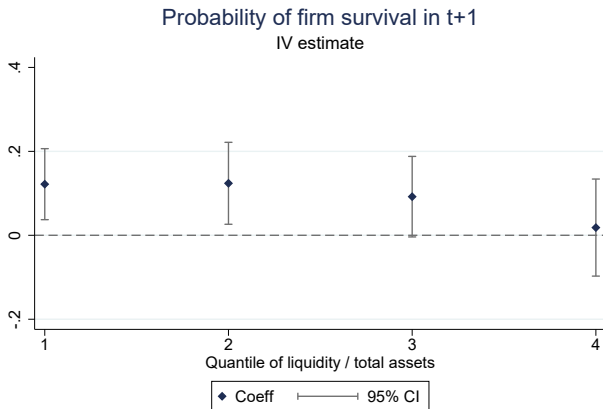
Liquidity constrained firms also take up more strongly



Source: INPS.

- Liquidity constrained firms much more likely to use STW

And have a higher probability of surviving



Source: INPS.

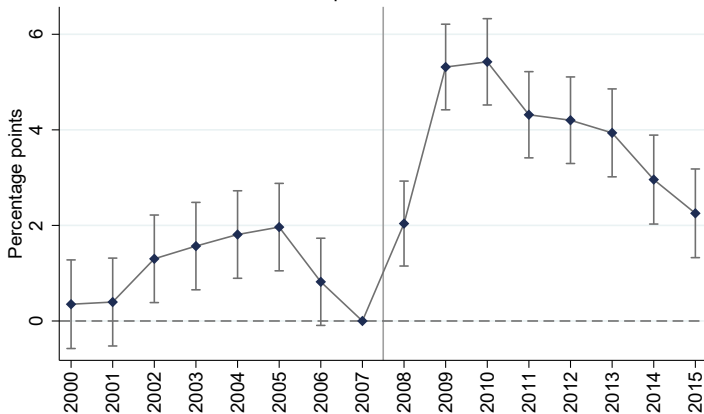
Concluding remarks

- STW induces sharp reductions in employment at the intensive margin and a large increase at the extensive margin in the short term
- Positive short-run effects on employment dissipate quickly leading to very small net long-run effects
- STW offers insurance to workers only in the short term, so does not seem to outperform unemployment benefit in terms of long-run insurance value
- Following demand and financial shocks, firms that would otherwise incur mass layoffs select primarily into STW
- Low-liquidity firms take up more and have largest positive effects on survival
- Low-productivity firms strongly select, but with little benefit on employment

Additional slides

Probability of receiving any CIG

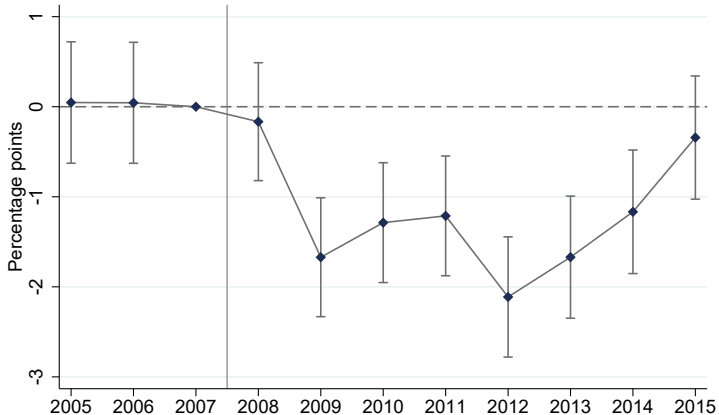
Triple difference



Source: INPS.

Probability of receiving CIGD

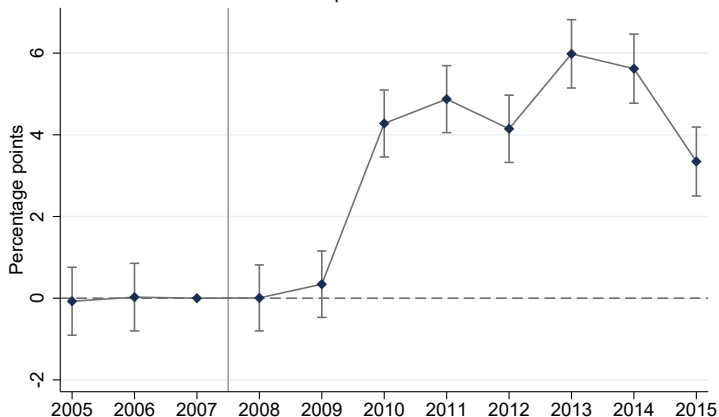
Triple difference



Source: INPS.

Probability of receiving CIGS or CIGD

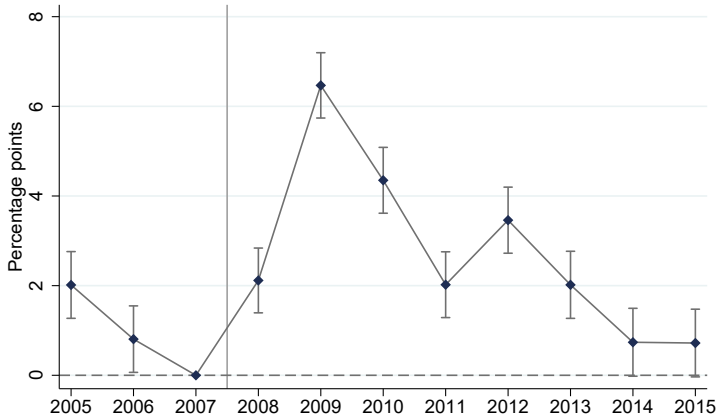
Triple difference



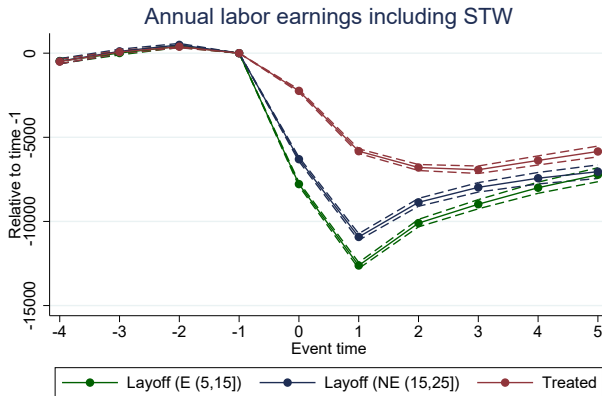
Source: INPS.

Probability of receiving CIGO

Triple difference



Source: INPS.



Note : Conditional on individual and calendar year fixed effects.
Source: INPS.