HOW DO MASS LAY-OFFS AFFECT REGIONAL ECONOMIES?

Wessel Vermeulen, CFE/LESI/TREN
Nils Braakmann, Newcastle University

OECD
BETTER POLICIES FOR BETTER LIVES

Why are mass lay-offs important to study? (or not)

+ Shock to regional economy (absolute/relative)

+ Policy: "Fix the firm" vs "Help the worker"

+ Attention: 1 big lay-off draws more attention than many small ones.

+ Where it happens, on average 15% of all dismissals

+ COVID-19 interventions show that mass-layoffs can be prevented.

How can a mass lay-off affect regional productivity?

Composition of firms + Links with other firms

Mass lay-off in
- A low productivity firm…
    - Positive composition effect
    - Limited effect to other firms

- A high productivity firm…
    - Negative composition effect
    - Higher chance on negative spill-overs to other firms

Paper in a slide

Data

- Panel of TL3 regions, Europe, 2004-2018

- Mass lay-off events announcements, by threshold

  - All regions free of announcements 2004-2006

  - Estimate average outcome in employment and productivity, using DiD.

  - Differentiate: time since event, region type, country, etc.

Findings

- Employment effect, persistent, negative and little heterogeneity

- Productivity effect, persistent, but heterogeneous effects, including sign changes.

Do mass lay-offs affect regional economies?

- Yes, but…
  - Employment effect are persistent to the tune of -0.8% to -1.8% on average.
    So, (active) labour market policies that help affected workers transition to new employment makes sense.

  - Productivity effects can be persistently negative too, but more study is need to understand what conditions give rise to negative and positive effects.

What's been done?

Work on individual workers		
Vom Berge and Schmillen (2022)	Germany, '09	No spill-over
Fallick et al. (2019)	5 US States, '92-'14	Wage effect
Gathmann, et al. (2018)	West Germany, '75-'08	Empl. eff. x2
Huttunen, et al. (2011)	Norway, '86-'05	Long wage effect
Work on regional outcomes		
Celli, Cerqua and Pellegrini (2022)	Italy, '04-'19, sector/labour markets	Persistent declines only within sector-region.
Behrens, et al. (2021)	CAN Urban areas, '03-'17	Some spill-overs
Gathmann, et al. (2018)	West Germany, '75-'08	Productivity -0.22%
Foote, et al (2018)	US counties, '00-'11	LF -0.19%
Jofre-Monseny et al. (2017)	Spanish Municipalities-Ind., '00-'08	+empl in other plants.

Mass lay-offs data from EUROFOUND

Eurofound
European Restructuring Monitor
(ERM)

Announcement based on news paper
articles
>100 jobs
>25% of workforce of over 250

Information at NUTS3,
date of announcement.

(Also company, sector, reason, link to news
source)
(Also includes mass hiring, but much less
prominent)

Number of regions affected by country, 2010-2019

Country	N. regions	Country	N. regions	Country	N. regions
Germany	202 / 402	The Netherlands	25 / 41	Lithuania	10 / 11
United Kingdom	98 / 182	Bulgaria	20 / 29	Ireland	8 / 9
France	87 / 102	Hungary	20 / 21	Slovenia	8 / 13
Italy	65 / 116	Sweden	18 / 22	Slovakia	8 / 9
Romania	40 / 43	Poland	16 / 74	Latvia	6 / 7
Austria	31 / 36	Finland	14 / 20	Denmark	2 / 12

Region by year observations and job loss announcements

Number of regions by treatment category and minimum threshold level

Threshold, absolute number of job losses

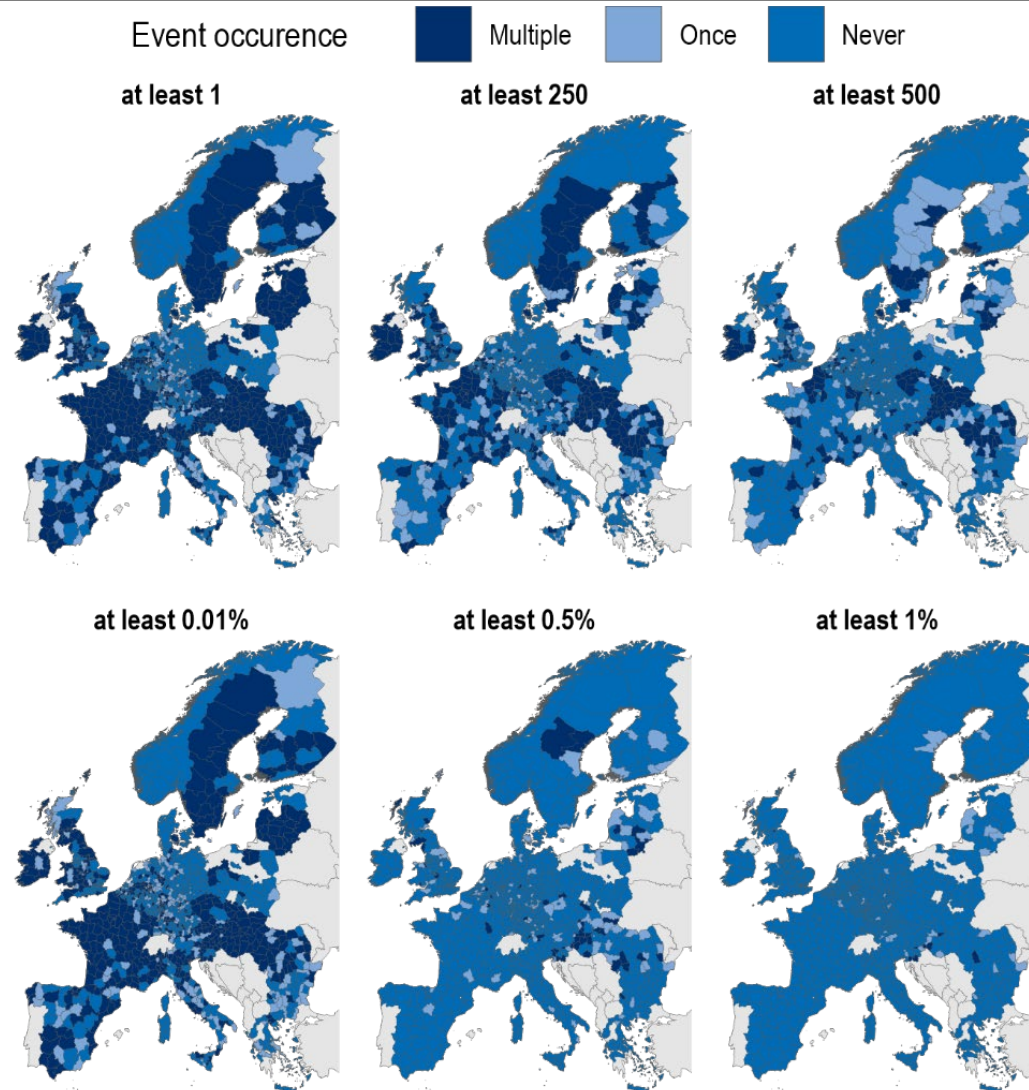| treatment	At least 250	At least 500	At least 2 000	More than 2 000
Never	494	723	907	1217
Once	202	213	176	36
Multiple	568	328	182	13

Threshold, job losses as % of regional labour force

Treatment	At least 0.01%	At least 0.5%	At least 1%	At least 2%
Never	530	1 064	1 196	1 249
Once	218	146	60	17
Multiple	518	56	10	0

Spatial distribution of lay-off events by size and frequency

Empirical model

Wooldridge (2001), DiD in OLS, adding to Callaway and Sant'Anna, (2020); Sant'Anna and Zhao (2020); de Chaisemartin and D'Haultfœuille (2020)

Region can be treated only once, and remains treated.

Log (empl)
Log (GVApw)

$$y_{i,t} = \beta^{08,08} \cdot d_i^{08} \cdot f_t^{08} + \beta^{08,09} \cdot d_i^{08} \cdot f_t^{09} + \cdots +$$

Group (cohort)-time effects

$$\beta^{09,09} \cdot d_i^{09} \cdot f_t^{09} + \beta^{09,10} \cdot d_i^{09} * f_t^{10} + \cdots +$$

$$+ \cdots + \beta^{18,18} \cdot d_i^{18} \cdot f_t^{18} +$$

Region fe
Time fe
Region specific time trends

$$\theta_i + \mu_t + \theta_i t + \varepsilon_{i,t}.$$

Collapse dynamic effects by replacing year indicators.

Interact further to get heterogeneous effects over the cross-section.

Cluster S.E. by region

The dynamic effect of mass lay-offs: Employment

The dynamic effect of mass lay-offs: Productivity

Average long-term effects of mass lay-offs

	Dependent variable:							
	GVA	Empl.	GVA	Empl.	GVA	Empl.	GVA	Empl.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
treated	-0.003	-0.008**	-0.003	-0.014***	0.003	-0.018***	-0.011	-0.01
	-0.004	-0.003	-0.007	-0.004	-0.008	-0.005	-0.016	-0.007
Treatment	250	250	500	500	0.5	0.5	1.0	1.0
White SE	-0.003	(0.002)***	-0.006	(0.003)***	-0.006	(0.003)***	-0.011	(0.004)***
Observations	9 154	9 154	8 869	8 869	7 924	7 924	5 385	5 385

Do economic or institutional characteristics interact with the effect of mass lay-offs?

Effects may be heterogeneous

Economic context
- Regional typology (rural/urban/metropolitan)
- Prevailing unemployment rate

Institutional context
- Country differences.

Mass lay-offs effects differentiated by regional typology

Mass lay-offs effects by prevailing unemployment rate

	Dependent variable:							
	GVA	Empl.	GVA	Empl.	GVA	Empl.	GVA	Empl.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Treated : UR above 75th ptile	-0.010	-0.019*	-0.011	-0.034***	-0.012	-0.013	-0.008	-0.013
	(0.013)	(0.010)	(0.017)	(0.012)	(0.019)	(0.015)	(0.020)	(0.027)
Treated : UR below 75th ptile	0.004	0.004	0.027	0.012	0.029**	-0.003	0.023	0.006
	(0.008)	(0.007)	(0.017)	(0.011)	(0.013)	(0.011)	(0.015)	(0.022)
treatment	250	250	500	500	0.5	0.5	1.0	1.0
Observations	9 154	9 154	8 869	8 869	7 924	7 924	5 385	5 385

NB. This excludes regions-time trends.

Mass lay-offs effects across countries

Mass lay-offs effects across countries

Mass lay-off effects on the regional labour force

	Dependent variable: LF			
	(1)	(2)	(3)	(4)
treated	0.001	-0.001	0.013**	-0.008***
	(0.002)	(0.003)	(0.005)	(0.003)
Treatment	Threshold as number of affected workers		Threshold as % of local labour force	
	250	500	0.5	1.0
Observations	8 441	8 156	7 253	5 327

Conclusion: How do mass lay-offs affect regional economies?

- **Employment effect are persistent to the tune of -0.8% to -1.8% on average.**
  - The effects tend to be larger in rural region, potentially due to more shallow labour market that can absorb affected workers.

  - Productivity effects can be similarly negative but there is more heterogeneity. Need more research to understand what gives rise to negative from potentially positive effects.
- **Policy implications**
  - (active) labour market policies that help affected workers transition to new employment makes sense.

  - See also recent webinar of OECD Local Development Forum: **Mass layoffs and local impacts: what we know and what can be done.**

- **Methodological points**
  - Heterogeneous effects demands more scrutiny, potentially drawing in more information from firm and mass-lay-off characteristics.