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How do regional economies respond to crises? The geography of job creation and destruction in Sweden (1990-2010)

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Motivation

- Ability to absorb shocks and the ability to develop new growth paths is a key concern for evolutionary scholars since the development of jobs and welfare is a highly uneven process (e.g. Lundquist et al., 2008; Martin, 2012; Gardiner et. al, 2013).
- Increasing focus on resilience, but the notion is far from clear in the literature, and is in need for a clarification in relation to regional economic development (Martin, 2012)
- Employment as a good indicator for resilience and recessions (Martin, 2012). Small changes in net employment may mask high levels of job creation and destruction. Gross employment flows is a much better indicator of qualitative regional changes in labour demand (Essletzbichler, 2007)

Aim

To analyse how regional economies respond to crises. Our contributions:

1. Using gross job changes – which allows us to discern the driving forces generating and destroying employment (entries, exits and incumbents) over time and space
2. Framing the processes of job creation and destruction to the notion of regional resilience

Case: Sweden between 1990-2010, which is a particularly well-suited case for this type of analysis since the chosen time frame comprises two periods of crisis, restructuring and recovery.

Conceptual motivation

- One of the main critiques directed towards 'resilience' is the neglect of space and time (Boschma, 2014).

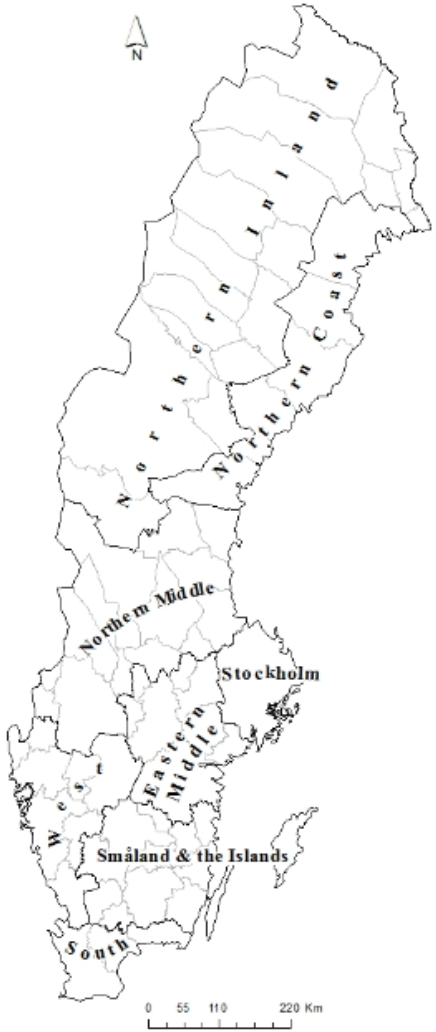
- Towards a dynamic approach on resilience: could be both the resistance or enabling of breaking a 'path', making it not solely the effect at the initial stage of the recession but also the approaching phase of recovery (Boschma, 2014; Martin, 2012; Pike et al., 2010; Dawley et al., 2010).

- Dynamic understanding of regional resilience ➔ *Resistance* and *Post-recession growth*

DATA

Longitudinal matched employer-employee data from Statistics Sweden (SCB) which makes it possible to connect information of the number of employees at each plant at each time, and then follow that plant over time.

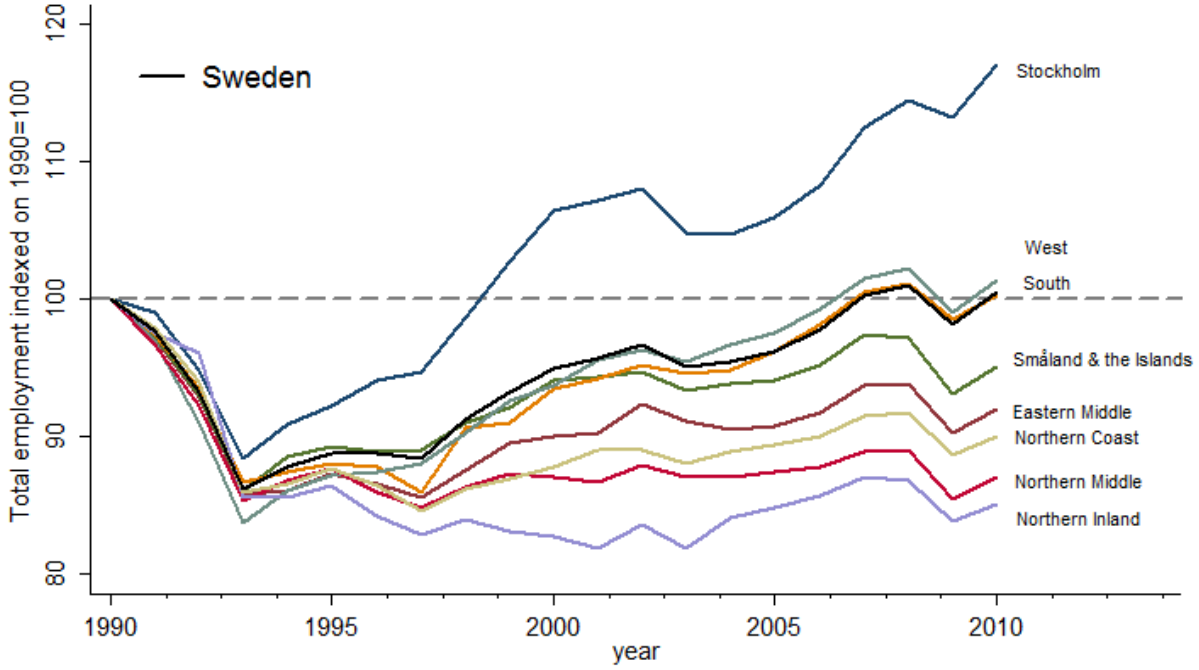
Variable	Definition/measurement
JC	Job creation (entry + expanding incumbents)
JD	Job destruction (exit + declining incumbents)
Gross	JC+JD
Net	JC - JD
Cohesive region	The degree of skill-related plants in a region is higher than national median
Diverse region	The degree of unrelated plants (not similar or related) is higher than national median
Specialised region	Higher relative ratio of industry concentration compared to the national median (Krugman index)



Two different regional levels:

- functional regional division – **FA regions** (Swedish Agency for Economic and Regional Growth, 2012)
- European administrative units (Eurostat, 2012) altered and referred to as the **NUTS8**.

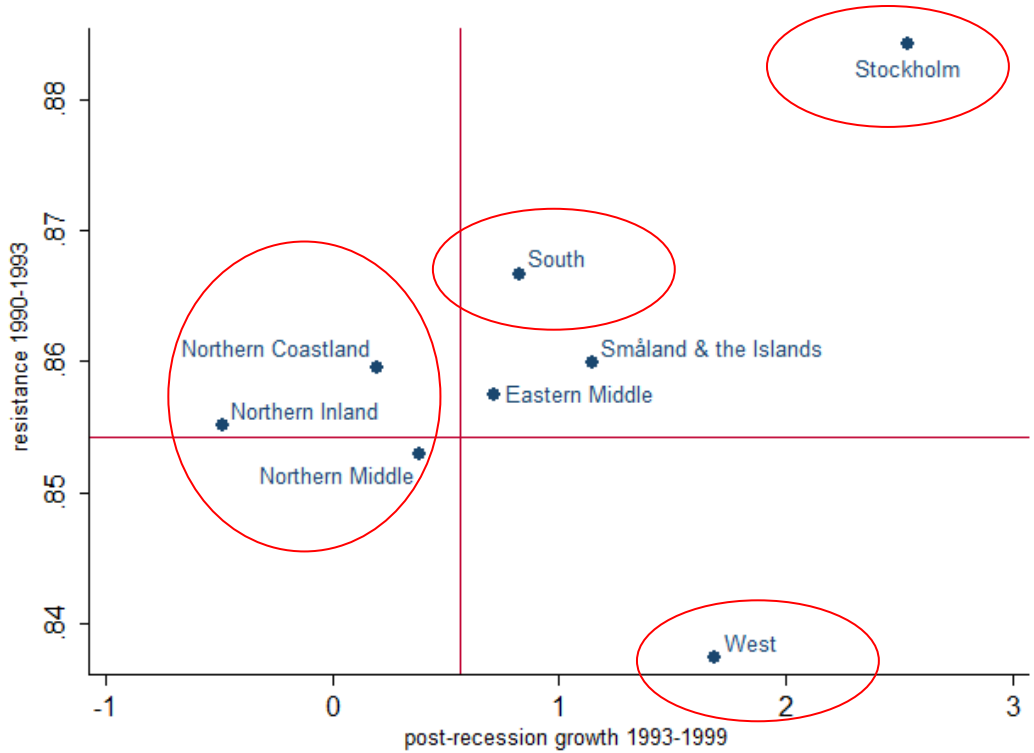
The regional responses to recessions



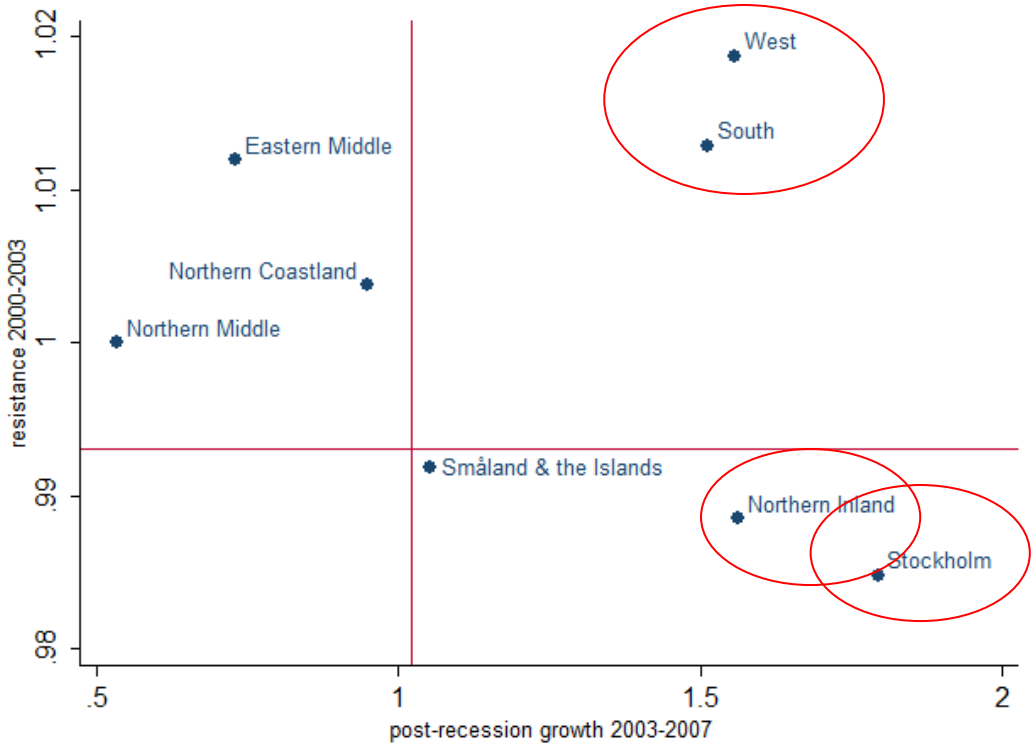
Gross employment changes in Sweden 1990-2010 - plant change (entry, exit, incumbent)

	N	EMP90	NET	GROSS	JC	JD	INCDE	INCGR	ENTRY	EXIT
1990-2010										
(SWE)	72	4104899	0.5	23.6	12.1	11.5	5.0	7.4	4.7	6.6
Dec emp (reg)	33	884150	-15.1	22.4	11.0	11.4	5.3	6.9	4.1	6.1
Exp emp (reg)	39	3220749	4.8	23.9	12.3	11.6	4.9	7.5	4.8	6.7
Dec emp (SNI)		1856712	-39.9	19.1	8.8	10.3	5.3	5.9	2.9	5.0
Exp emp (SNI)		2219240	33.8	24.7	13.6	11.1	4.5	8.2	5.4	6.5
Dec prod (SNI)		302165	31.7	29.4	15.9	13.5	5.0	8.8	7.1	8.4
Inc prod (SNI)		1100047	102.7	22.2	11.3	10.9	4.8	7.2	4.1	6.1

Resilience in NUTS8 1990-1999



Resilience in NUTS8 2000-2007

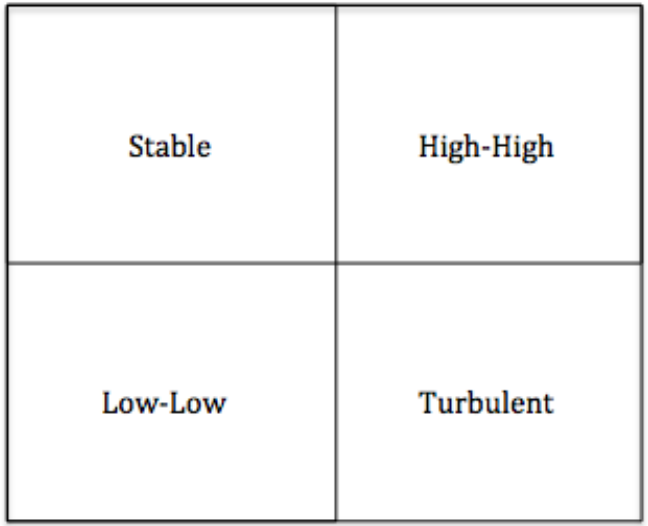


Job gross flows and resilience

- Different forms of being resilient:
  - Renewal of a successful path
  - Sensitive but breaking a lock-in
  - Resistant but no post-recession growth

FA-regions grouped according to their position in the resilience scatterplot

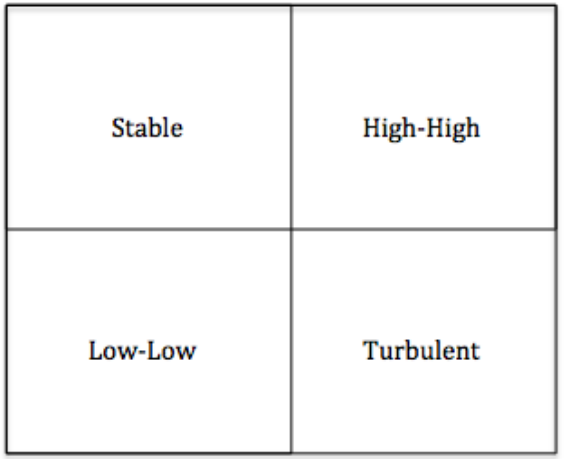
➔ 4 different groups of regions that responded very differently to the crises



Groups of resilience

- **Gross employment**
  - **Low-Low:** high rate of manufacturing, low share in KIBS
  - **High-High**: high rate of KIBS, low of manufacturing
  - **Turbulent:** high rate of KIBS and highest turnover

- **Industry Mix**
  - **Low-Low:** Highest rate of specialised regions
  - **High-High:** lowest rate of specialised regions
  - **Cohesive and diverse regions**: to a larger extent found in the resilient groups



Correlations between resistance and growth and industry-mix

		1990-1999		2000-2007		2008
		Resistance	Growth	Resistance	Growth	Resistance
Same period	Diversity	0.25**	0.33***	0.37***	0.11	0.35***
	Spec	-0.18	-0.26**	-0.46***	-0.01	-0.35***
	Cohesion	0.19	0.24**	0.43***	0.08	0.34***
1990-1999	Resistance	1	-0.02	0.01	0.30*	0.44***
	Growth	-0.02	1	0.04	-0.17	0.01
2000-2007	Resistance	0.01	0.04	1	-0.25*	0.33***
	Growth	0.30**	-0.17	-0.25*	1	0.05

Note: ** significant at the 0.05 level; *** significant at the 0.01 level

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Conclusions

- High levels of JC and JD both expanding/declining regions/sectors
  - Net is not enough to understand qualitative changes in labour demand
- Gross not significantly correlated with net
- Main strategies for a lower sensitivity among the average region would not be to focus on start-ups or entrepreneurship
- Specialised regions experience high levels of job creation *and* destruction, resulting in the highest turnover but cohesive and diverse regions are more resistant in times of crises and end up with a higher net employment growth
- Resistance of future shocks is highly dependent on the resistance to previous crisis