

# Offshoring and Backshoring in an old industrial area - Analysing motives, intensity, and success

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# Outline of Presentation

1. **Previous Research and Motivation**
2. **Descriptive Analysis**
3. **Further analysis (Success, Intensity)**
4. **Conclusion**

# 1. Previous research

Research focus on **offshoring** and **outsourcing**

- With the help of the **IAB Establishment Panel** several topics were investigated:
  - Offshoring and employment (Kreutzer & Berger 2018)
  - Offshoring and productivity
  - Offshoring and innovation and (Mitze & Kreutzer 2017)
  - Different effects of Offshoring and Outsourcing (Kreutzer & Mitze 2018)
  - The effects were differentiated between SMEs and MNEs (>250 employees)

# 1. Previous research

- We gained a lot of experience concerning offshoring but there are still some research gaps:
  - i.e. the **intensity of offshoring** is hardly discussed in any study
  - While motives are analysed in different papers (Eden 2002, Garner 2004, Di Gregorio et al. 2009, Cusmano et al. 2010 ) there are hardly any studies that focus on the motives for **back shoring** (one exception is Kinkel et al. 2010)
  - And only very few studies include **regional aspects**
- So in winter 2017/2018 we started a survey in the Lower Niederrhein area which should try to answer some of these research gaps
- This should be the kick-off for four surveys in total (2 stronger prospering economic areas and two old industrial areas).

## 2. Data

- 698 companies (confined to certain branches of trade) were contacted via e-mail and additionally by phone
- Companies are located in the area “Mittlerer Niederrhein” and “Niederrheinische IHK Duisburg/Wesel
- An old industrial area which is from an economically perspective weaker than its big neighbors Düsseldorf and Cologne
- **148 companies** completed the survey (21,2%)

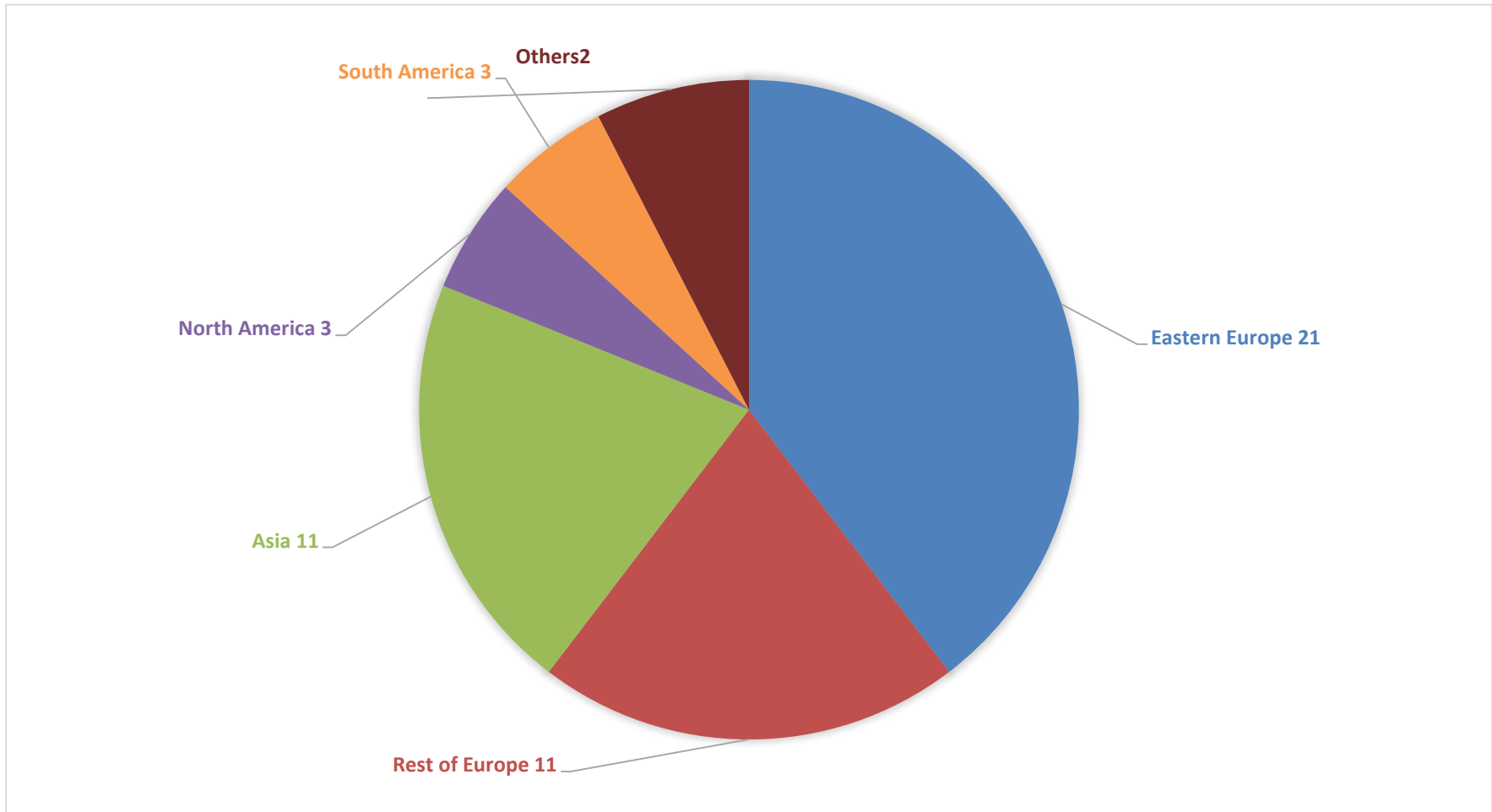
## 2. Descriptive Analysis- general aspects

- 44 firms relocated **within Germany**
- 41 firms relocated to **foreign countries**
- 11 firms relocated within Germany and into foreign countries
- 63 forgone to offshore
  
- 78 % (84) manufacturing firms
- 11% transport & logistics
- 6% ICT
- 4% water supply/water & waste disposal

## 2. Descriptive Analysis- general aspects

- **67% small firms** (<50 employees)
- 26% medium sized companies (>50 & <249)
- 7% large firms (>249 employees)
  
- **78% are (independent) individual companies**
- 12% are part of a group of companies
- 5% head office of a national company
- 5% head office of an international company

## 2. Descriptive Analysis- Offshoring Destinations





## 2. Descriptive Analysis-Relocation Motives

### Germany

Reducing wages	25
Shortage of skill	17
Spatial proximity to another company	10

### International Relocation

Reducing wages	32
Shortage of skill	14
Access to new markets	10

## 2. Descriptive Analysis - Backshoring Motives

### Germany (31,8%)

Less flexibility	12
Quality problems	10
Communication problems due to arm's-length location	5

### International Relocation (31,7%)

Less flexibility	11
Quality problems	6
Communication problems due to arm's-length location	4

### 3. Empirical Results

- 1/3 of both group had problems during the relocation process
- Could indicate that relocations were not successful as expected

Using **doubly robust** estimator to get a deeper impression

Doubly robust estimation combines a form of outcome regression with a model for the exposure (i.e., the propensity score) to estimate the causal effect of an exposure on an outcome. When used individually to estimate a causal effect, both outcome regression and propensity score methods are unbiased only if the statistical model is correctly specified. The doubly robust estimator combines these 2 approaches such that only 1 of the 2 models need be correctly specified to obtain an unbiased effect estimator (Funk et al. 2011)

### 3. Empirical Results- Offshoring-Success

- Offshoring is the treatment variable
- Product innovation, Process innovation and product improvement are the outcome variables
- Firm age, firm size, percentage share of high-skilled workers are the independent variables
- The **results are positive** and for **product innovation** and for **product improvement highly significant**

	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
produktinnovation	.4232303	.0864115	4.90	0.000	.2538669	.5925938

### 3. Empirical Results- Offshoring-Success

- If we focus on **domestic relocation** all results are **not significant**.
- This is in line with our previous findings (Kreutzer & Mitze 2018, Mitze & Kreutzer 2017)
- but keep in mind that **we can not control for the time before the relocation**
- Including this time period **could completely change the results**
- E.g. if the Offshoring firms were more innovative already before the relocation it's possible that their advance in innovativeness shrinks after the relocation

### 3. Empirical Results- Offshoring Intensity

Survey question: Concerning all you economic activities, which fraction of these activities have you relocated?

- **Mean 9,62%**
- **Max 20%**

	Offshoring Intensity
Firm age	-0.004 (0.17)
Number of employees	2.131 (1.62)
Skilled Employees %	0.052 (1.46)
High-Skilled Employees %	-0.105 (0.80)
Logistics	-4.932 (2.20)*
Marketing	-1.189 (0.27)
ICT	10.439 (2.29)*
F&E	-1.424 (0.65)
_cons	12.319 (0.29)
$R^2$	0.34
$N$	40

### 3. Empirical Results- Offshoring Intensity

	Offshoring Intensity
Age	0.029 (1.02)
Number of employees	-1.470 (0.63)
Tapping new markets	0.092 (2.78)*
Wage reduction	-0.035 (0.93)
Part of skilled employees	-0.190 (0.94)
Relocation to an external firm	-11.190 (3.06)*
_cons	-36.708 (0.64)
$R^2$	0.89
$N$	32

## 4. Conclusion

- Proximity to the dutch boarder seems to be no incentive to offshore to the Netherlands
- Common offshoring motives are confirmed
- High number of relocation; surprisingly also for domestic enterprises
- Offshoring firms are more innovative after the relocation (pre-treatment development unknown)
- In general 10 % off all activities are offshored
- Offshoring of ICT increases the intensity, logistics lowers it
- In relation to the offshoring motives, tapping new markets increases the intensity, the relocation to an external firm reduces it



**Thank you for your attention!**