



The Effects of Path Dependency and Path Development on Growth of Municipalities: Empirical Evidence from Poland

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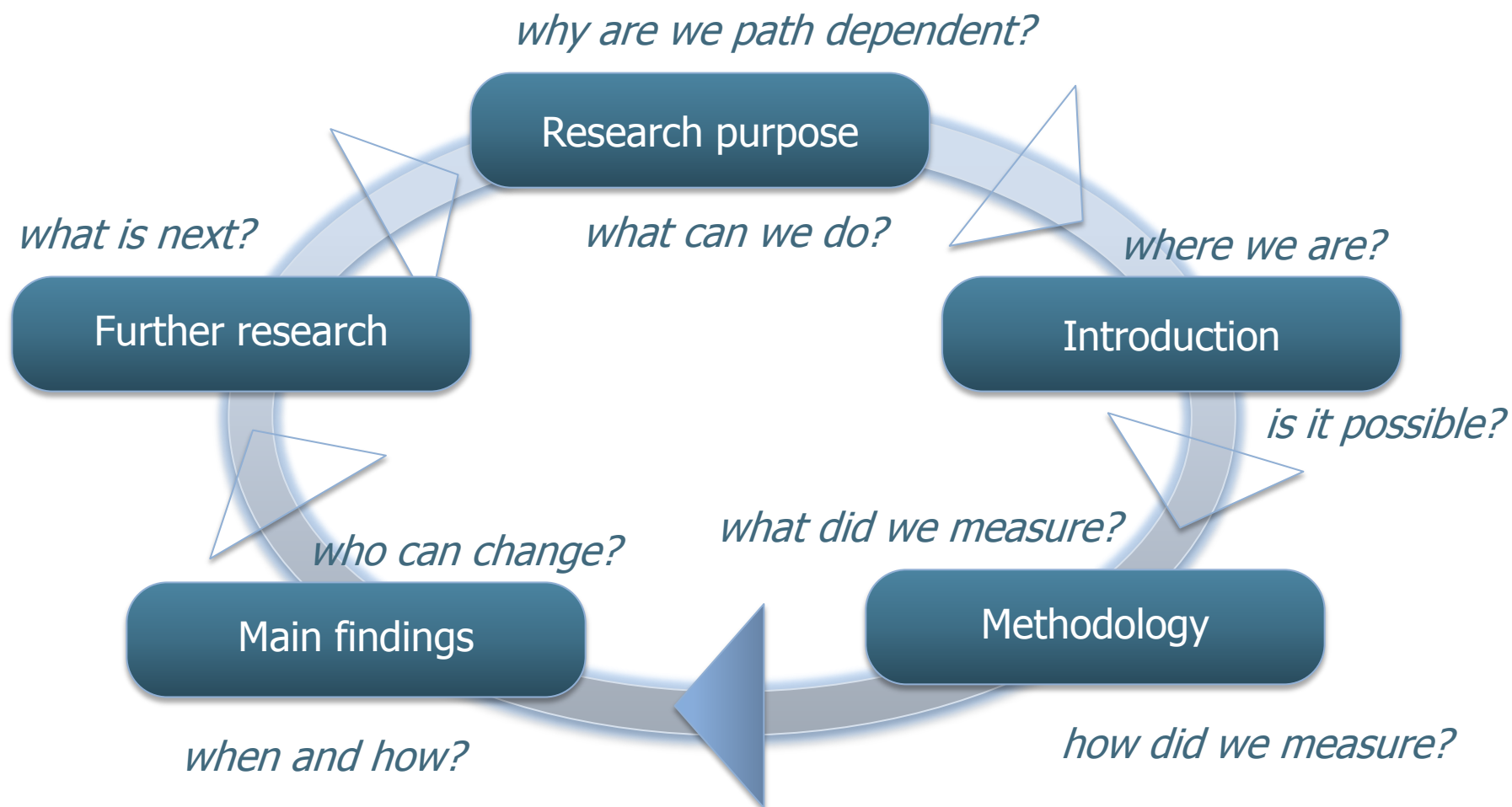
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Presentation structure



Research rationale

Why some locked-in regions
lose dynamism while others are
able to **boost their economies**

...is still unanswered

Martin and Sunley (2006)



The purpose of the research



Source: own elaboration

Possible types of path changes

path extension

- involving incremental product and process innovations in existing industries (Hassink, 2010);

path renewal

- in which related industries are developed (Boschma & Frenken, 2011);

path creation

- in which new industries appear (Martin & Sunley, 2006) and determined which path types most influence growth

METHODOLOGY

METHODOLOGY

Variables

The method and techniques



Variables: independent and dependent

1) the **number** of enterprises in a given industry in 2009 (**NUM**);

2) the **change** in the number of firms in the given industry from 2009 to 2013 (**CHG**);

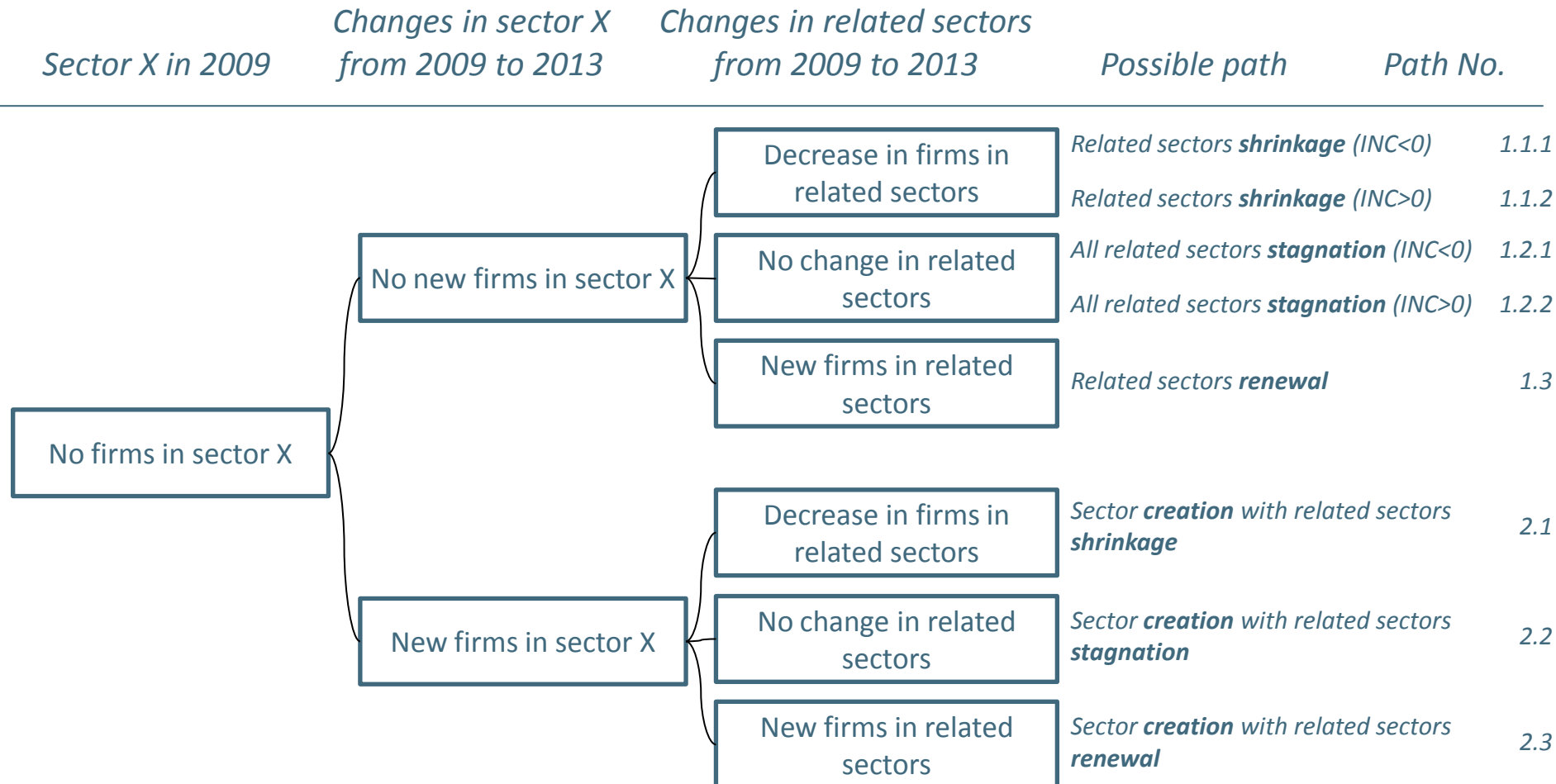
3) the **change** in the number of firms in related industries during this period (**REL**)

18
possible
paths

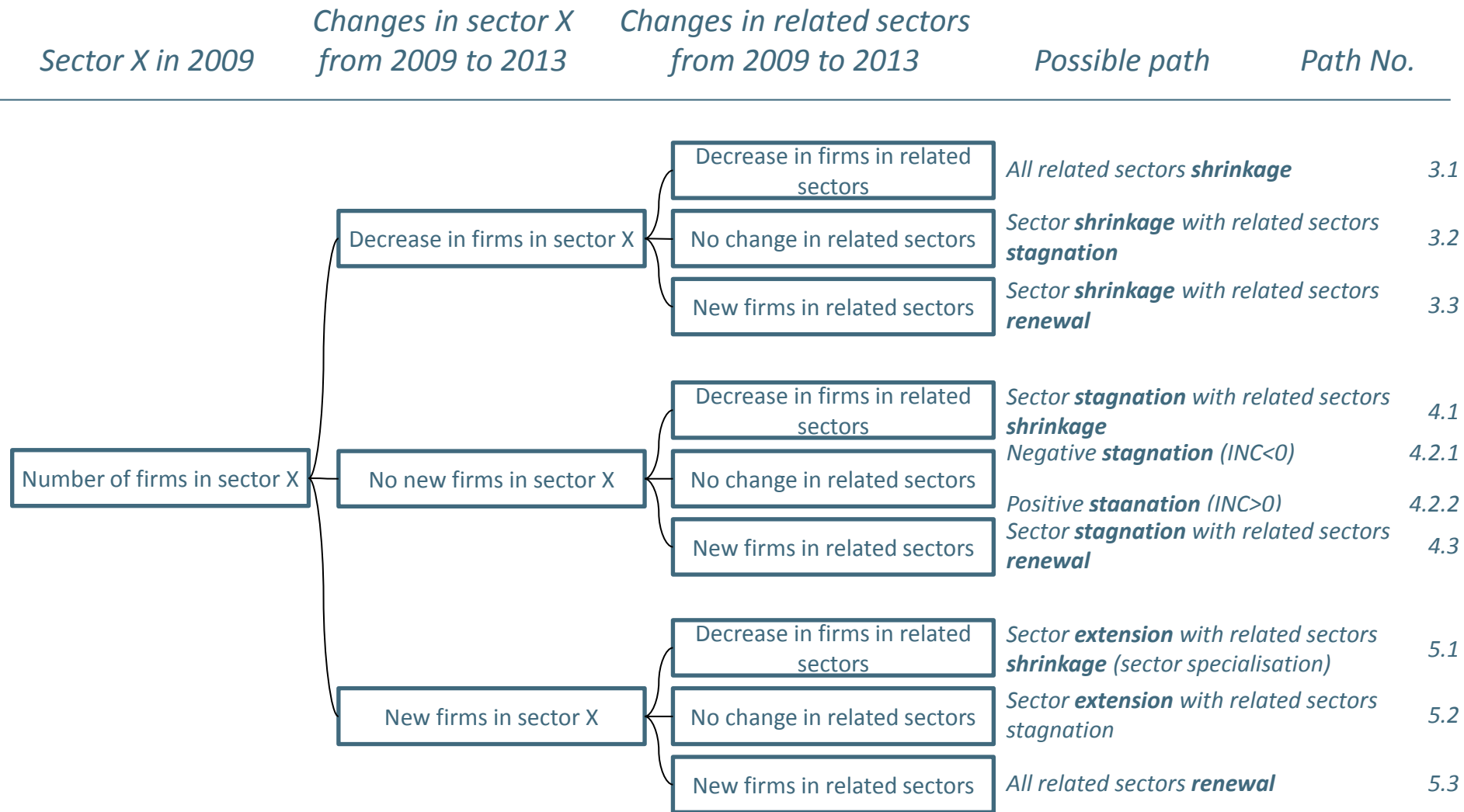
changes in the municipalities' **income**

- a proxy for municipality growth (INC)

Possible paths related industries may take



Possible paths related industries may take (cont.)



In light of these variables...

- we analysed 86 industries in 2,531 Polish communities, yielding **217,666 total cases**
- This allowed us to describe all the **changes** in the structure of a municipality's **economy**
- Related industries were indicated by **product space methodology** (Hidalgo, Barabási, Winger, & Hausmann, 2007)
- We then built **linear regression models** for each **path** in both urban and rural municipalities groups (**36 models**) to analyse the **impact** of each path on municipality **growth**

FINDINGS

FINDINGS

Conclusions

Further research



Findings

for urban municipalities

The most influential paths were:

- **extension within a given sector** (5.2) because of the huge impact of the increase in the number of companies (6,837) and
- **positive stagnation** (4.2.2) because of the huge impact of the size of the sector (2,121)
- **path renewal** (5.3) because intercept is equal to 24,124 but the impact of the NUM and REL variables was weak

Findings

for rural municipalities

More paths were significant:

- **extension path** (5.2) within a given sector but only when small sectors are considered
- other paths concerning **extension** within a sector accompanied by related sectors' shrinkage (5.1) or different kinds of sectors' shrinkages (3.1, 3.2 or 3.3), although CHG was not significant in any of these paths
- **creation paths** (2.2 and 2.3), especially when completely new industry occurred (2.2), which could indicate rural areas are less path-dependent and more likely to be able to reinvent themselves and develop.

Thus these areas have more ways to develop!

Conclusion

- The findings confirmed the spatial nature of path dependency and **development** because there were **large** differences in the income changes of urban versus rural municipalities, indicating the role of **agglomeration economies**
- Interestingly, in both models, **different** paths caused growth and were statistically significant
- Although urban areas apparently had **fewer paths** influencing growth, the **strength** of the paths was much **greater** than it was in rural areas

Further research

- Other **countries**
- Longer **period** (but data availability!)
- Knowledge-intensive sectors vs. less-intensive sectors
- **Spatial** correlations – growth pools?
- Case studies of specific industries



Thank you for your attention!

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