

# Organisational demography in the public sector

New insights from OrgReg

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# Overview

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  - Motivation and objectives
- Data and methodological approach
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  - Typology of concentration processes
- New insights in organisational demography
  - Descriptive overview: event types and actors
  - Characteristics of concentration processes
- Concluding remarks and outlook

# Background and motivation



## Changes in public sector research landscape in Europe

- Comprehensive changes of public sector research landscape over the last twenty years (Aula & Tienari, 2011)
- Main challenges: growing internationalisation, drive for quality, rising importance of research and innovation, reliance on external sources of finance, etc.
- Places universities and public research organisations in a strong global competition (Hazelkorn, 2013)
- In light of these developments two contrary developments can be observed
  - a) initiation of *concentration processes* (mergers and take-overs) to enable public sector research organisations (PSROs) to gain critical mass and rationalise the use of resources, and
  - b) creation of specialised PSROs by *separation processes* (splits and spin-outs) as independent entities to focus on their core operations and to increase their international visibility in specific scientific fields

## Motivation and objectives

- Systematic approaches to analyse patterns of PSROs' concentration and separation processes across Europe are still scarce (Pruvot et al., 2015)
- The objectives are to give a *descriptive overview* of event types and actors involved, and to *identify characteristics* of demographic changes in PSROs
  - Focus on geography and organisational types involved
  - Using a novel data set on demographic events in the PSROs landscape in Europe between 2000 and 2016
- In the future, these insights will be used for the development of a comprehensive typology of demographic events in Europe

# Data and methodological approach



## Empirical basis

- Analysis is based on data recorded in the Register of research and higher education organisations (OrgReg) a central facility within RISIS (risis.eu)
- We traced demographic events of PSROs since 2000 in Europe and distinguished between four different types of demographic events:
  - *mergers* of at least two entities creating a new legal entity,
  - *splits* of an existing entity into two or more independent entities,
  - *take-overs*, where an entity was absorbed by an existent entity, and
  - *spin-outs* of a section of an entity to create a new, separated entity.
- OrgReg covers 396 demographic events between 2000 and 2016 in 28 European countries: 150 mergers, 185 take-overs, 54 spin-outs and 7 splits (March 2018)

## Characteristics of demographic events

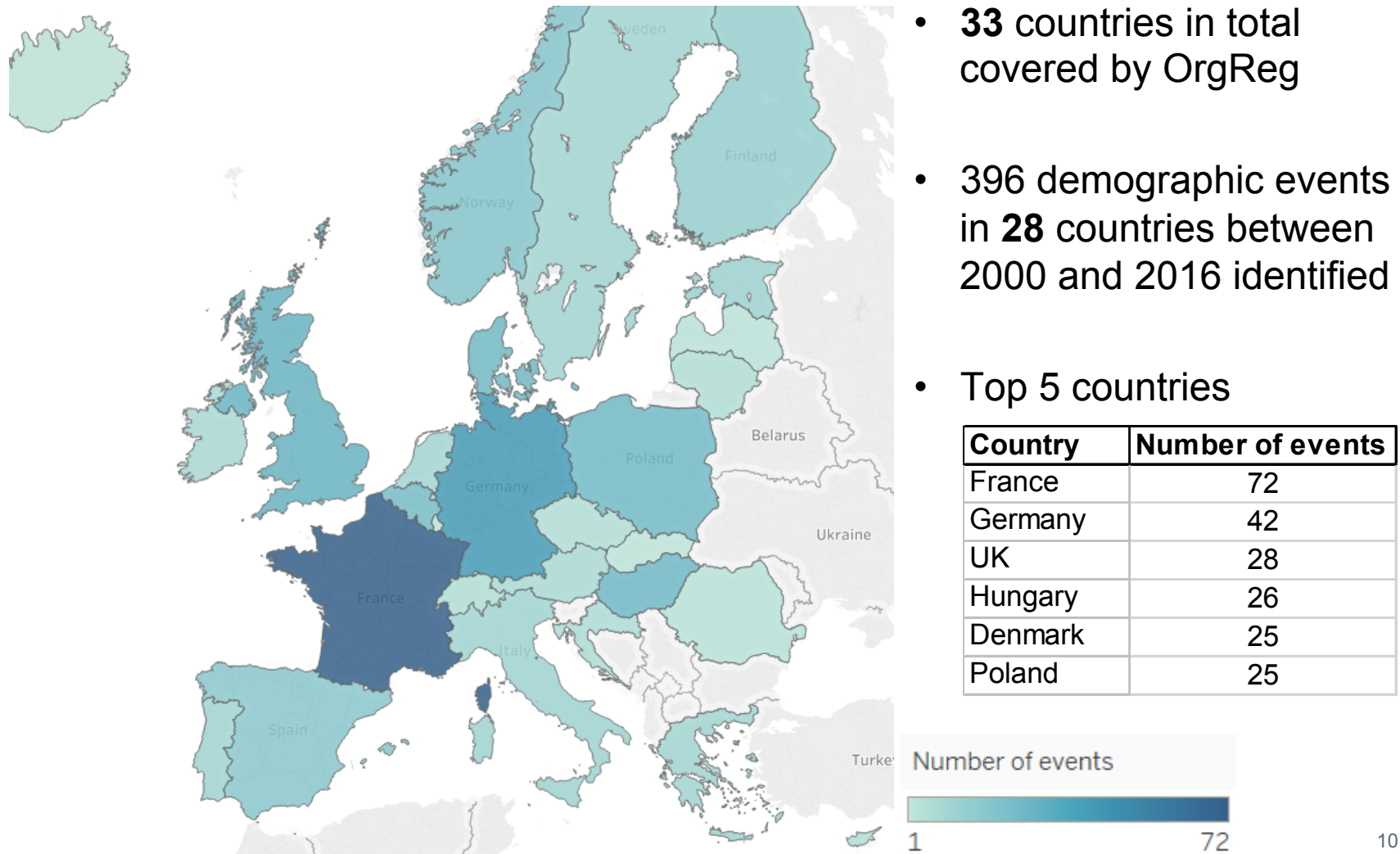
- Demographic events are diverse with respect to their type and scope, their institutional and geographical dimension
- We characterise demographic events along the following dimensions:
  - *type of PSROs* involved: similarity or complementarity of *activity profile* (education vs. research), *subject scope* (generalist vs. specialist) and *regulatory characteristics* (public/private status) (based on Lepori et al, 2017)
  - *geographical scope*: combination of widely spread or geographically close organisations within and outside metropolitan regions



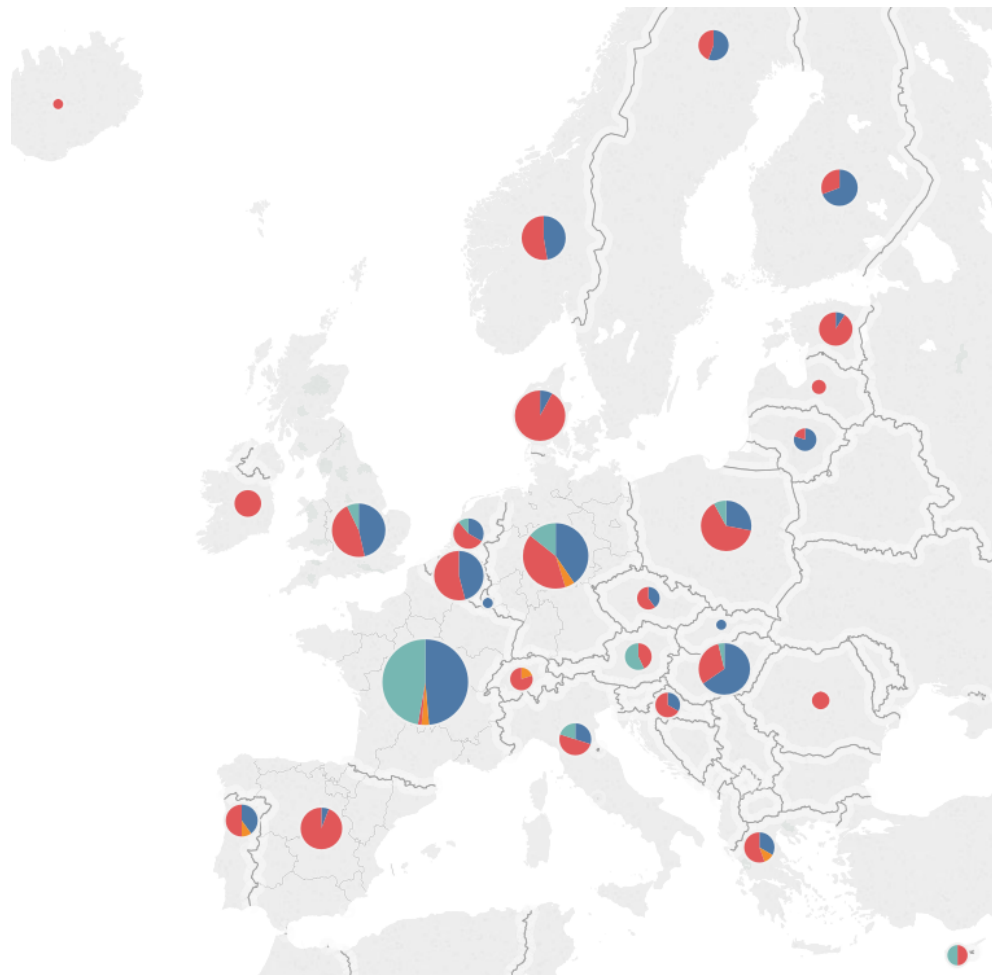
## Descriptive overview: Event types and actors



## Number of demographic events in European countries

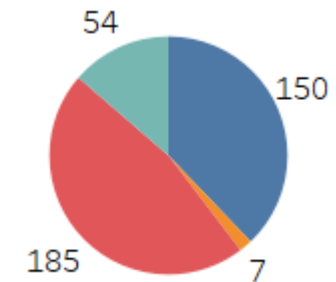


## Type of demographic events in European countries



396 demographic events (total)

- Merger: 38%
- Split: 2%
- Take-over: 47%
- Spin-out: 14%



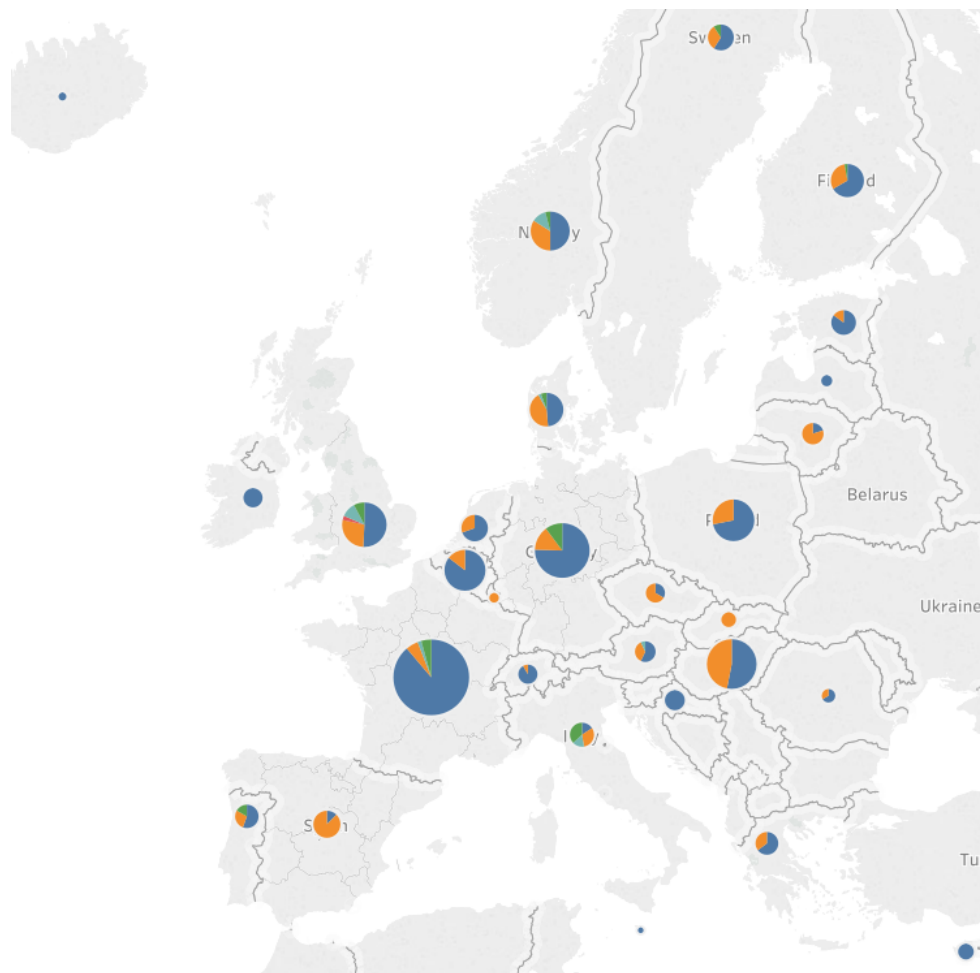
Differences in country patterns

- Merger: FI, SE, NO, HU
- Split: CH, DE, FR
- Take-over: DK, ES, EE, PL, BE
- Spin-out: FR, DE, AT

Type of demographic event

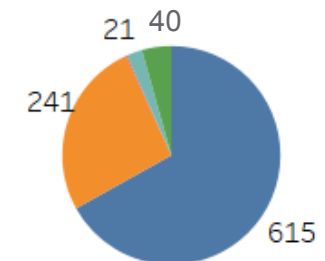
- Merger
- Split
- Take-over
- Spin-out

## Type of PSRO involved in demographic events



919 PSRO (total)

- HEI: 67%
- PRO: 26%
- RH: 2%
- PA: 4%



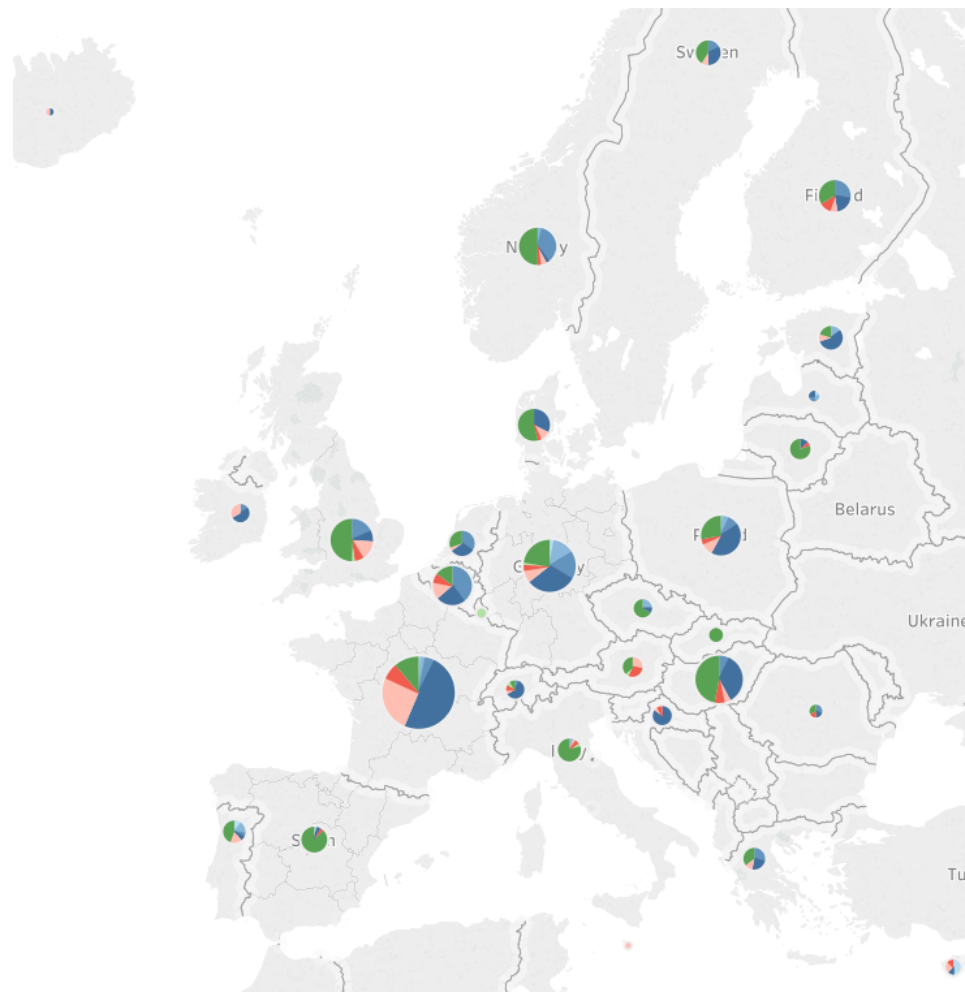
Differences in country patterns

- HEI: FR, DE, PL, BE
- PRO: HU, DK, ES
- RH: UK, NO, IT
- PA: DE, FR

Type of PSRO

- Higher Education Institution (HEI)
- Public Research Organisation (PRO)
- Research Funding Organisation (RFO)
- Research Hospitals (RH)
- Public Administration (PA)

# Typology of PSROs based on activity profile, subject scope and legal status



## Main categories (total)

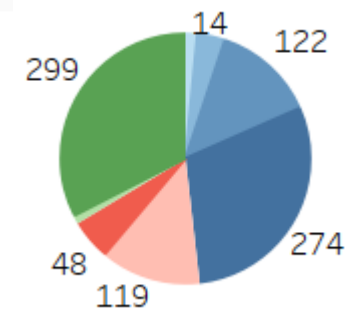
- Education generalist: 13% (122)
- Education specialist: 30% (274)
- Mixed generalist: 13% (119)
- Research specialist: 33% (299)

## Differences in country patterns

- Education: FR, DE, PL, BE
- Mixed: FR, BE, UK
- Research: UK, NO, IT, DK, HU

## PSRO typology

- Private generalist
- Private specialist
- Education generalist
- Education specialist
- Mixed generalist
- Mixed specialist
- Research generalist
- Research specialist

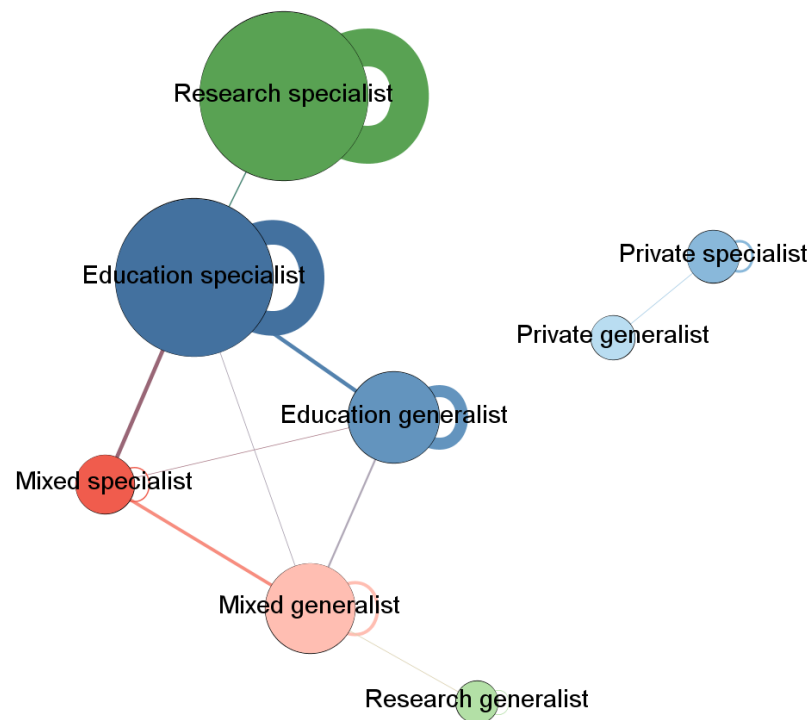


# Characteristics of concentration processes



# Frequent combinations of PSRO types in mergers

Most frequent mergers involve PSROs of same type



Mergers between **same PSRO type** (total 83%)

- Research specialists (38%)
- Education specialists (25%)
- Education generalists (12%)

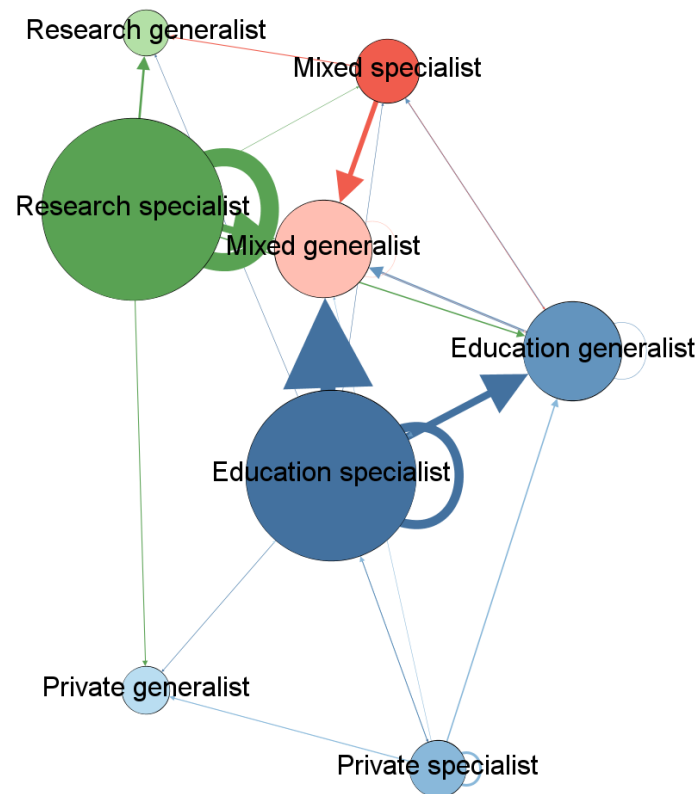
Mergers between **diff. PSRO types** (total 17%)

- Education generalist / Educat. specialist (4%)
- Education specialist / Mixed specialist (4%)
- Mixed generalist / Mixed specialist (3%)

Node size: Number of organisations

## Frequent combinations of PSRO types in take-overs

Take-overs also often take place between PSRO of different types



Node size: Number of organisations

Take-over between **same PSRO type** (total 37%)

- Research specialists (22%)
- Education specialists (11%)

Take-over between **diff. PSRO types** (total 63%)

- Education specialists taken over by Mixed generalists (18%)
- Education specialists taken over by Education generalists (9%)
- Research specialists taken-over by Mixed generalists (9%)
- Tendency towards larger „generalists“

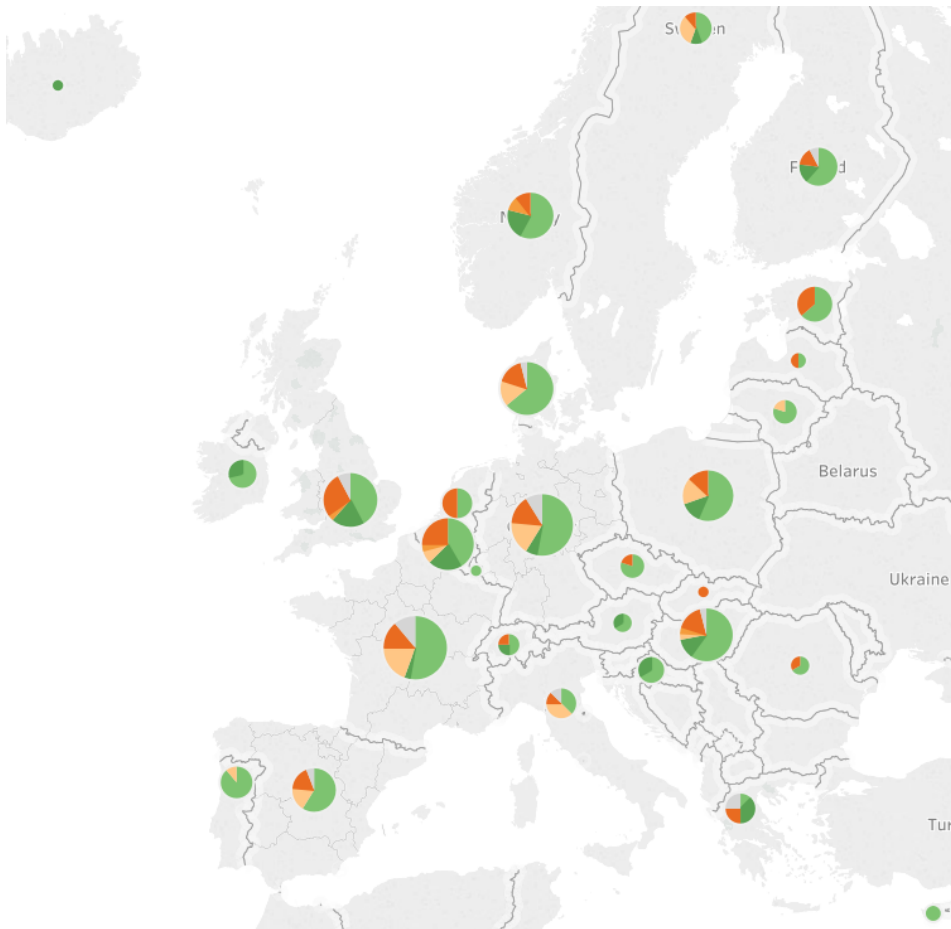


## Geographical scope of concentration processes

- Merger and take-over took place within or across metropolitan regions and (adapted) NUTS2 regions.
  - *within the region*: all organisations involved in the concentration process are situated in the same (metropolitan) region
  - *across regions*: organisations belong to different (metropolitan) regions
- Localisation of PSROs
  - Most PSRO types are located in metropolitan regions (>80%)
  - Exception: only 39% of Education generalists are located in metrop. regions

Geographical dimension		Merger		Take-over	
		<i>counts</i>	<i>share</i>	<i>counts</i>	<i>share</i>
within region	METRO	77	51%	108	58%
	non-METRO	21	14%	15	8%
across regions	METRO	12	8%	23	12%
	non METRO	4	3%	1	1%
	METRO - non-METRO	24	16%	34	18%
missing		12	8%	4	2%
<b>Total</b>		<b>150</b>	<b>100%</b>	<b>185</b>	<b>100%</b>

# Country specific patterns of the geographical scope of events



Stronger orientation **within regions** in

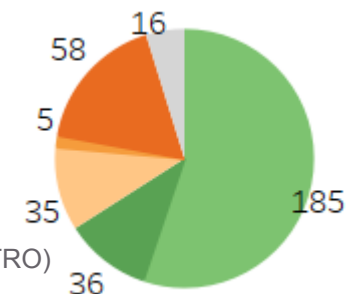
- Northern countries: DK, NO, FI
- Central European countries: AT, CZ, HU, HR, PL and
- Other smaller countries: IE, PT, CH

Orientation **across regions**

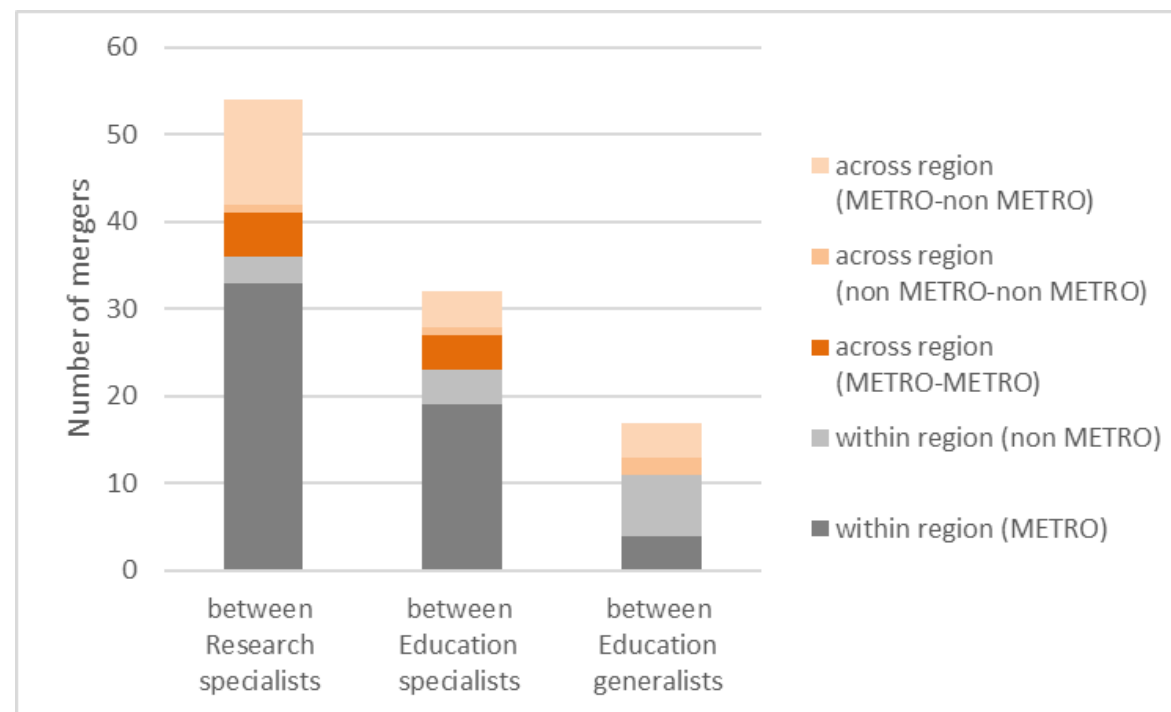
- large countries: FR, DE, UK
- southern countries: ES, IT, GR
- northern countries: NL, SE

## Spatial localisation

- Within region (METRO)
- Within region (non-METRO)
- Across regions (METRO)
- Across regions (non-METRO)
- Across regions (METRO – non-METRO)
- missing

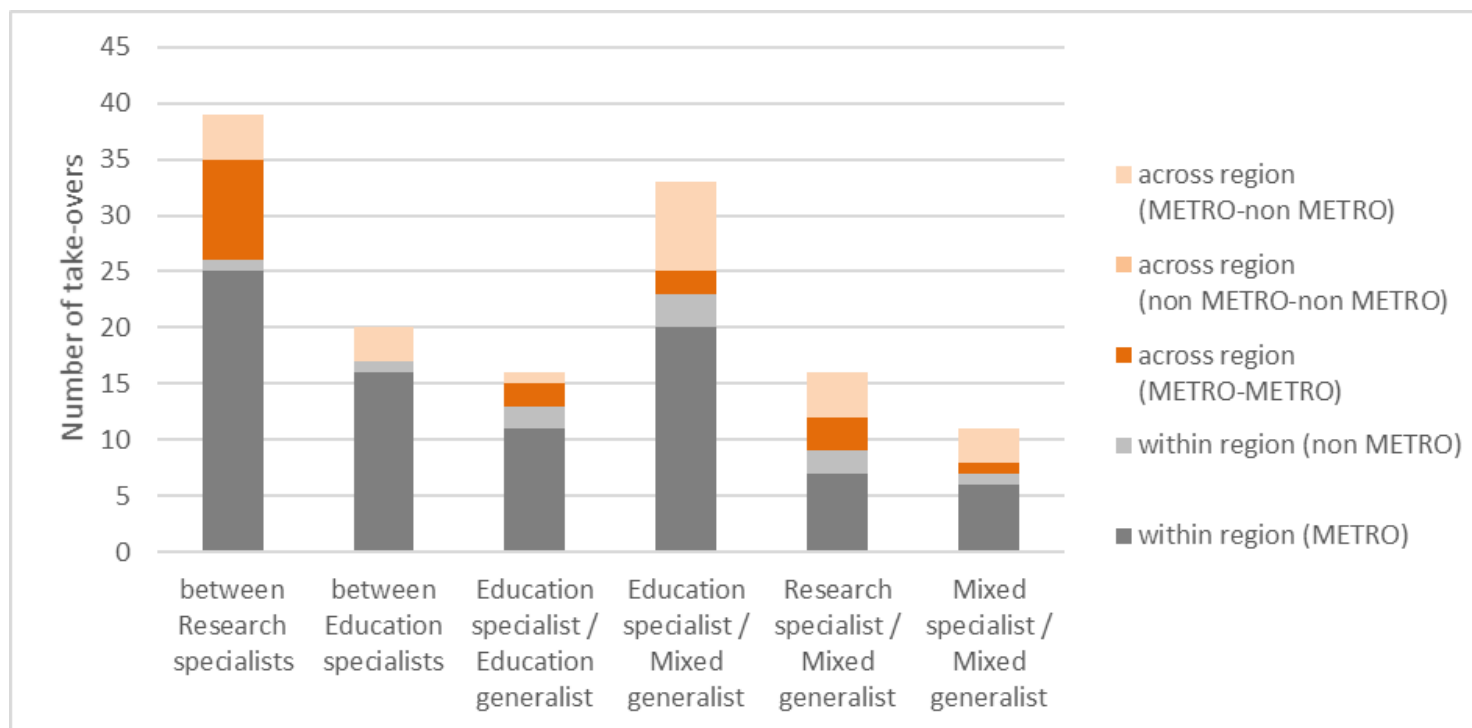


## Geographical scope of mergers and PSROs types involved



- Between “specialists” of the same type (education or research) frequently **within metropolitan regions** → regional consolidation in metropolitan regions
- Between Education generalists rather **within non-metropolitan regions** → regional consolidation outside metropolitan regions
- The majority of mergers **across (metrop.) regions** affect two or more Research specialists

## Geographical scope of take-overs and PSROs types involved



- Majority within the same metropolitan region → regional consolidation of “specialists”
- In 39% of all take-overs across (metropolitan) regions, “specialists” are absorbed by Mixed generalists; in 23% Research specialists integrate other Research specialists
- Take-overs by Education generalists again geographically concentrated, but now – in contrast to mergers – within metropolitan regions

## Concluding remarks and outlook



## Concluding remarks

- The study brings, for the first time, systematic evidence on the characteristics of organisational demography in Europe between 2000 and 2016
- Majority of events deal with take-overs and mergers,
  - embedded in system-wide processes launched by public authorities, or
  - incentivized by public authorities, but implemented voluntarily and bottom-up
- Types of PSROs involved
  - mergers and take-overs mostly affect PSROs of the same type
  - take-overs also often take place between PSROs of different types, with a tendency that generalists absorb other, mostly specialised PSROs
- Geographical patterns of concentration processes
  - Usually geographically concentrated (metropolitan areas), but considerable amount of cross-region events, usually generalists absorbing specialists
  - Tendency that cross-region take-overs involve PSROs of different type

## Outlook

- Consolidation of the PSRO typology and development of a comprehensive typology of demographic events in Europe
- Use the developed empirical basis for the identification of interesting country- and/or sector specific case studies
- The processed data and results bear the potential to infer about the complex relationships between concentration processes and research performance by means of an explanatory analytical framework
  - to assess the impact of concentration processes on the subsequent research activities and performance of the newly formed institution and
  - to identify determinants of successful PSRO mergers and take overs

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