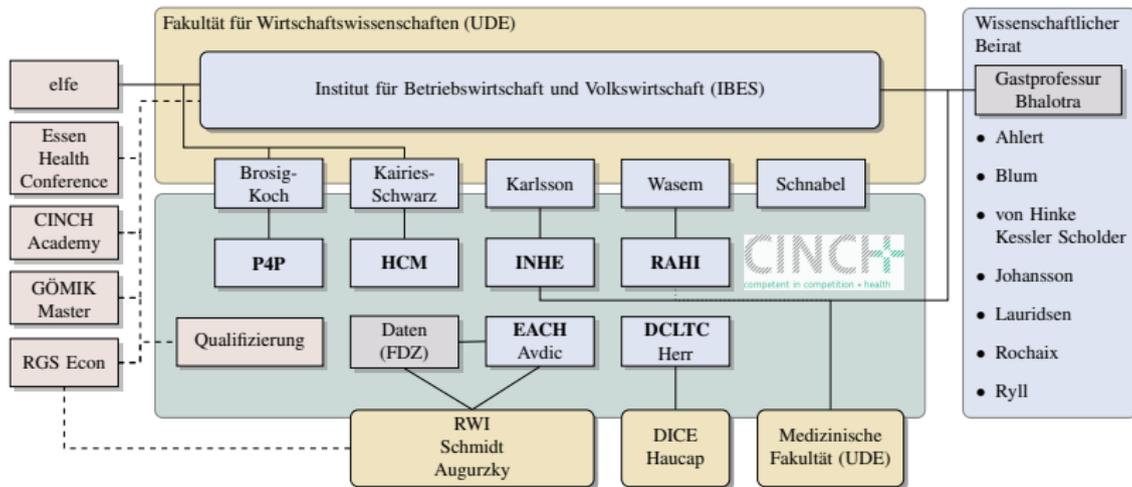


Demographic Change in the EU, the Oldest-old and the Need for Innovative Models of More Efficient Elderly Care

Who We Are



Health Economics in Essen.

Research Focus

- ▶ Demographic ageing
 - ▶ Low birth rates in most European countries
 - ▶ Increasing life expectancy
- ▶ What are the trends regarding the need for, the financing of, and the delivery of long-term care (LTC)?
- ▶ How can the challenges of a rising demand for LTC and the associated cost increase be mastered?

Project Work Packages

WP1: Assessment of Future LTC Needs

Projections of the future demand for LTC and associated costs

WP2: Evaluating Policy Reforms in the LTC Sector

Evaluations of past European policy reforms in the LTC sector

WP3: Care Provision in a Changing Society

Consequences of population ageing for morbidity, labour market participation and the tradeoff between formal and informal care

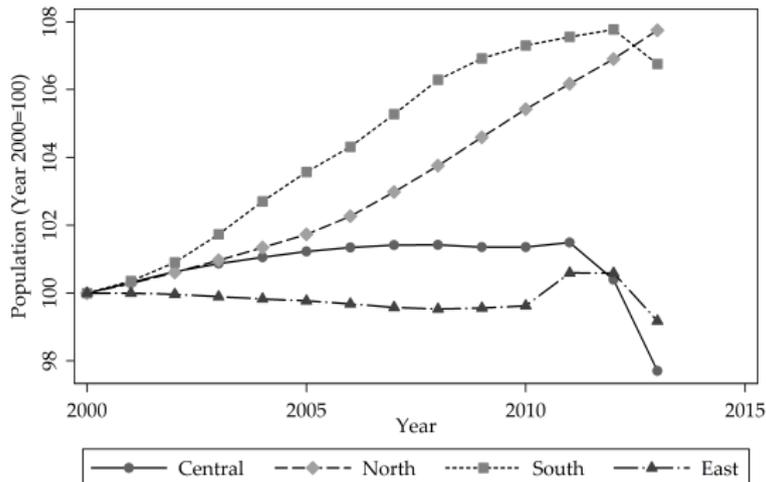
Project Team

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Project Partners

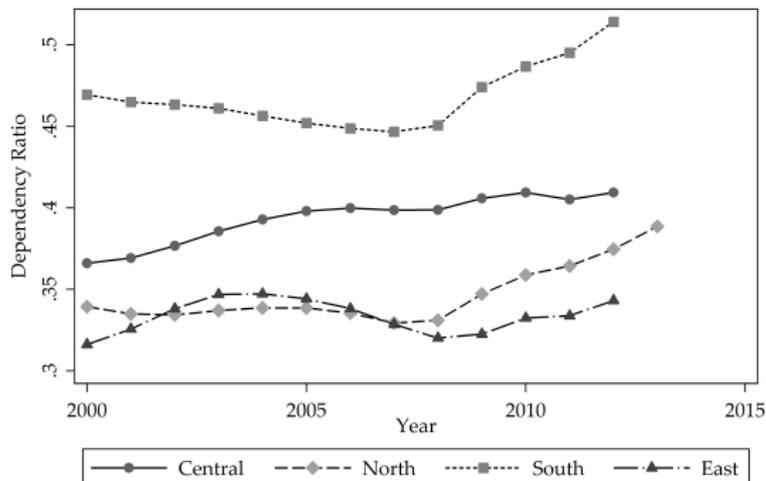
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Total Population in European Regions, 2000-12



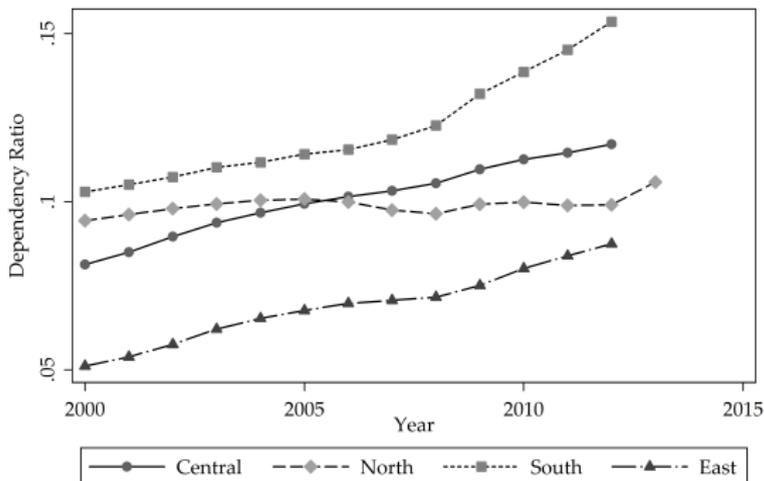
Source: OECD Population Reference, own calculations.
Definition of regions: North = Denmark, Sweden; Central = Austria, Belgium, France, Germany, NL,
South = Italy, Spain; East = Poland, Czech Republic.

Old-Age (65+) Dependency Ratio in European Regions, 2000-12



Source: OECD Population Reference, own calculations.
Definition of regions: North = Denmark, Sweden; Central = Austria, Belgium, France, Germany, NL;
South = Italy, Spain; East = Poland, Czech Republic.

Old-Age (80+) Dependency Ratio in European Regions, 2000-12



Source: OECD Population Reference, own calculations.
Definition of regions: North = Denmark, Sweden; Central = Austria, Belgium, France, Germany, NL;
South = Italy, Spain; East = Poland, Czech Republic.

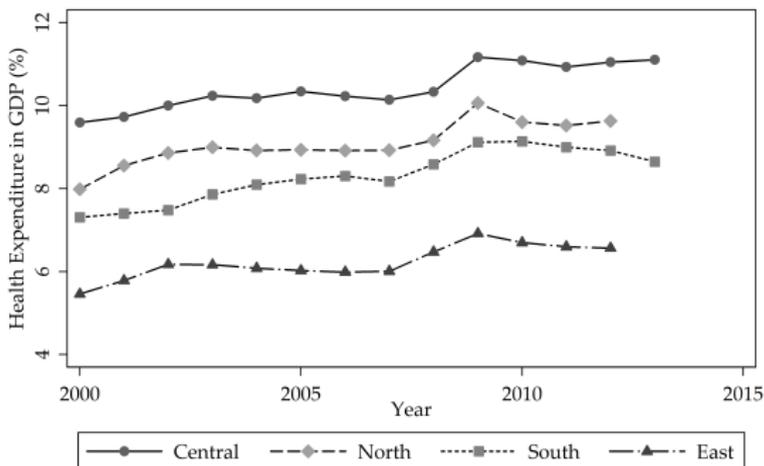
Expenditure on Health and LTC as a Proportion of GDP

<i>Region</i>	Health Care			LTC		
	Country	2007	2009	2013	2007	2009
<i>North</i>						
Denmark	10.0	11.5	11.0	2.35	2.71	.
Sweden	8.9	9.9	9.6	3.47	3.73	3.65
<i>Central</i>						
Austria	10.3	11.2	11.1	1.27	1.50	1.51
Belgium	9.6	10.7	10.9	2.15	2.30	2.44
France	10.8	10.9	11.6	1.50	1.72	1.27
Germany	10.5	11.8	11.3	1.32	1.47	1.44
Netherlands	10.8	11.9	12.1	3.33	3.70	4.11
<i>South</i>						
Italy	8.5	9.4	9.2	.	.	.
Spain	8.5	9.6	9.3	0.87	1.00	1.11
<i>East</i>						
Czech Republic	6.5	7.8	7.5	0.25	0.27	0.29
Poland	6.3	7.2	6.8	0.40	0.40	0.46

Source: OECD & Eurostat

Note: Health expenditure = current+investment expenditure in health.

Health Care Expenditure in GDP, 2000-12

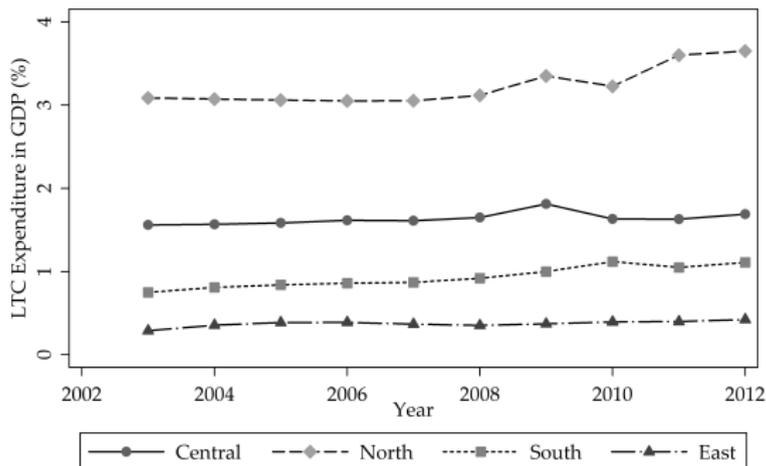


Source: OECD data, own calculations.

Definition of regions: North = Denmark, Sweden; Central = Austria, Belgium, France, Germany, Netl
South = Italy, Spain; East = Poland, Czech Republic.

Total current expenditure HC.1-HC.9 (Individual and collective health care), % gross domestic prod

Long-Term Care Expenditure in GDP, 2003-12



Source: eurostat LTC-database, own calculations.

Definition of regions: North =Denmark, Sweden; Central = Austria, Belgium, France, Germany, Netl

South = Spain; East =Poland, Czech Republic.

Note that Italy is missing here.

WP1: Assessment of Future LTC Needs

Backdrop: Rickayzen & Walsh (2002) model combined with the Mayhew/Smith decomposition model (Mayhew and Smith 2013):

1. **Prevalence rate** data, showing the part of the population being disabled
2. **Transition rate** data, projecting this ratio forward
3. **Trend** data, accounting for future trends like improvements in the health sector

Gains from WP1

- ▶ Consistent and comparable population projections by care need for several European countries.
- ▶ Validation and corroboration of previous results.
- ▶ Projected demand \Rightarrow expected LTC costs.
- ▶ Differentiating between formal and informal care: disentangle channels through which ageing functions
 - ▶ Increasing demand for formal \Rightarrow **financial** burden
 - ▶ Increasing demand for informal care \Rightarrow **labour market**

Deliverables

- ▶ Draft version of **projection model** (Quarter 2)
- ▶ Streamlined **database** of individual-level information for all countries included (Quarter 3)
- ▶ **Research papers** based on projections ready for dissemination among academics and user communities (Quarter 6)
- ▶ **Online database** of projections up and running on project website (Quarter 10)

WP2: Evaluating Policy Reforms in the LTC Sector

- ▶ Facing demographic change, many EU countries have implemented reforms (e.g. the German *Pflege-Neuausrichtung-Gesetz* in 2012: care for dementia)
- ▶ Measure reform effects using state of the art econometric techniques
 - ▶ Difference-in-differences regression
 - ▶ Regression discontinuity design
- ▶ Discuss the results in light of the reform's goals, measures and target groups – but also implications for other systems.

Gains from WP2

- ▶ Comprehensive assessment of several reforms within the care sector in Europe
- ▶ Assess which countries have already undertaken steps towards cushioning the effects of ageing
- ▶ Inferring the pros and cons of ongoing and future reforms on LTC spending and budget in EU countries (e.g. regarding cost effectiveness)
- ▶ Identification of possible best-practice examples transferable to other systems
- ▶ Prerequisite for developing future actions to counteract possible shortcomings of the European LTC sector

Deliverables

- ▶ Paper summarizing key parameters of all **recent LTC reforms** in European countries (Quarter 2)
- ▶ **Research design** concluded (Quarter 4)
- ▶ **Academic papers** evaluating particular reforms (Quarter 8)
- ▶ **Policy paper**: advice to policy makers (Quarter 11)

WP3: Care Provision in a Changing Society

- ▶ Does ageing lead to a compression or extension of morbidity?
 - ▶ Compression \Rightarrow shorter spells of severe LTC dependency
 - ▶ Extension: opposite (cf. Karlsson & Klohn, 2013)
- ▶ Factors determining choice between formal and informal care?
 - ▶ Population composition
 - ▶ Institutional characteristics
 - ▶ Cultural values
 - ▶ Macroeconomic conditions
- ▶ Effect of informal care labour market participation and health?
 - ▶ Long-run effects of informal care provision
 - ▶ Care provision to the oldest old
 - ▶ Mitigating effects of institutional characteristics

Gains from WP3

- ▶ Compression vs. extension: important implications for the use and provision of formal and informal LTC.
- ▶ Knowing determinants of formal/informal care \Rightarrow expected utilization patterns in response to a change in LTC policies
- ▶ The effects of informal care on labour market participation and health \Rightarrow conflict with labour market policies?

Deliverables

- ▶ Calculation of morbidity and LTC needs by age for different cohorts (Quarter 4)
- ▶ Developing a model of an efficient care mix (Quarter 8)
- ▶ Empirical analysis of the double burden of informal care and labor market participation (Quarter 10)
- ▶ Dissemination of papers at academic conferences and to stakeholders (Quarter 12)

Main Data Base

Survey of Health, Ageing and Retirement in Europe (SHARE)

- ▶ European-wide micro panel data ($N = 60,000$)
- ▶ Starting 2004
- ▶ Individuals aged 50 or older
- ▶ Special focus on health and care issues
- ▶ One of the few surveys to include persons residing in LTC institutions
- ▶ To be complemented with administrative data

Potential Project Impact

- ▶ Make the way in which LTC is delivered more efficient
- ▶ Hereby potentially saving millions of Euros and protecting essential services in the welfare state
- ▶ Define best-practice examples and analyse how previous political actions can lead to mutual learning within the EU
- ▶ Help policymakers to make institutional choices that assist in creating a sustainable welfare state in times of demographic ageing

Dissemination

- ▶ Scientific community
 - ▶ Conferences
 - ▶ Publication of research output in working paper series and peer-reviewed journals
- ▶ Policymakers
 - ▶ Interaction with key decision-makers in public institutions (e.g. Ministries of Health of the EU countries)
 - ▶ Interaction with international organisations
- ▶ Broad public audience
 - ▶ Project website for dissemination of main findings, policy papers, and databases generated within the project

Deliverables, first project year

- ▶ **WP1:** Draft version of **projection model** (6 months)
- ▶ **WP1:** European individual-level **database** (9 months)
- ▶ **WP2:** Library of European **LTC Reforms** (6 months)
- ▶ **WP3:** Morbidity and LTC needs by age & cohort (12 months)