

»» Empty homes, empty coffers?

Demographic change, cost stickiness, and regional disparities in Germany

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»» What's the point?

› **Why care about demographic change?**

- › Many developed countries face major demographic challenges: ageing, shrinking population, migration
- › These challenges will have an impact on public budgets
- › Literature on economies of scale is well established, but lacks unambiguous evidence and long-term perspective
- › A sustainable fiscal policy requires a deeper understanding of these issues!

› **What's new?**

- › Examination of the demographic effects over a total of 80 years for all larger communities in (West) Germany
- › Panel-data analysis, differentiation between growing and shrinking communities (economies of scale vs. cost stickiness)
- › Consideration of different spending categories (despite total expenditure) and different aspects of demographic change
- › Examination of linkage between demographic change and the efficiency of public spending

»» What is the study about?

› **The study:**

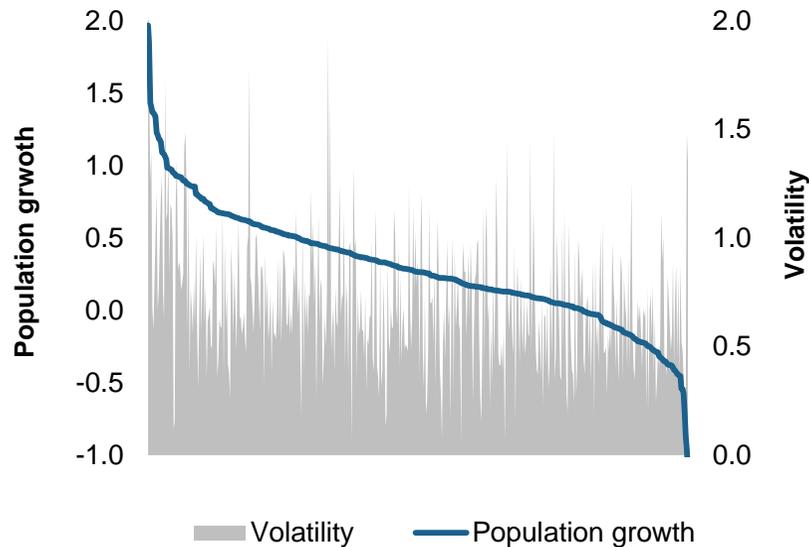
- › Long-term panel-analysis of the linkage between demographic change and municipal spending
- › Conducted by ifo Institute, Dresden branch
- › Database: "Statistical Yearbook of German Municipalities" of the German Association of Cities, years 1949 to 2013; regional population forecast (Bertelsmann Stiftung)
- › More than 20 demographic, fiscal and socio-economic indicators for all communities with more than 20,000 inhabitants

› **Key issues :**

- › *How do demographic changes affect municipal spending?*
- › *Which aspects of demographic change are particularly influential?*
- › *What are the demographic risks to regional development / inequality?*

»» What are the key results?

› 1. Demographic change in the long run

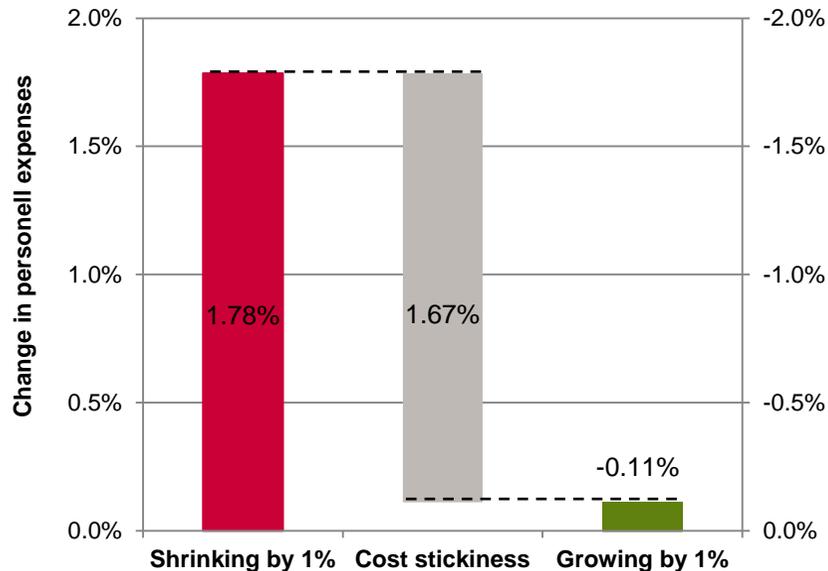


Source: Brand & Steinbrecher (2017): KfW Research Focus on Economics (191).

- › Average growth rates conceal a remarkable heterogeneity:
 - › High range of growth rates
 - › High volatility in growing and shrinking communities
- › The intensity of development varies, but the trend itself is quite stable:
 - › Only in 25% of the municipalities did phases of growth and shrinkage alternate more than once
- › Main questions for local fiscal policy:
 - › How has/will population develop(ed)?
 - › Can spending be adequately adjusted?

»» What are the key results?

› 2. Municipal spending



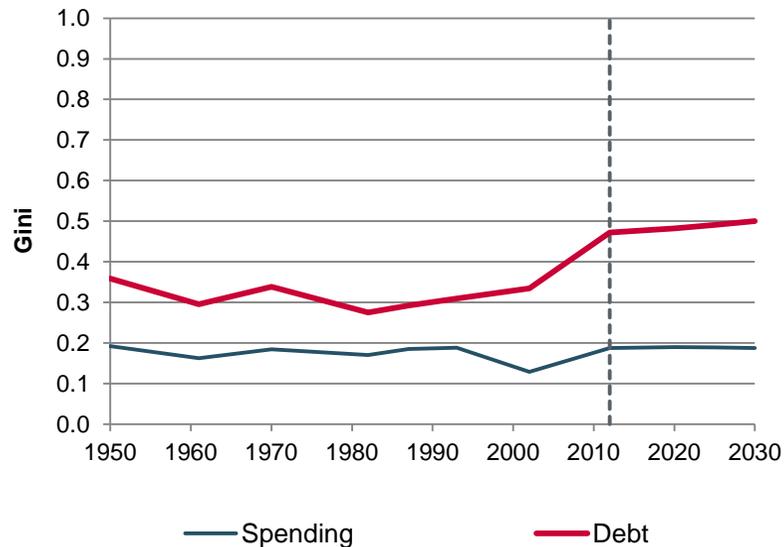
Source: Brand & Steinbrecher (2017): KfW Research Focus on Economics (192).

› Significant differences in spending paths in shrinking and growing municipalities:

- › Strong effects for staff and material costs; less/no significant effects for investments
- › Cities or municipalities with significant adaptation difficulties:
 - › Medium-sized (30,000-100,000 inhabitants)
 - › Strong fluctuations in the population
 - › Urbanized (densely populated, close to agglomerations)
 - › Low investment share in total budget
- › Malmquist-DEA suggests that shrinking municipalities also suffer from declining spending efficiency

»» What are the key results?

› 3. Regional disparities



Source: Brand & Steinbrecher (2017): KfW Research Focus on Economics (193).

- › Regional inequality has remained relatively stable over the past decades
- › At first glance, the demographic impact on inequality is small
- › But:
 - › Regional disparities are already significant
 - › Shrinking communities face cost stickiness and lower efficiency
 - › More severe cost stickiness in regions with low investments
- › Adapting is more necessary but more difficult for shrinking communities → regional disparities might increase further

»» What's next?

› **Policy implications:**

1. Shrinking hurts, waiting for relief is not an option
2. Personnel and material costs should be increased with caution
3. Lower spending efficiency might further impede adjustments in shrinking municipalities
4. Investments / adaptation measures will be necessary to limit negative cost effects.
→ Promotion programs and inter-municipal cooperation can facilitate early responses

› **Open (research) questions:**

1. Cost Stickiness: Is adjustment of spending impossible or just unpopular?
2. Causality: How to isolate the impact of demographic change on expenditure?
3. Spatial analysis: How do municipalities interact with each other? Are demographic effects different if neighbors are strong/weak?

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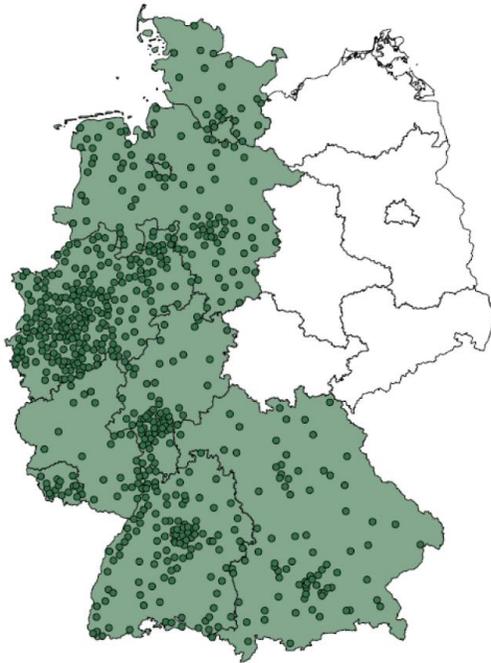
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»» Backup

»» Methodology

- › Dataset:
 - › Up to 665 cities, observed at the dates 1950, 1961, 1970, 1982, 1987, 1993, 2002 and 2012; representing up to 60% of the (West) German population



»» Methodology

- › Specification:
 - › Dependent variable: annual average growth rate of the municipal per capita spending (categories: total, staff, material cost, investments, building investments)
 - › Covariates:
 - › *Demographic*: e.g. growth rate of population/female population/foreigners; ageing structure
 - › *Economic*: e.g. Differences in the industry structure, economic growth, local tax rates
 - › Model: two-way fixed effects; additional state-year-FE included;
 - › Differences between growing and shrinking municipalities are captured by an interaction term (Growth-Dummy* Δ Population)

»» Disclaimer

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