System Dynamics Society

Online Poster Presentation

Solving Systemic Socio-Economic Dilemmas in Regional Australia

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Problem Statement

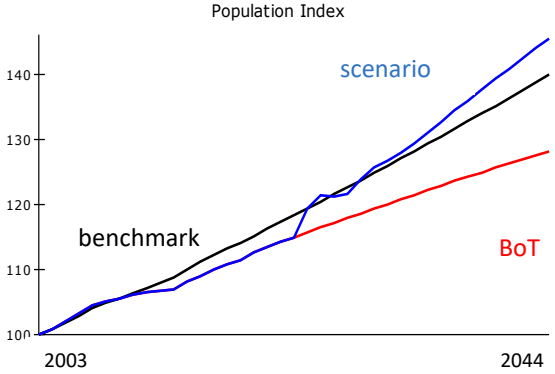
- Regional Australia has 194 LGAs with median ages of 45+ years (pop. 3.2m), leading to
  - Potentially unsustainable dependency ratios, despite elevated capital-region migration.
  - Regional communities typically demonstrate economic underperformance, limited economic sector diversity and subpar wellbeing.
- The challenge is to develop sustainable regional development policies (and a supporting decision tool) that address the complex interplay of:
  - population dynamics,
  - economic resilience, and
  - community wellbeing,
  - in the context of impending impacts of climate change.

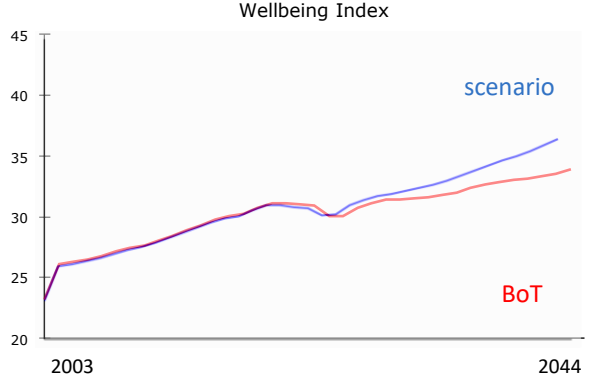
Approach or Dynamic Hypothesis

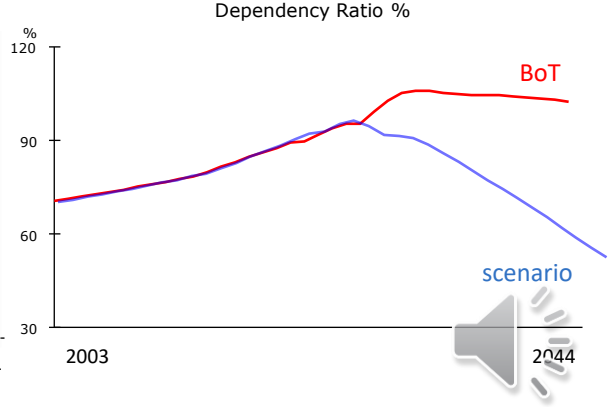
- Dynamic Hypothesis: The structure of the socio-economic system is unsustainable as the ageing population is unable to sustain itself economically, has insufficient economies of scale to meet community needs, and economic development opportunities limited by insufficient net domestic migration.
- Method: Causal loop diagram, discussions with businesses, Not For Profits (NFP), local, State government.
- Use of exemplar for 2003-2023 longitudinal demographic and economic data analysis, industry sectors, Net Domestic Migration, Wellbeing data, climate change impact scenarios.
- Time horizon (2044) reflects typical design, intervention and implementation timeframe, with delays for possible effects.

Results

- BoT shows sub benchmark population growth, slowing wellbeing improvement due to rapidly ageing population, unsustainable dependency ratio impacts on economy.
- (Policy) Scenario shows high youthful net migration, high industry investment, improving dependency ratio, despite negative hi climate change impact on wellbeing, environment, economy.







Conclusions

1. Multiple policies are required to re-balance the system:
   - Substantially increasing net domestic migration levels of younger more economically active residents,
   - Significant, sustained industry development, multiple sectors with export focus.

2. Balancing loops counteract reinforcing loops:
   - Ageing population – slows down workforce growth.
   - Competitor response – slows down net migration.
   - Impacts of climate change – reduce wellbeing, output.

3. Potential to apply generic SD model, custom parameters to other LGAs with different characteristics.

4. Build decision maker strategic thinking capabilities w ST/ MFS.

Get in touch

Thank you for listening.

Please contact me for further information at

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