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Whole person. Whole system.

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Computable General Equilibrium approach to project disability care wages

Aaron Cutter, Janine Dixon, Jiao Wang and Mayank Jain

Agenda

1. Inflationary pressure on cost of care
2. CGE Modelling and results
3. Application and Implications

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Care Cost Inflationary Pressures

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Background

Disability Care services comprise a significant proportion of costs for compensation schemes. Particularly relating to those who have had severe and catastrophic injuries

People with these injuries often need assistance for life. This creates significant leverage between inflation and ultimate cost, when considering liabilities and fully funded levies/premiums.

Therefore understanding potential cost escalations is important in ensuring financial sustainability of these schemes

Increase in Demand

Over the last 10 years there has been a material increase in demand for aged and disability care

NDIS

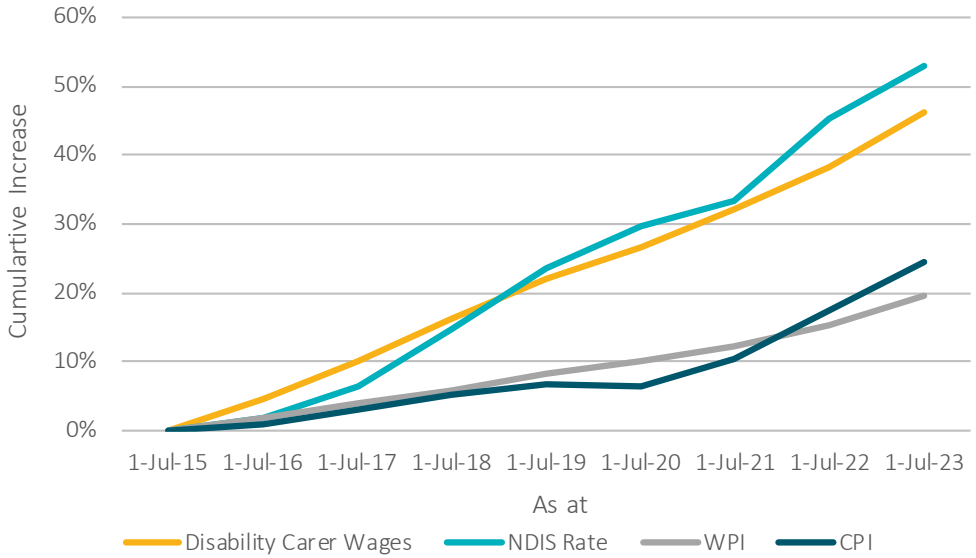
- Number of participants 49% higher than expected
- Breadth and volume of services increased over time

NDIS is likely fulfilling needs that were previous unmet

Ageing Population

- 55% increase in aged care recipients since 2015

Increase in Wages and Cost of Care



- Since 2015, carer wages have increased by 46% and NDIS disability care prices have increased by 53%
  - compared to a 24% increase in CPI and a 20% increase in WPI over the same period.

Prospective Pressures

Historical Demand Pressures = Cost Increases

Expected continuation of demand pressure

Future Inflation

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CGE Modelling and Results

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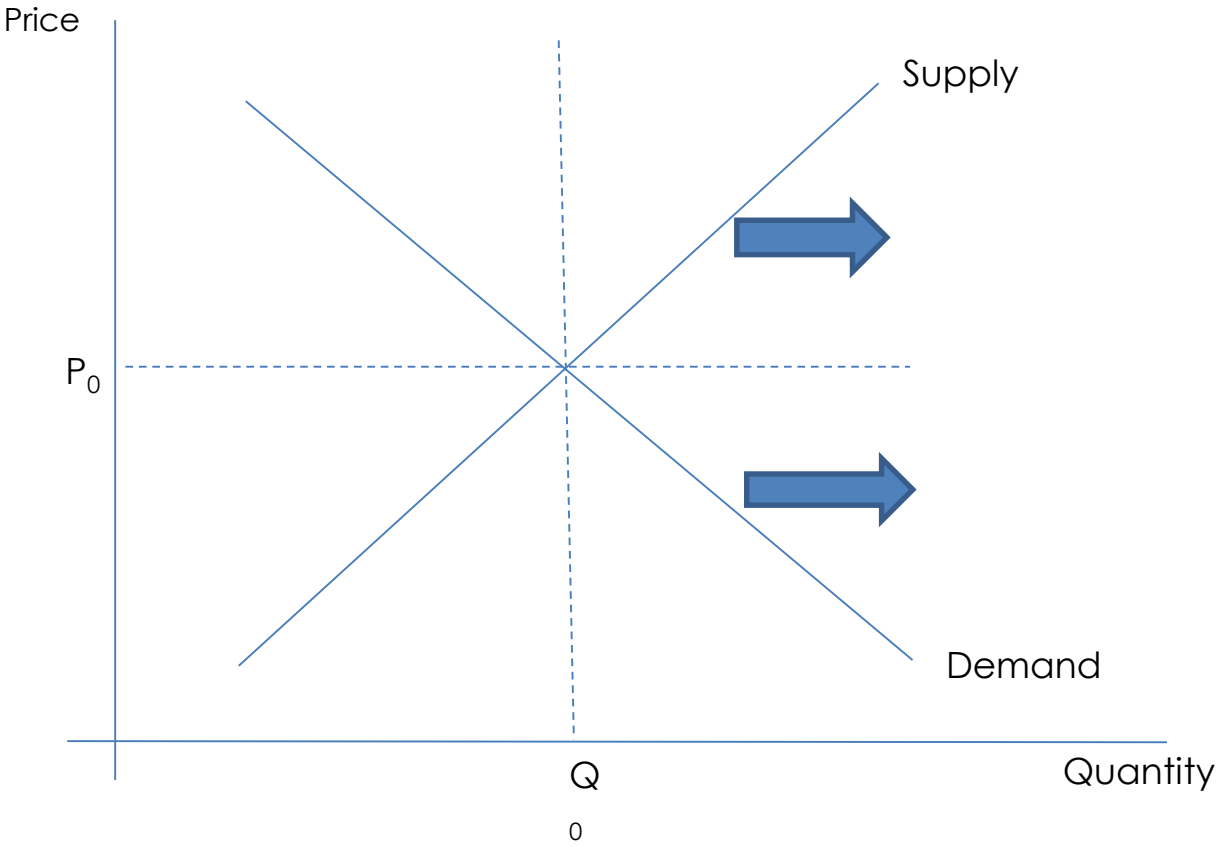
Using CGE modelling to estimate long run growth in industry costs

- Costs fall as input requirements fall
  - Also known as productivity growth
- Macro-level productivity growth drives the difference between GDP and employment growth
  - Intergeneration report
  - United nations population forecasts
- Productivity growth differs widely across industries and occupations leading to long term structural change and changes in relative prices
- CGE modelling provides a framework in which to estimate long-term changes in costs in care activities

Cost pressures to indicate shortage/surplus



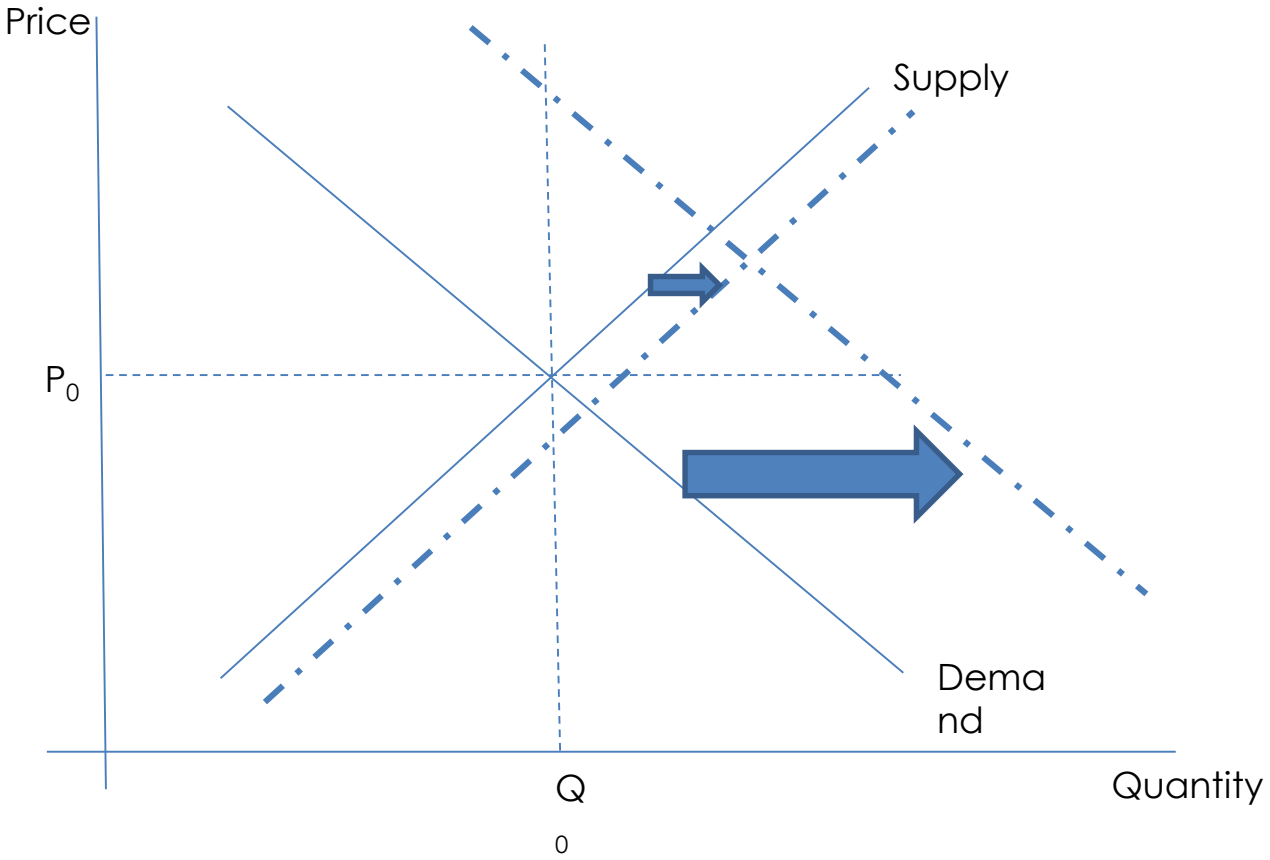
Over time, Supply and Demand both travel to the right

Economy-wide drivers:
- Population growth
- Income growth

Paths of supply and demand for particular occupations depend on:
- Industry growth (depends on tastes, technical change, world economy)
- Automation of tasks
- Demographics

In general productivity growth drives wage growth – income growing faster than population

Cost pressures derive from differing rate of supply and demand growth



Strong growth in demand:
- Fast growing industries
- Low prospects for automation
- E.g. care services, face-to-face services

Low growth in supply:
- Low productivity growth

Growth in Demand strong relative to growth in supply: increases in relative costs

Input assumptions

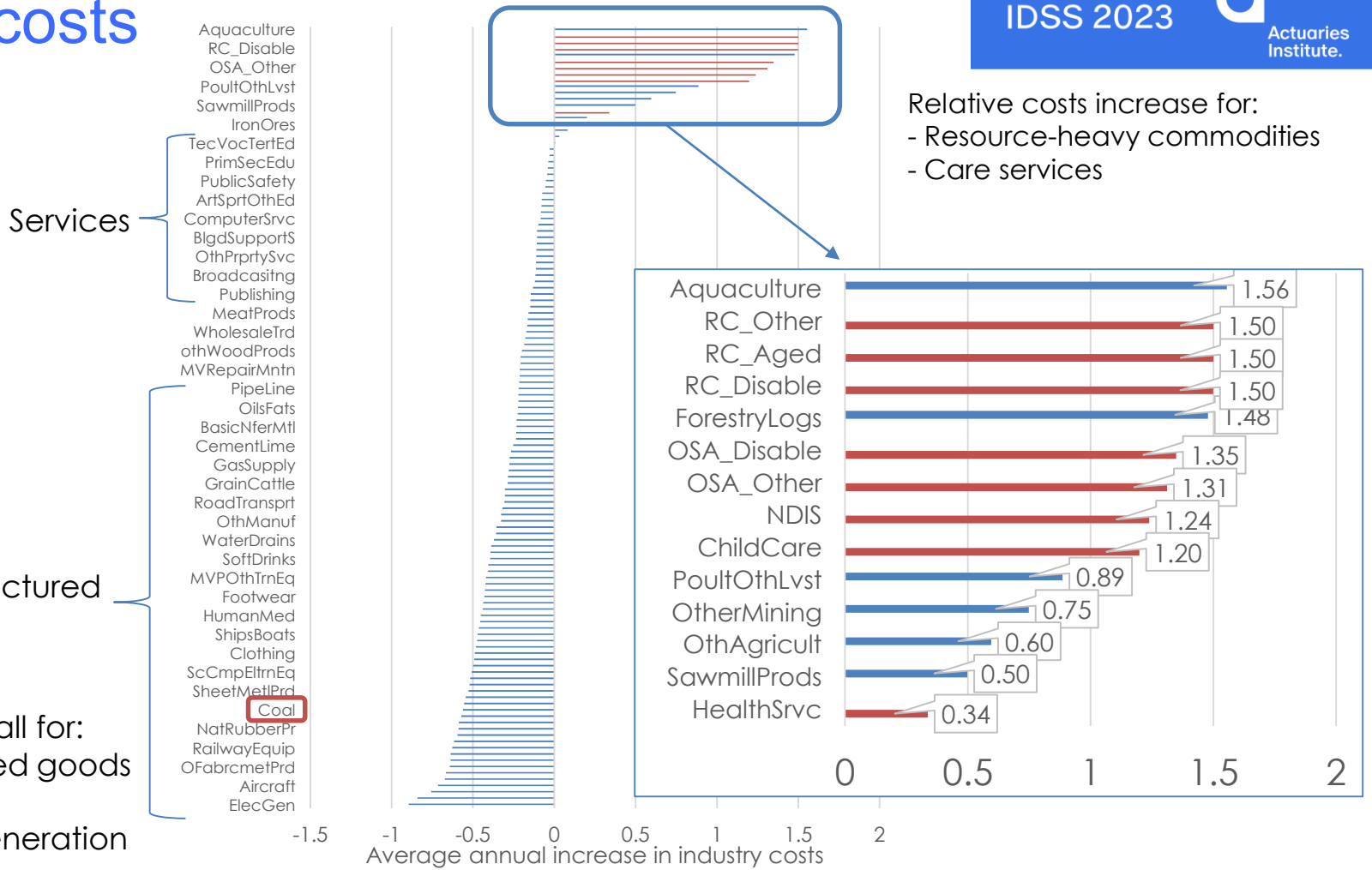
Variable	Source	
Macroeconomic and demographic variables		
Population	United Nations	2022-2100: 46%
Population aged 65+	United Nations	2022-2100: 170%
Participation rate	Commonwealth IGR	
Overall productivity growth	Own estimate	2022-2100: 80% contribution to growth
Inflation	n/a	
Industry-specific variables		
Productivity improvement in land use	Own estimate	40% saving
Productivity improvement in agriculture, mining and manufacturing and selected services	Own estimate	90% saving
Productivity improvement in care services	Own estimate	15% saving
Fossil fuel output and productivity in usage	Own estimate	70% fall
NDIS as a share of GDP (%)	NDIA/Own estimate	2022: 1.48% (NDIA) 2032: 2.55% (NDIA) 2100: 4.6% (own estimate)

2032-2100:

- **Standard of care**: NDIS expenditure per participant assumed to grow by 20% more than GDP per capita
- **Coverage**: Number of participants to grow by 50% relative to population

Industry costs

Average annual growth in CPI-deflated costs by industry. Source: VUEF model



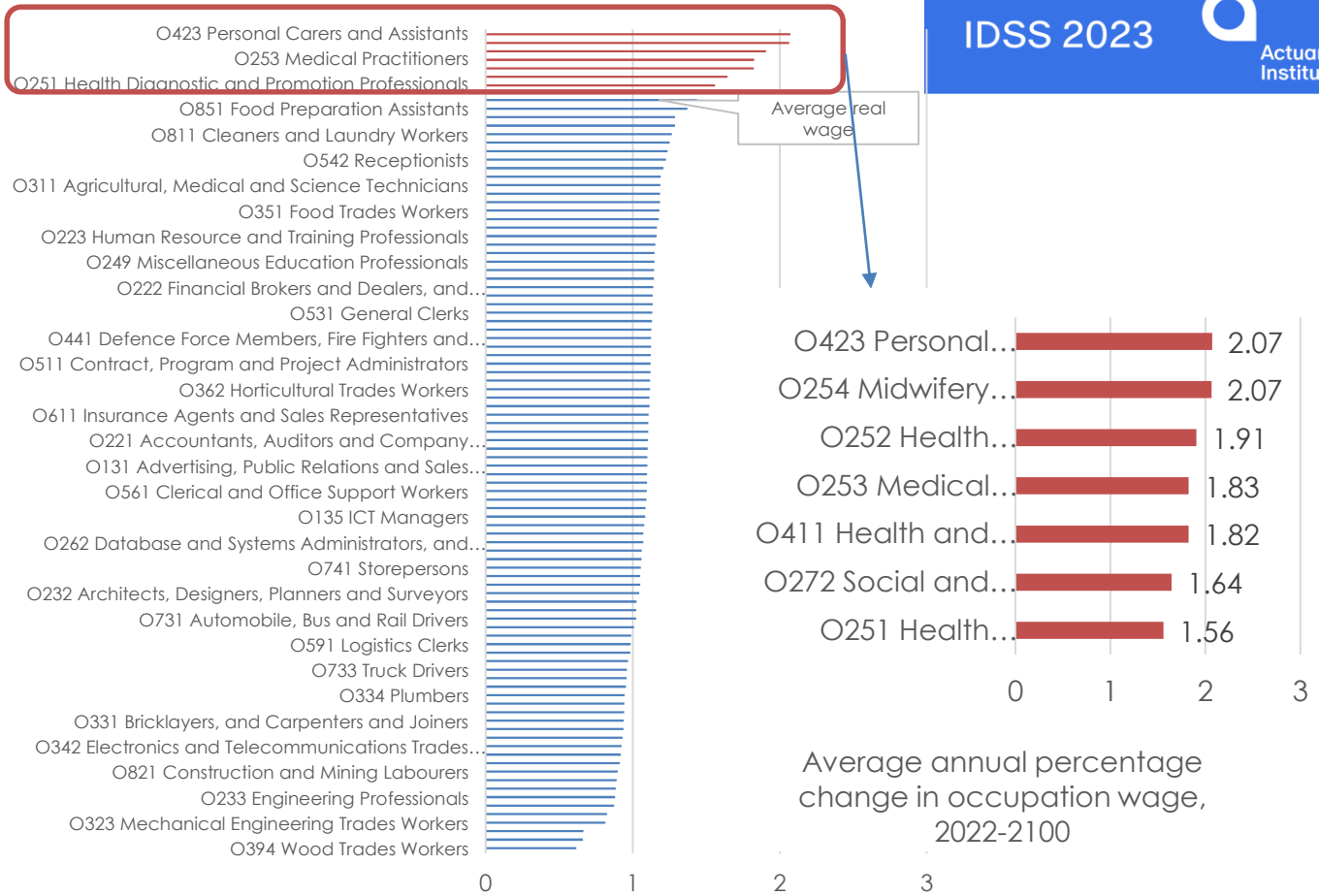
Relative costs increase for:
- Resource-heavy commodities
- Care services

Relative costs fall for:
- Manufactured goods
- Coal
- Electricity generation

Occupation wages

Average annual growth in CPI-deflated wages, selected occupations. Source: VUEF model

- All wage growth is positive
- Top 7 occupations all relevant to care sector
  - High labour share
  - Relatively low productivity growth
- Industry costs reflect productivity growth as well as wage growth: average CPI-deflated growth rate is close to zero



Average annual percentage change in occupation wage, 2022-2100

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Application and implications

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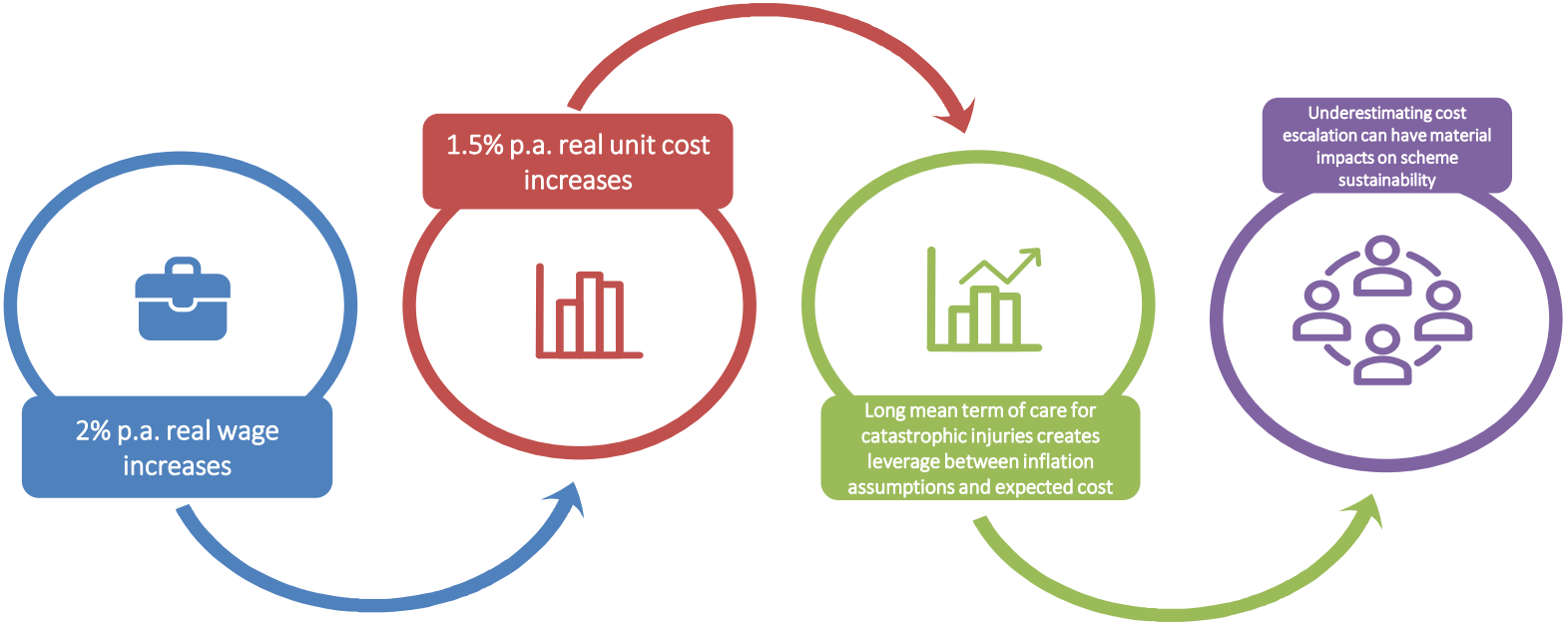
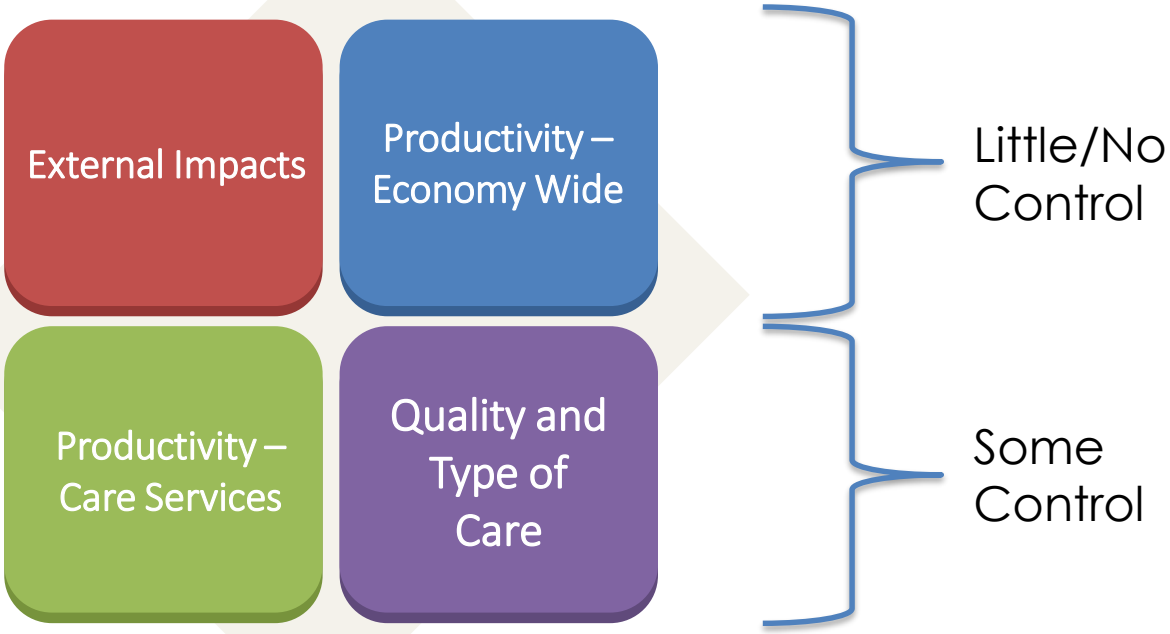
Implications for the cost of providing care



Key Drivers of Cost



Little to no control

External Impacts

- Government Policy
  - Tax Structures
  - Size of the NDIS
  - Immigration Policy
- Societal Expectations

Economy Wide Productivity

- Productivity gains free up labour in other sectors which can be utilized in areas of increasing demand such as care
- Higher productivity gains than assumed will relieve pressure on carer wages and cost of care (and vice versa).

Some Control

Productivity of Care Services

- Productivity gains are key to reducing the cost of care
- Technological Advancements
  - Automation of simpler tasks while maintaining real world connection
  - Improvements in accessibility tools (such as prosthetics and home modifications)
  - Medical advancements

Quality and type of care

- Productivity gains have been assumed to be offset by more care provided (in order to achieve better outcomes for participants)
  - Additional Training – particularly for complex situations
  - Minimum minutes of care
- Structure of how care is provided
  - Can services (particularly supervisory) be shared?
  - Can community supports be leveraged?

Conclusion

Traditional actuarial frameworks rely on the analysis of historical experience in order to set assumptions

CGE model provides framework to explicitly model changing demographics

CGE model produces a robust set of outcomes which can be considered in assumption setting

Allows for the impact of alternate policy settings to be tested

Multi disciplinary approach offers insights from alternate perspectives and world views

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Thank you

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