



**Australian Government**

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**Department of Industry  
Tourism and Resources**

# **Understanding Innovation - DITR'S analytical collaboration with ABS**

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## DITR's Industry Analysis Branch

- **Macroeconomic commentary and advice** to the Minister and the Corporate Executive - selected publications
- **General microeconomic policy advice** relevant to industry (recent examples include work-force participation incentives; demographic challenges; productivity growth; skills gaps) - selected publications
- **Innovation analysis:** undertaking research and analysis on all facets of innovation – selected publications

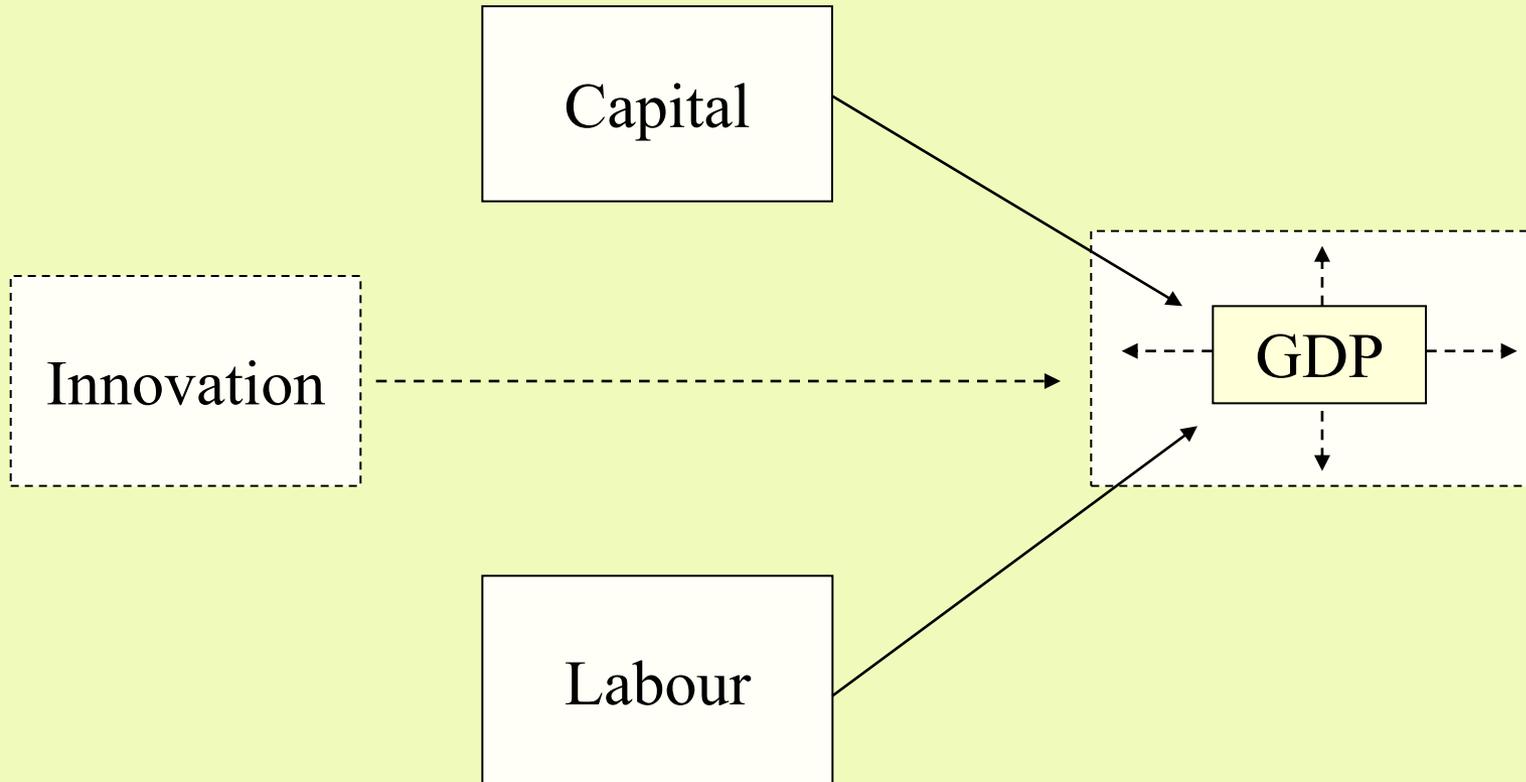


## Innovation

- Innovation is the complex (non-linear) **process** of ideas creation and discovery together with their transformation into new goods, services or processes that confer additional economic value
- Innovation includes the processes giving rise to:
  - New and improved goods and services (**product innovation**)
  - The provision of goods and services in more efficient ways (**operational process innovation**) and/or
  - The application of better management techniques and business practices (**organisational innovation**)



# Innovation is Critical to Economic Growth





## Australian Innovation Surveys

- Australian Innovation surveys were conducted during the 1990s, but these were largely experimental and focused on particular industries
- In February 2005 the ABS publication *Innovation in Australian Business* released the results of the 2003 Australian Innovation Survey
- The survey contains a wealth of valuable information:
  - Innovation inputs and outputs
  - The organisation of innovation activities
  - The characteristics of innovating and non innovating businesses
  - The drivers and barriers to innovation



## Analytical Collaboration with ABS

- In May 2005 the Australian Statistician approved an analytical collaboration with DITR, known as a '**Section 7a**'.
- The overall aim of the project is to:
  - Inform the Statistician of suitability of data to policy analysis
  - Inform policy development through analysis and interpretation of the data
  - Enhance the use and value of the innovation survey data through feedback to ABS and dissemination of associated analysis
- The project commenced on 21 June 2005



## Analysis to Date

- **Joint DITR and ABS paper** analysing patterns of innovation in Australian businesses (draft)
  - Broad descriptive analysis of the data + some simple hypothesis testing
- **Key lessons learned** (currently drafting)
  - To inform the development of future innovation surveys
  - Specific feedback already incorporated into next survey
- **How collaboration impacts on innovation and innovation novelty** in Australian businesses (currently drafting)
  - Econometric study using ordered probit modelling
- **Access to micro-data has been critical to this work**



## Examples of Dependent Variables (LHS)

- Innovator vs non-innovator
- Degree of novelty of innovation
- Type of innovation (G&S vs processes)
- Innovation input intensity (innovation spend/ total spend)
- Innovation output intensity (% turnover due to new G&S)



## Examples of Explanatory Variables

- Business size
- Collaboration (yes, no) – type; intensity
- Sector and industry within sector
- Level of technology (manufacturing only)
- Ownership (foreign vs domestic)
- Staff skills, training and recruitment
- R&D intensity
- Other innovation related activities
- Geographical location



## ABS Support for DITR Analysis

- Provision of access to micro-data under Section 7(a)
- Technical advice in relation to storage and access to survey data
- Technical advice and computation of relative standard errors
- Ensuring the integrity of confidentiality obligations and provisions
- Opportunity to DITR to input into design of subsequent surveys
- **Very good experience** – cooperative knowledge sharing, leading to enhanced usefulness of data and improved policy foundations



## Value of Analytical Collaboration

- **Immediate value**
  - Informing the development of the ABS 2005 innovation survey
  - Demonstrating the value of the dataset and the types of analyses that can be undertaken
- **Future value**
  - Understanding better the key drivers of innovation behaviour
  - Providing analysis of key policy issues
- **Overall value**
  - Detailed analysis of innovation is critical in informing policy development, and program design and implementation



## Summary

