



Valuing data as an asset

The Australian experience

March 2026

AUSTRALIAN BUREAU OF STATISTICS
Informing Australia's important decisions



Change	New statistical output	Benefits
Inclusion of data as an asset	<p><u>Change to core framework</u></p> <p>New line item for “Data and Databases” to be included in the core accounts under:</p> <ul style="list-style-type: none">• Gross Fixed Capital Formation - Intellectual Property Products.• Balance sheets of respective sectors – Intellectual Property Products	<p>More complete measures of GDP and Net worth, which take account of productive activities.</p> <p>Enable analysis of “Data” assets and their impact on the economy.</p>

Approach

- The ABS undertook proof of concept work in 2021-22.
- The ABS followed the path set by Statistics Canada and BEA to produce nominal estimates of data assets and built on these for the Australian context
- Occupations based sum of costs approach was used
- Produced chain volume estimates
 - Tested the sensitivity of varying price indexes
- Produced capital stock estimates
 - Using PIM tested sensitivity of varying capital stock assumptions

Costs included in sum of costs

- As recommended in GN DZ.6, the value of data was estimated using the sum of costs approach and included labour costs plus non-labour costs such as the associated software, hardware, electricity, building and telecommunication services
 - Labour - occupations were selected from the Australian and New Zealand Standard Classification of Occupations (ANZSCO) that are generally associated with data.
 - Non labour costs – it was assumed that non-direct salary and other intermediate input costs represent 50% of the salary costs
 - Non labour costs - An additional markup of 3% was added for the cost of capital.

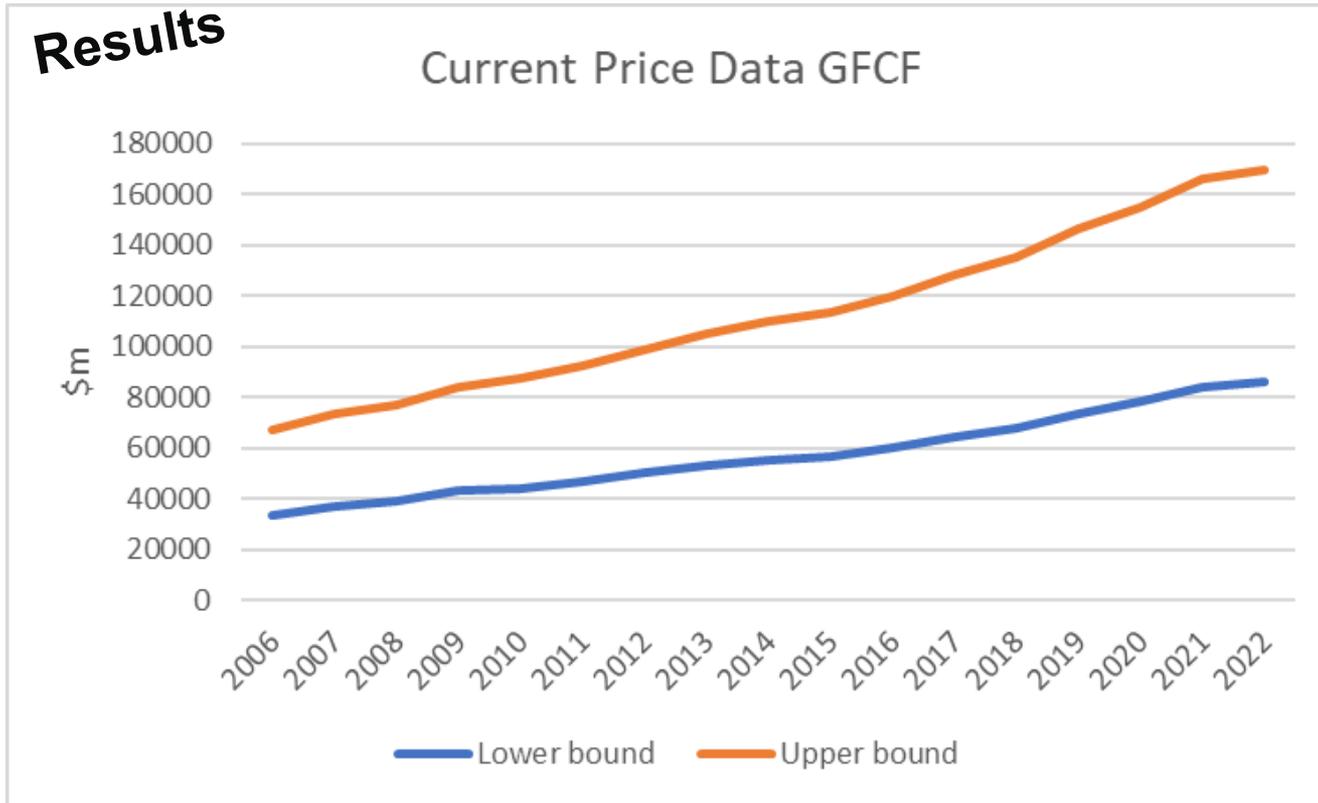
Occupations

- Occupations were selected using compilers expertise informed by data contained in our Characteristics of Australian Business survey on the use of data analytics software by different industries.
 - Highly subjective
 - Difficult to find existing source of information on which occupations to include
- The percentage of time each occupation is likely to spend relating to data was determined.
 - These are highly subjective and so lower and upper bounds were set
- The 5 yearly Census of Population and Housing employment and earnings by occupation data was used interpolated with Labour Force Survey hours worked by occupation information.

Occupations (cont.)

- We included a broader range of occupations to include not just data specific occupations but also other occupations that are likely to produce and/or use own account data assets regularly.
- Percentages of productive activities devoted to production of data were estimated with upper and lower bounds included
 - Percentages are lower for non-data specific occupations to reflect the broad activities carried out by these occupations.
- The inclusion of the broader range of occupations helps illustrate the impact that subjectivity of the assumptions used can have on the final estimates when using the sum of costs approach.

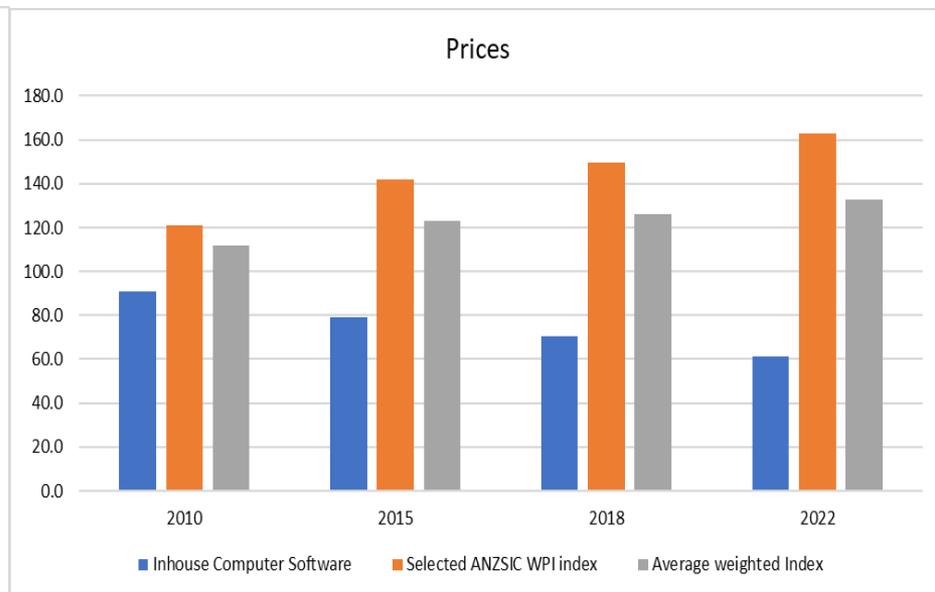
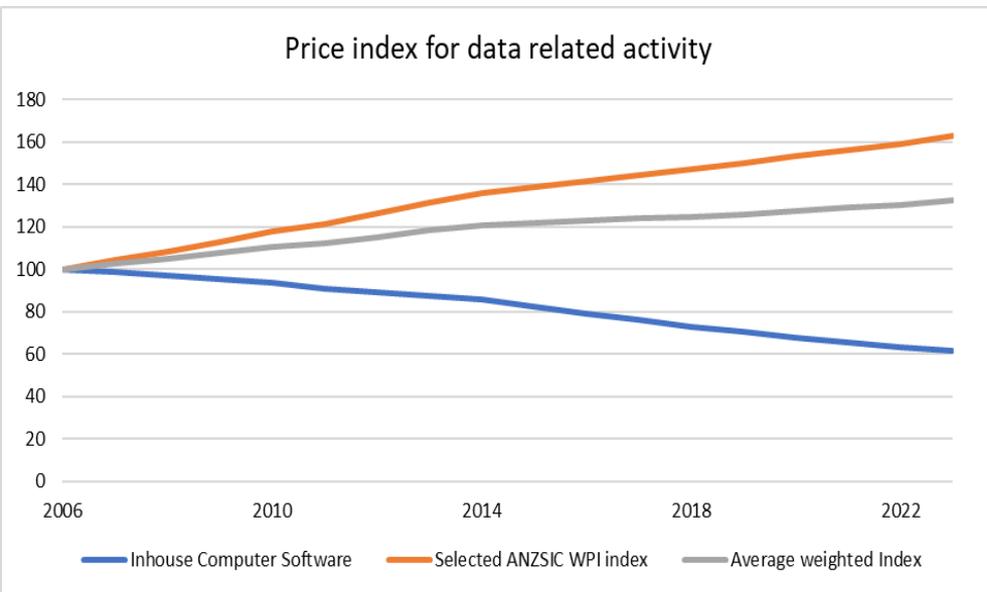
Recording data as an asset – proof of concept work



Recording data as an asset – proof of concept work

Prices

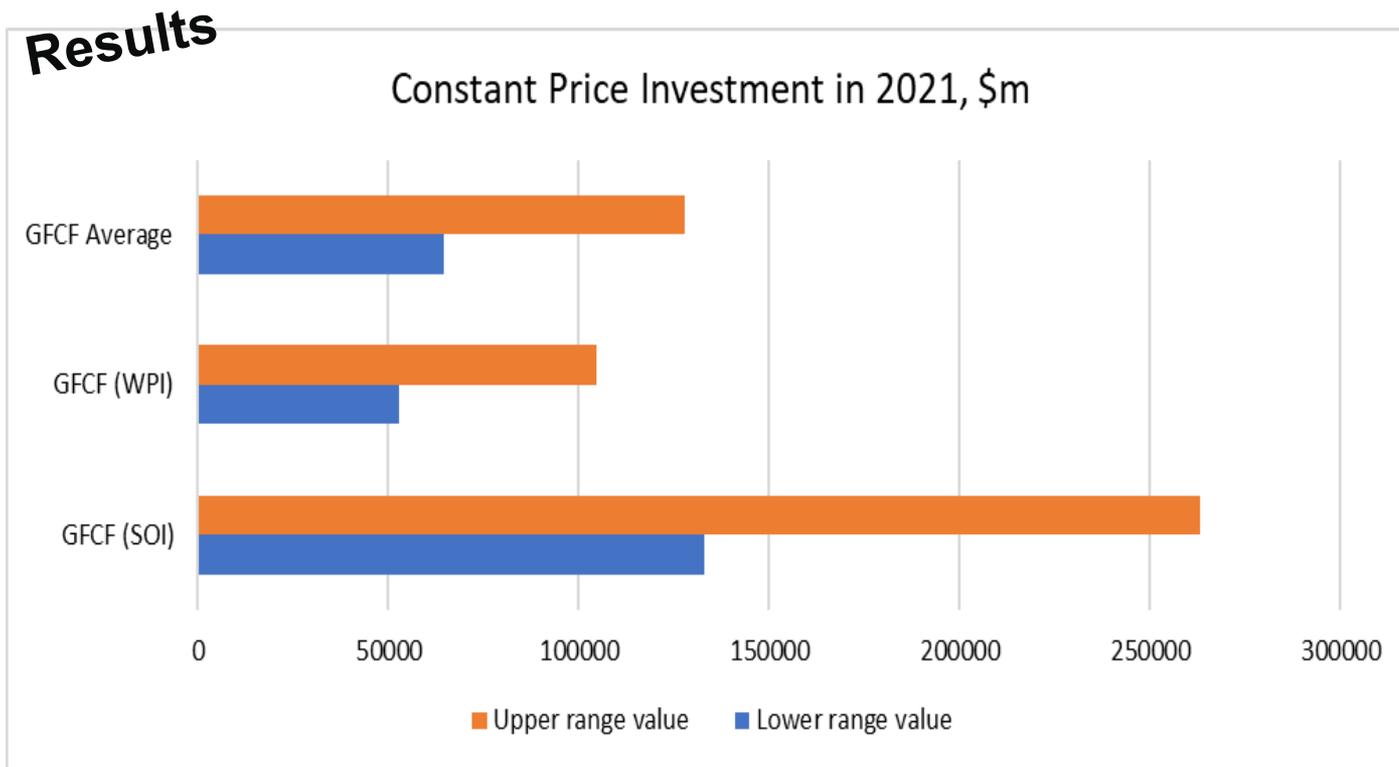
- One of the key challenges faced when valuing data as an asset is choosing an appropriate price index to deflate current price estimates to arrive at constant prices.
 - Has the price of data increased or decreased over time?



Prices (cont.)

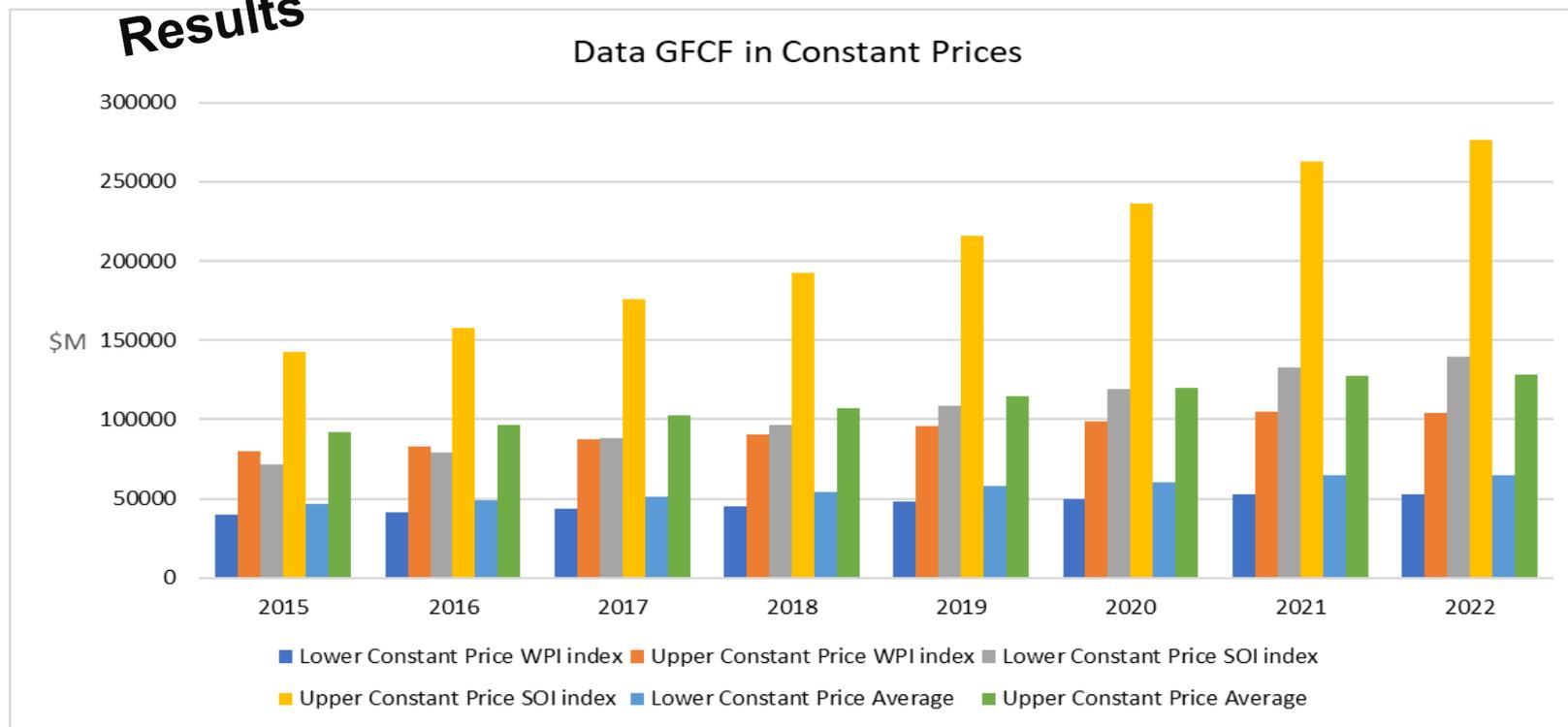
- To answer this question, we have looked at three different indexes:
 - Aggregate deflator based on weighted Wage Price Index (WPI) for selected industries.
 - Inhouse computer software deflator (SOI).
 - Aggregate of the two weighted 70% WPI weight and 30% SOI.
- The first captures the increasing wages paid to employees working in this space as demand for employees with these skills increases to be able to “accessing and observe phenomena; and recording, organizing and storing information elements”
- Second tries to capture the technology improvements over time by assuming like inhouse computer software it has become easier and cheaper to collect observable phenomena in greater quantities with less reliance on human.
- The third is a combination of the two weighted 70% WPI and 30% SOI to try capture both elements.

Recording data as an asset – proof of concept work

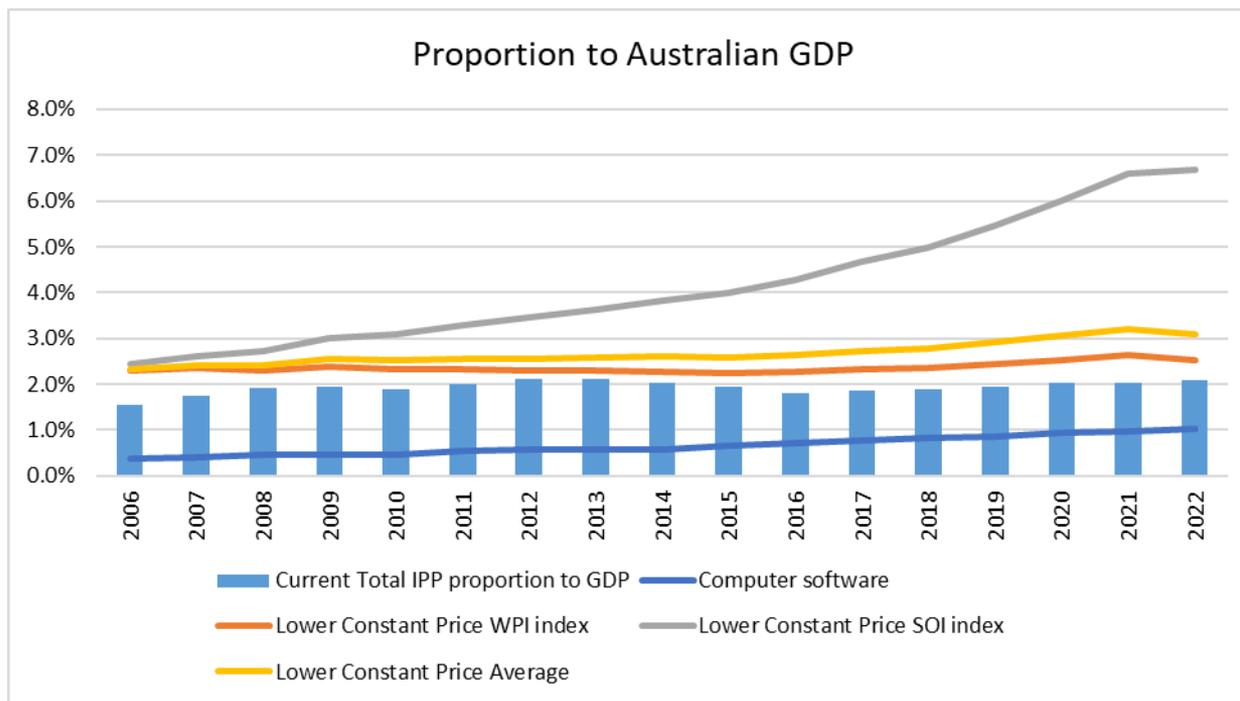


Recording data as an asset – the ABS experience

Results



Implications for Australian investment in IPP

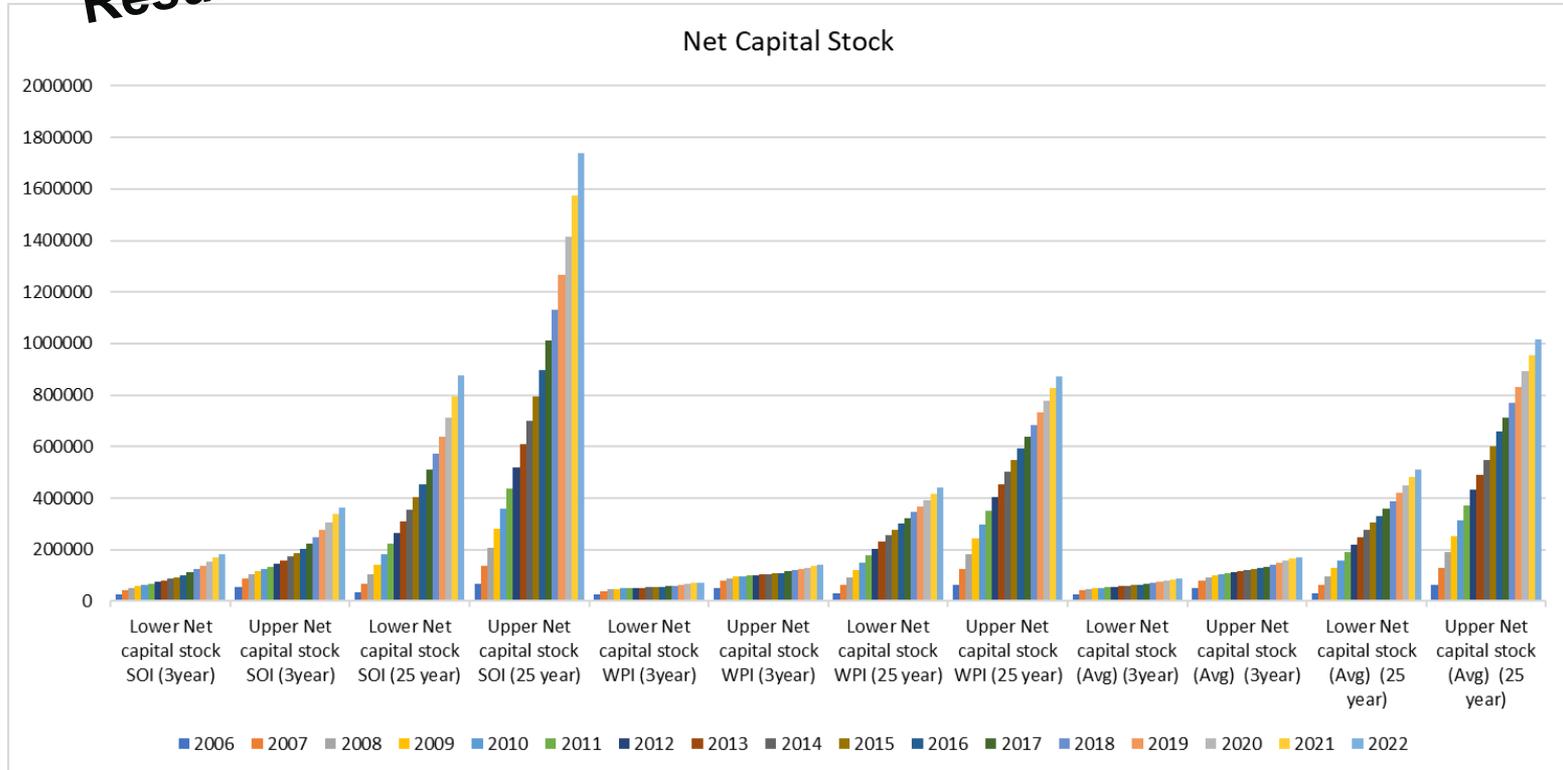


Capital stock estimates – Asset lives

- Capital stock estimates were produced using the Perpetual Inventory Model (PIM)
- An important challenge faced was assigning an appropriate asset life
 - For how long is data useful?
- To gain an insights into the impact of asset lives on capital stock two different assumptions were applied:
 - 25-year mean asset life based on the Stats Canada work: [The value of data in Canada: Experimental estimates](#)
 - 3 year mean asset life with a maximum life of 5 years bases on changing consumer preferences.

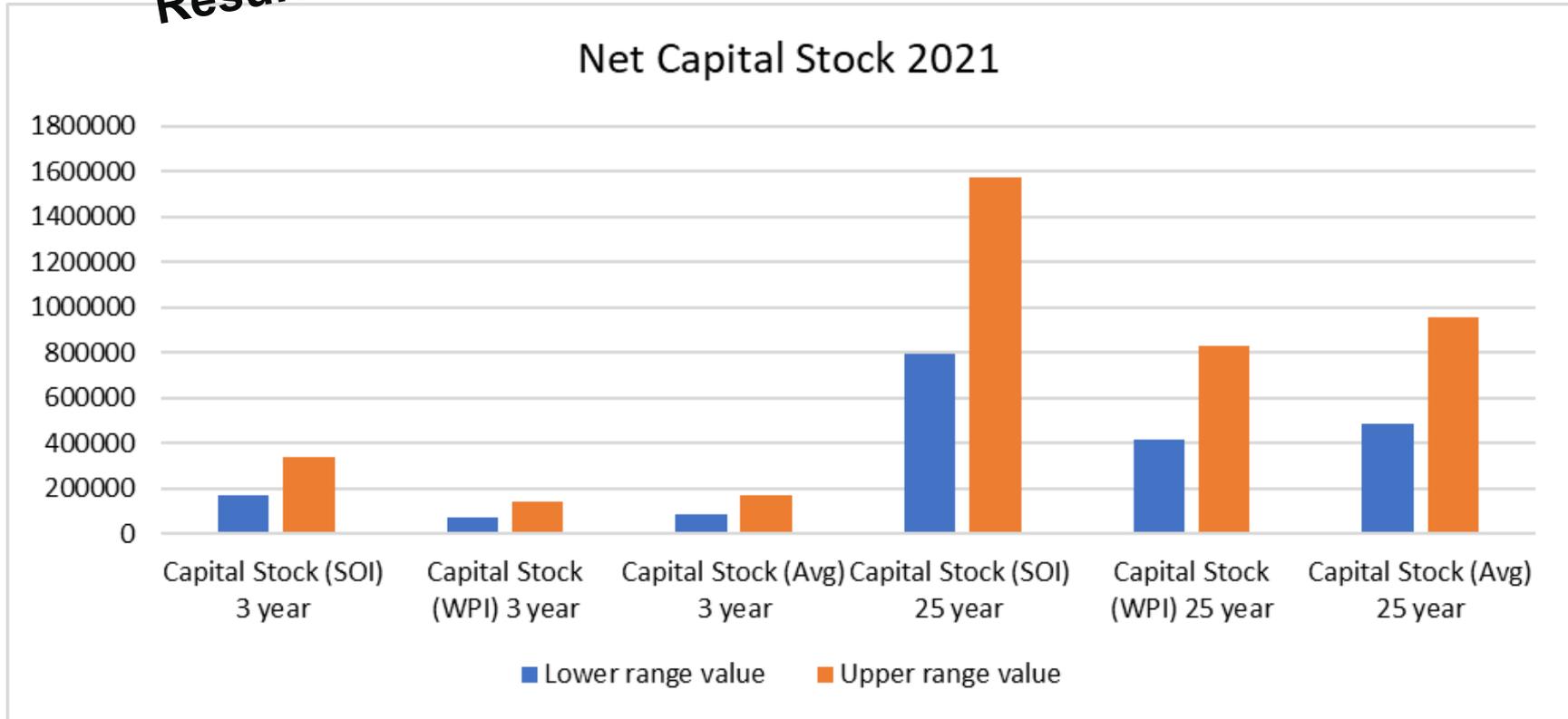
Recording data as an asset – proof of concept work

Results

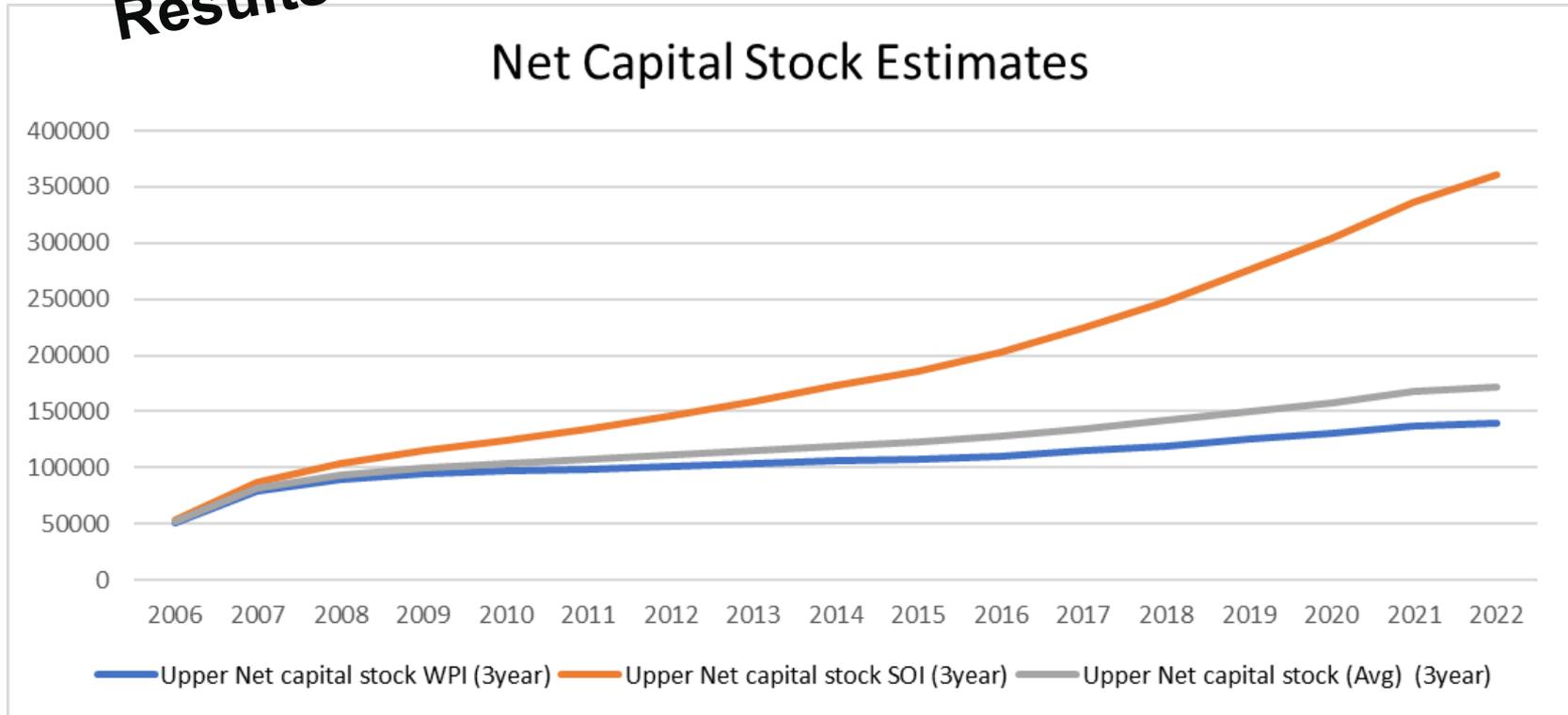


Recording data as an asset – proof of concept work

Results



Results



Approach

- The ABS is currently undertaking feasibility analysis to determine the sources and methods to value data as an asset
- Involves following the guidance set out in the data handbook
- Still in the discovery and feasibility analysis phase
- Considering multiple options to take to governance boards focusing on a quality vs. cost analysis
- The handbook presents a default and aspirational approach for most components of the measurement of data
- Will use a sum of costs approach

Reviewing current practice

- Undertaking the discovery work has prompted us to review current practice around our current treatment of related intellectual property products (IPP). Specifically:
 - Research and development (R&D)
 - Computer software
- The main focus of these reviews have been to:
 - Ensure consistent compilation approaches
 - Prevent double counting between the own account production of data, software and R&D

Reviewing computer software

- Our review of computer software has prompted us to consider:
 - The use of computer software, i.e., GFCF or IC
 - International trade of software licences
 - Compilation of own account production of software
- Work on these reviews are still ongoing

Data skirmish

- **Discovery work has focused on using the default occupations and involvement rates defined in the data handbook.**
- **Previous work used the 5 yearly Census of Population and Housing employment and earnings by occupation data was used interpolated with Labour Force Survey hours worked by occupation information.**
- **Current work is looking at using Personal Income Tax (PIT) data:**
 - **Pros: has labour costs by occupation by industry data, provides annual estimates, no need for long extrapolation periods.**
 - **Cons: lags the reference period by 18 months.**

Data skirmish (cont.)

- Looking to expand the discovery work to using AI to identify occupations and involvement rates.
 - Will look to leverage knowledge of the data science teams within the ABS.
 - Direction will be informed by resources.

Considerations

- Need to consider the upcoming ISIC rev. 5 changes:
 - Large focus on the digital space
- Australia's product classification is highly dependent on ISIC:
 - Will need an additional product for data
 - Will need to consider how it would interact with other changes

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Questions

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