Productivity in Australian Manufacturing:
Some preliminary results

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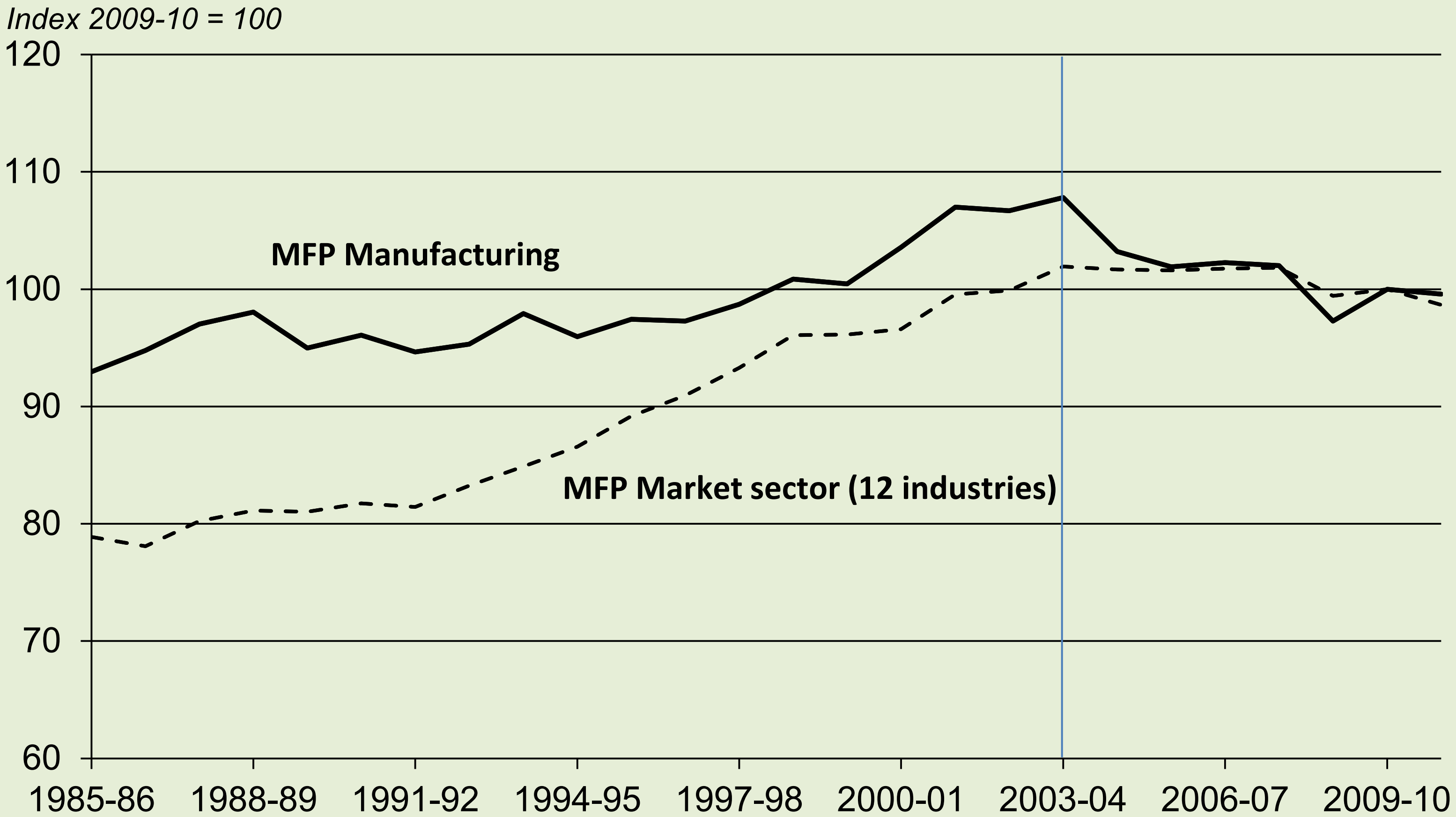
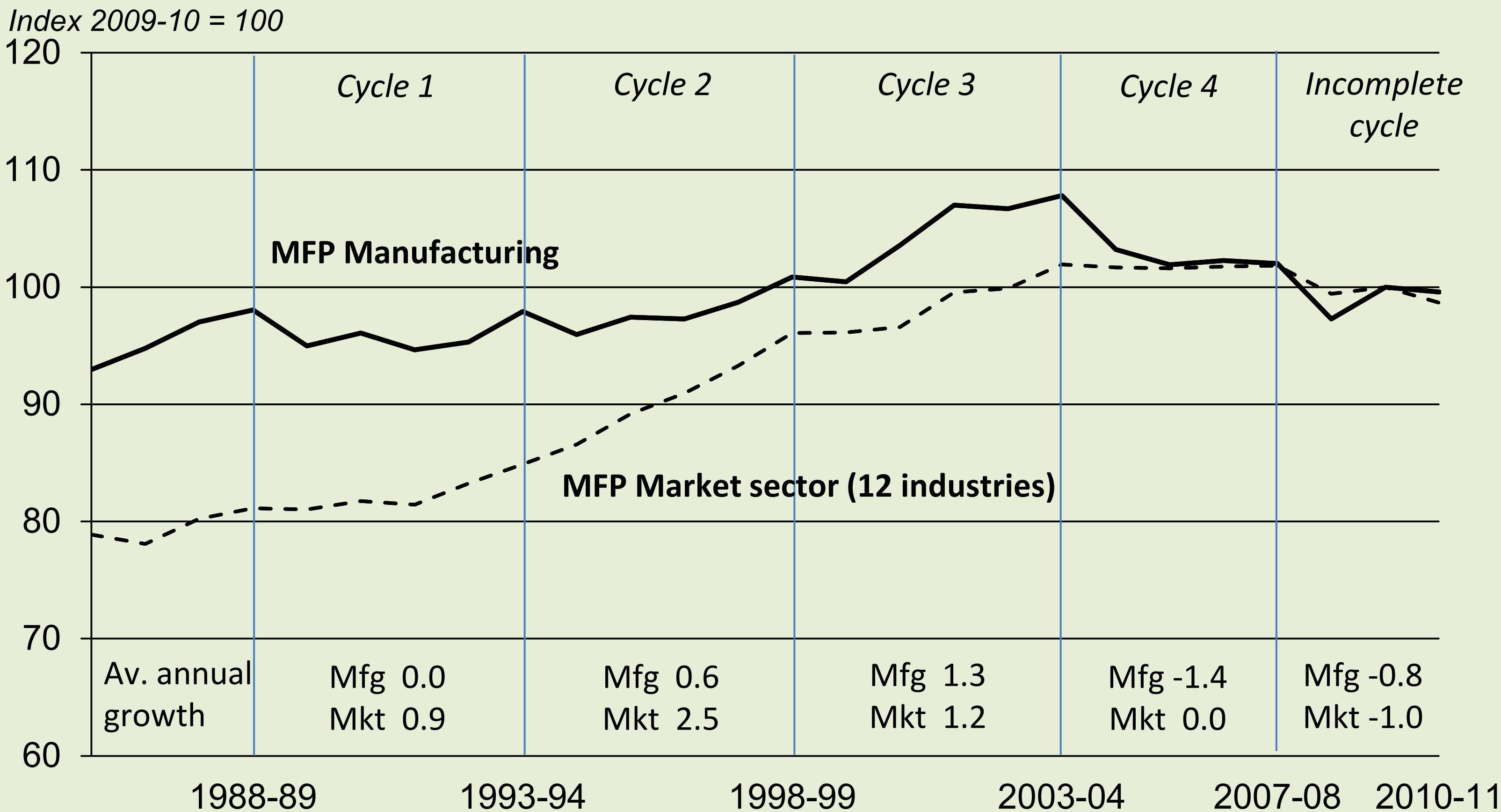
MFP for manufacturing and the market sector



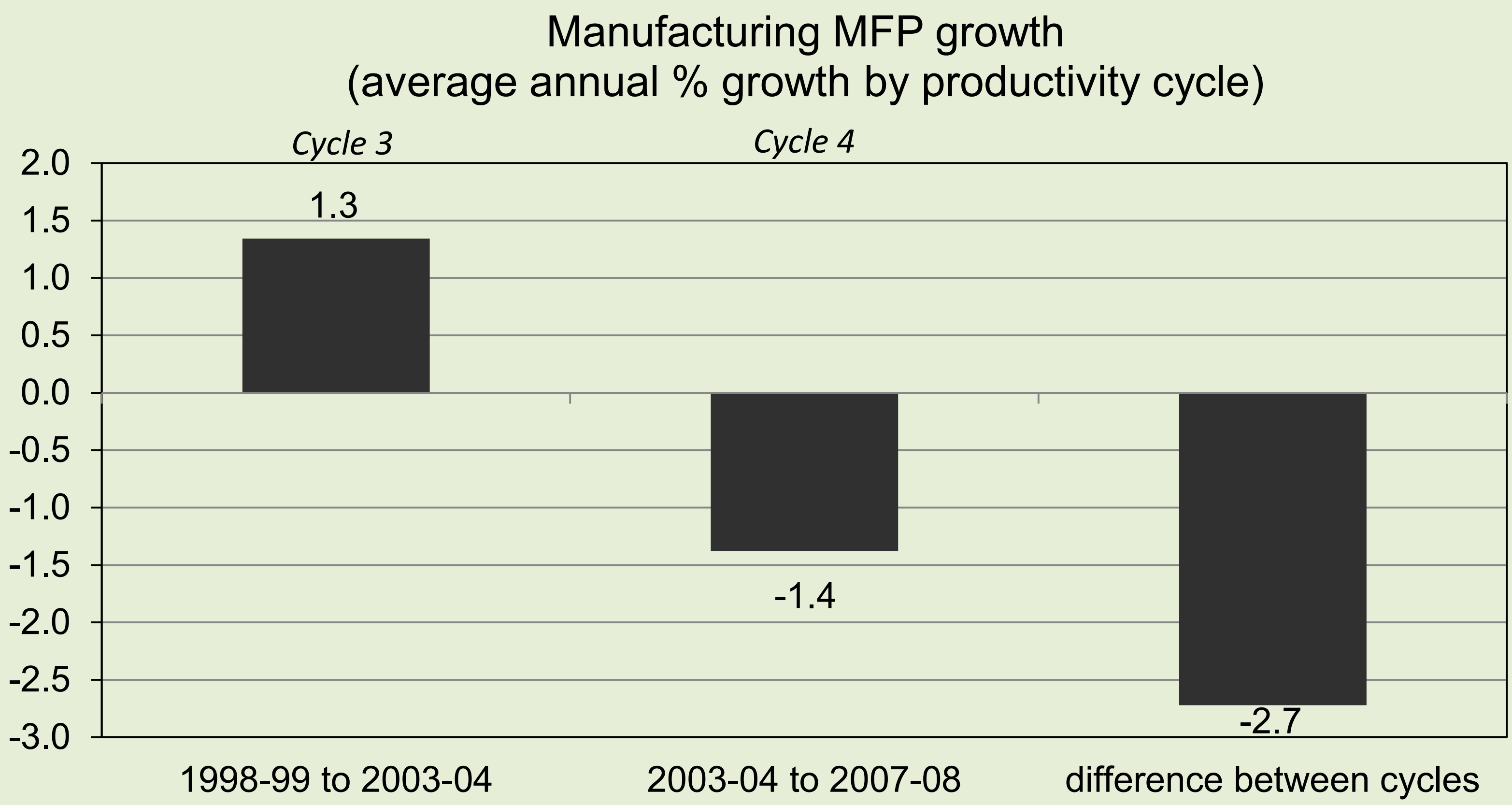
Data source: ABS (Cat. no. 5260.055.002, 2010-11)

MFP for manufacturing and the market sector over cycles



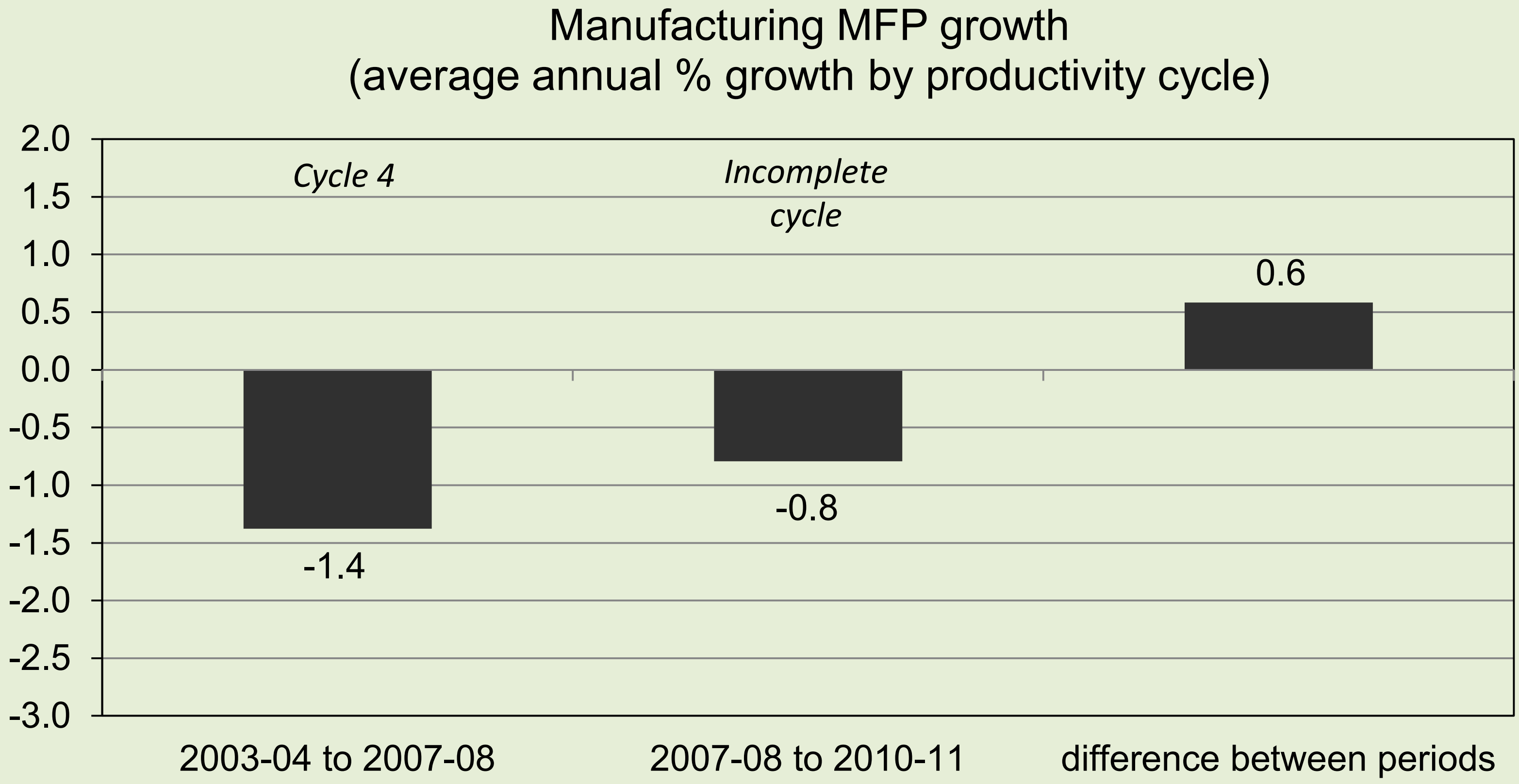
Data source: ABS (Cat. no. 5260.055.002, 2010-11)

Large decline in Manufacturing MFP growth between the last 2 complete cycles



Data source: ABS (Cat. no. 5260.055.002, 2010-11)

Less negative MFP growth in the incomplete period



Data source: ABS (Cat. no. 5260.055.002, 2010-11)

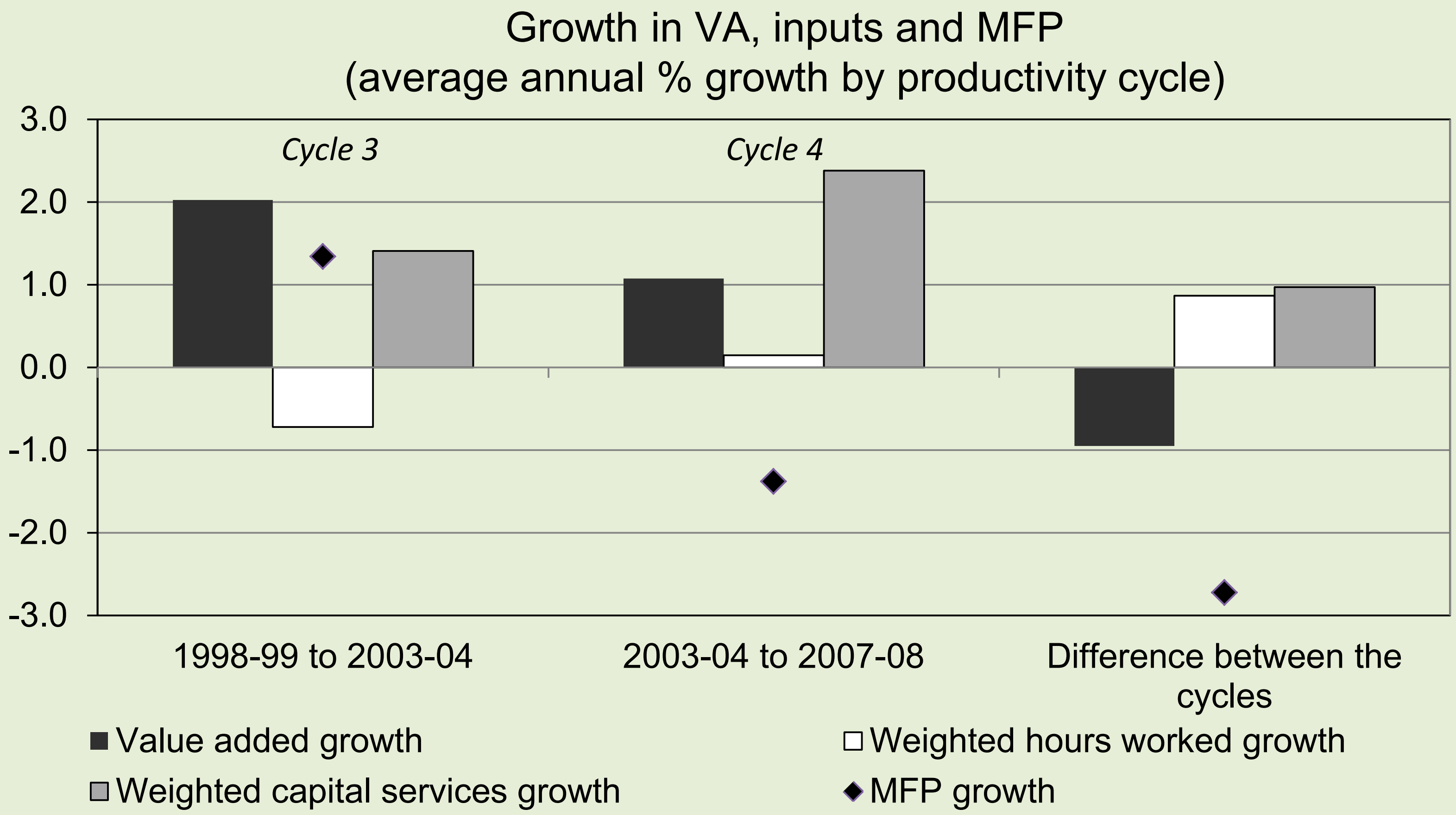
What does negative MFP growth mean?

- Technological regress?
- Compositional effects?
- New impediments; new standards?
- Producers making poor decisions?
- Adjustment?
- Measurement issues?

Approach to analysis

- Aggregate manufacturing
  - *Proximate causes of MFP growth (growth in VA, K, L)*
- Subsectors within manufacturing
  - *Main contributors to aggregate decline*
  - *Proximate causes of MFP growth*
  - *Possible influences on the main contributors*

Proximate causes of the MFP growth decline in manufacturing

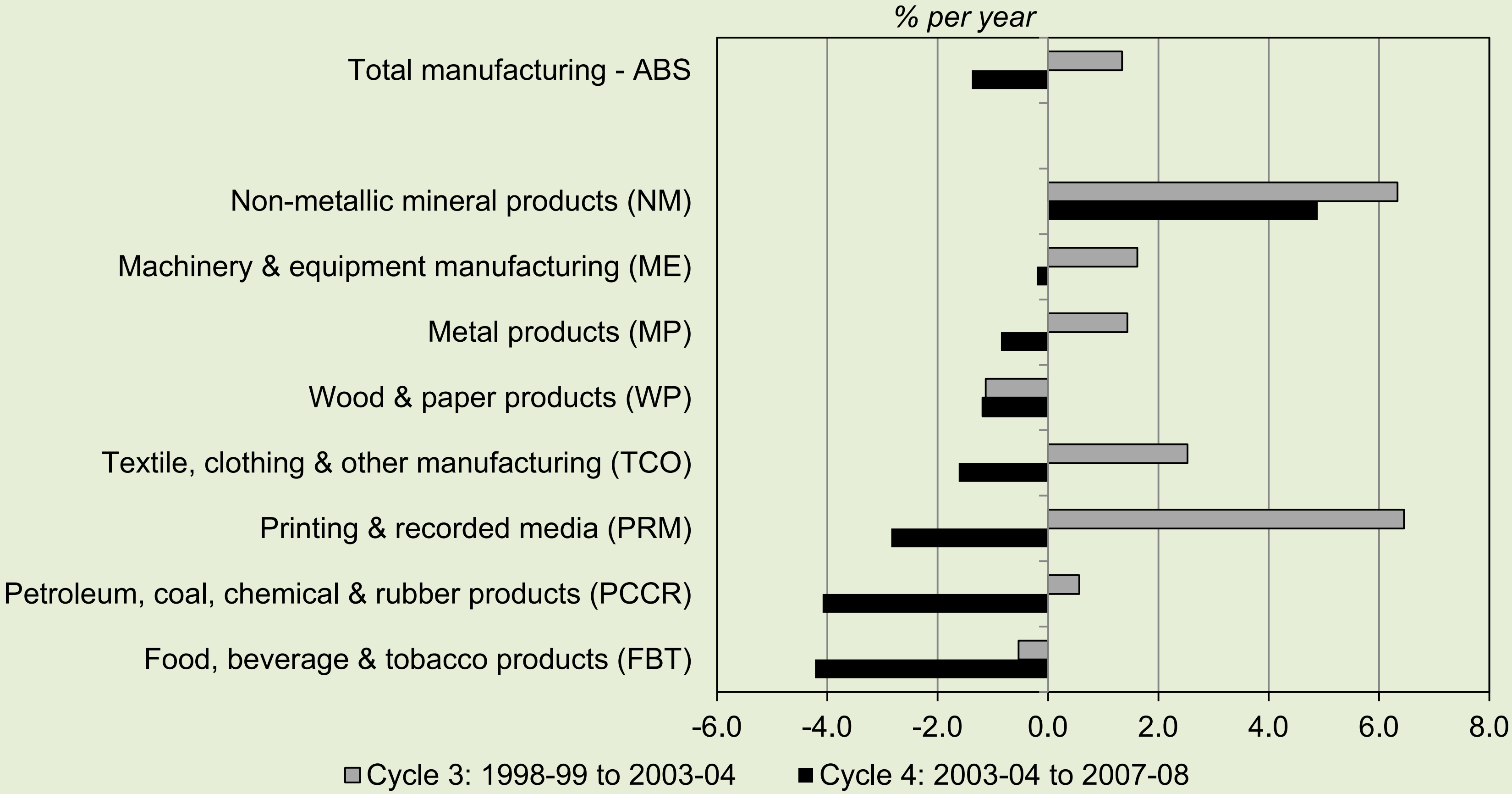


Data source: ABS (Cat. no. 5260.055.002, 2010-11)

Subsector MFP estimates

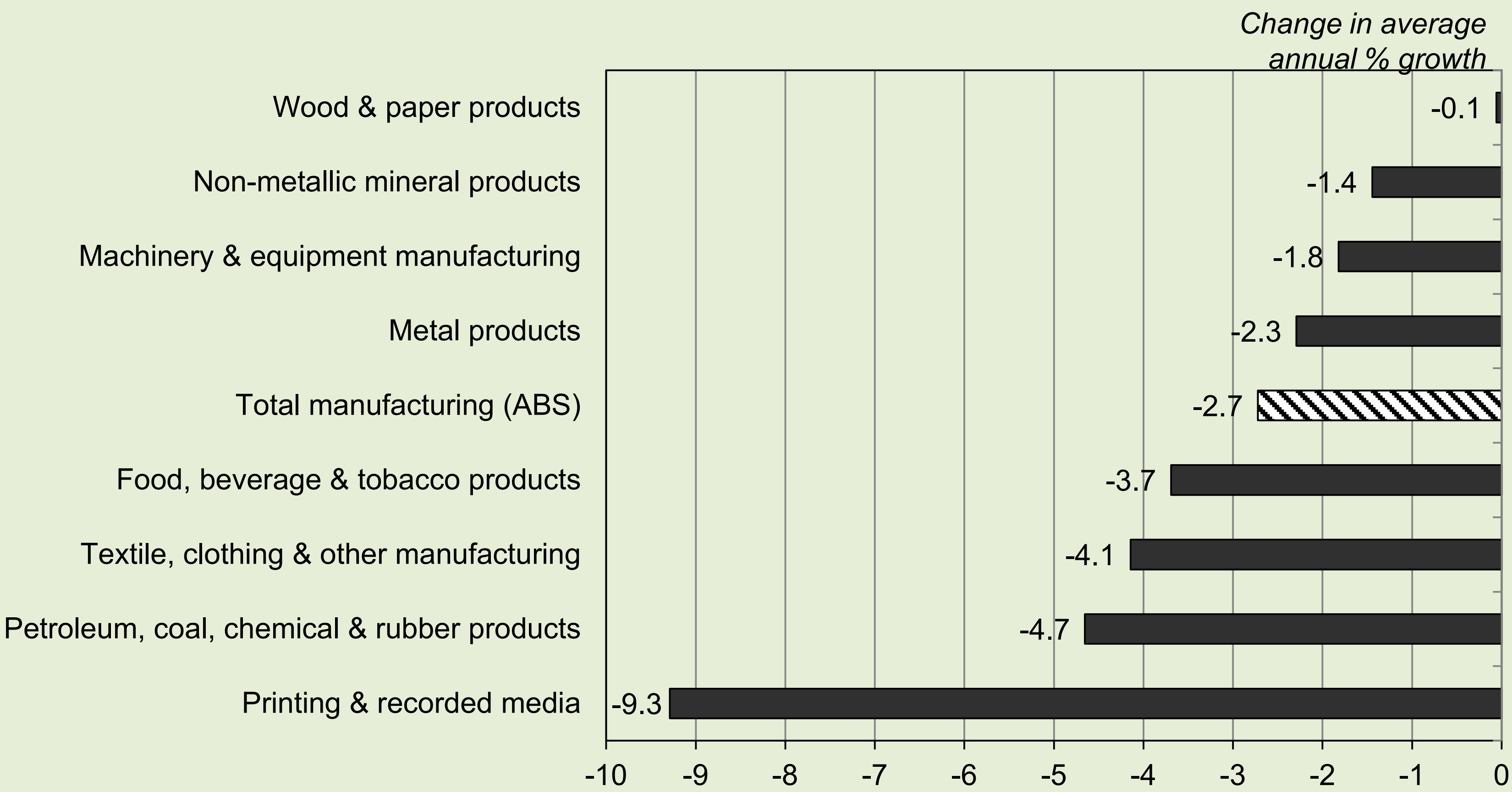
- Manufacturing divided into 8 subsectors (still diverse in activities)
  - *Food, beverage & tobacco products (FBT)*
  - *Textile, clothing & other mfg (TCO)*
  - *Wood & paper products (WP)*
  - *Printing & recorded media (PRM)*
  - *Petroleum, coal, chemical & rubber products (PCCR)*
  - *Non-metallic mineral products (NM)*
  - *Metal products (MP)*
  - *Machinery & equipment mfg (ME)*
- Data and methodological limitations

… how does MFP growth vary across subsectors?



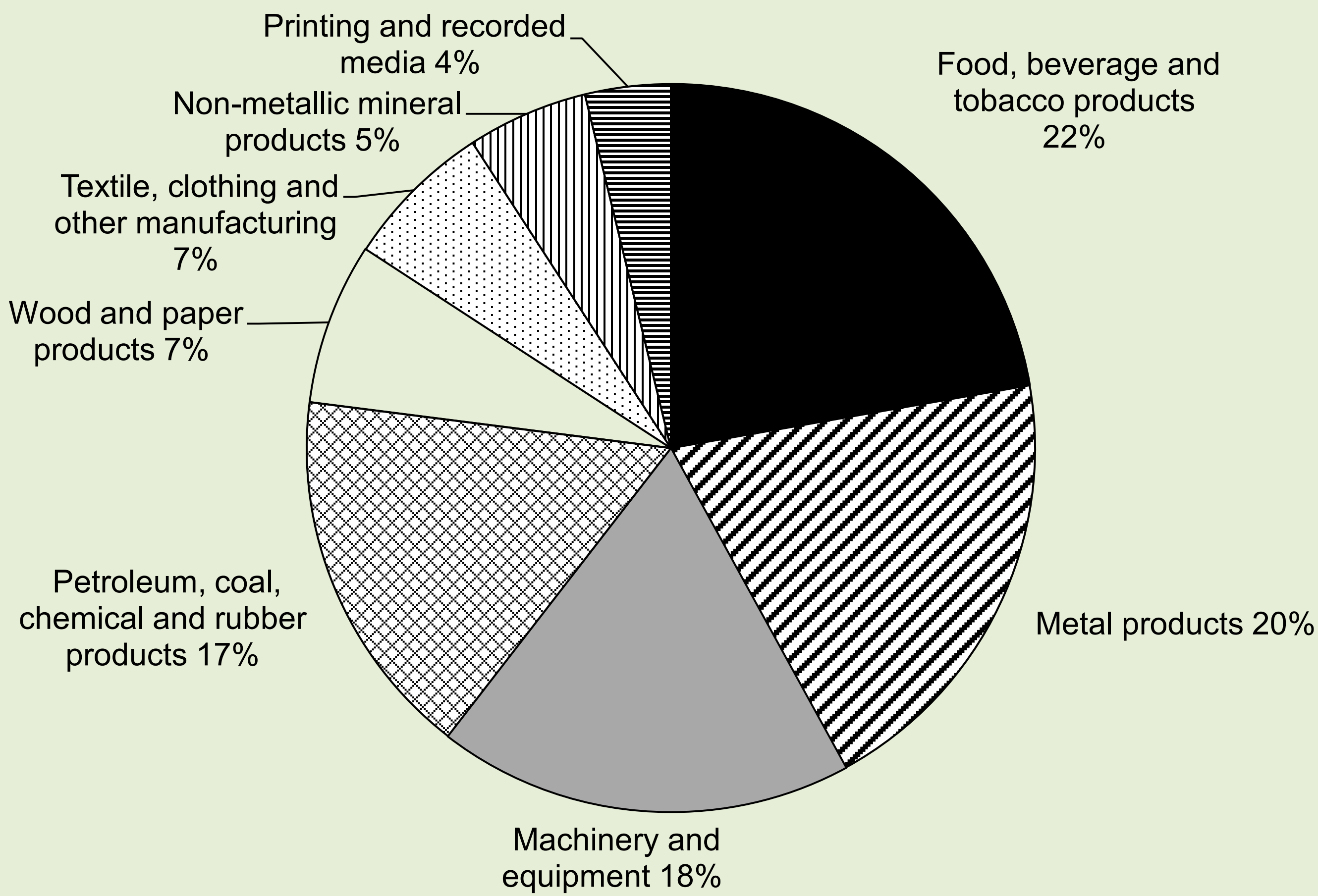
Data source: Authors' subsector estimates (preliminary); Total manufacturing ABS (Cat. no. 5260.055.002, 2010-11)

Change in subsector MFP growth between cycles 3 and 4



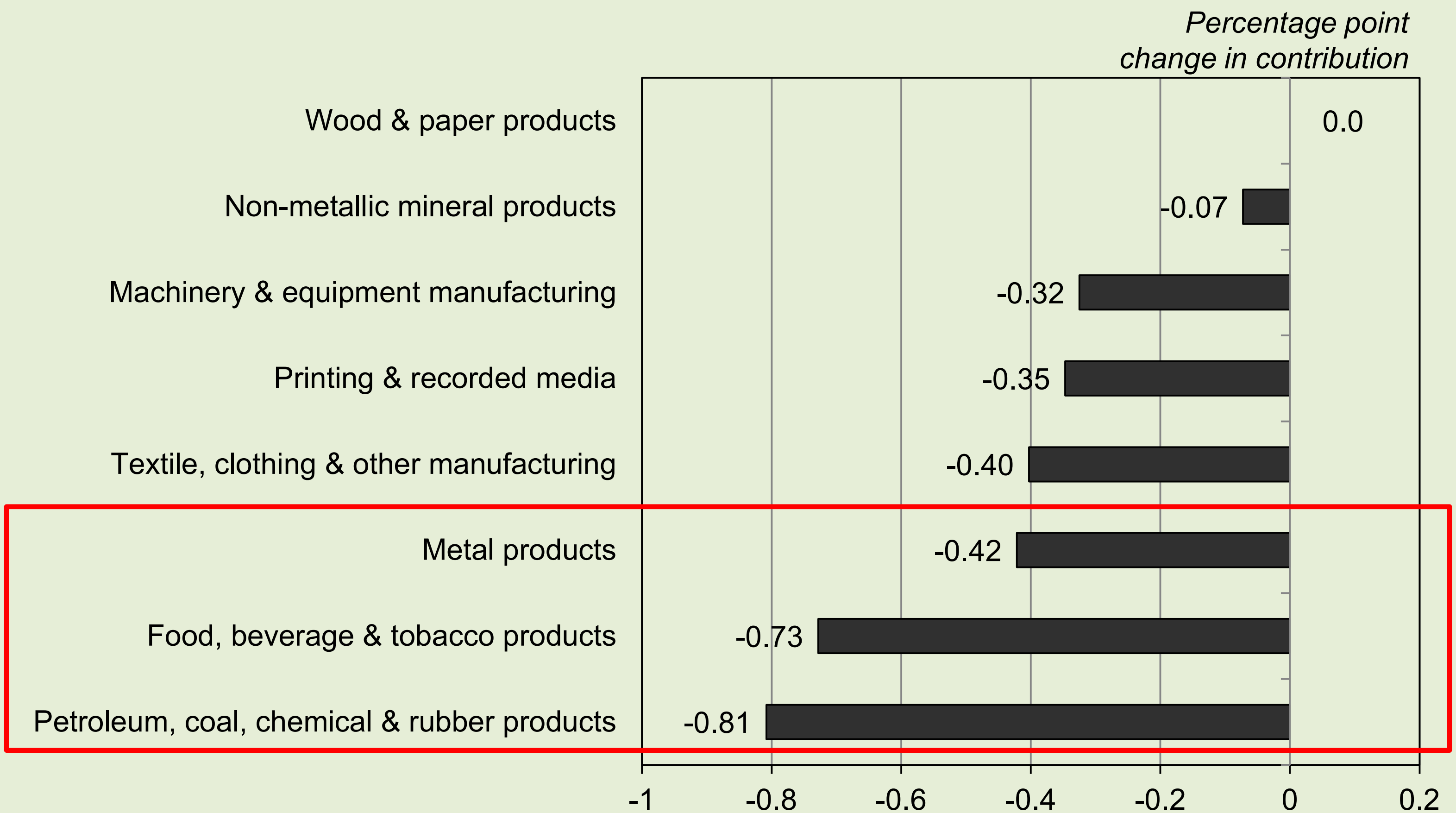
Data source: Authors' subsector estimates (preliminary); Total manufacturing ABS (Cat. no. 5260.055.002, 2010-11)

Manufacturing subsector sizes
(Shares of gross value added at basic prices 2009-10)



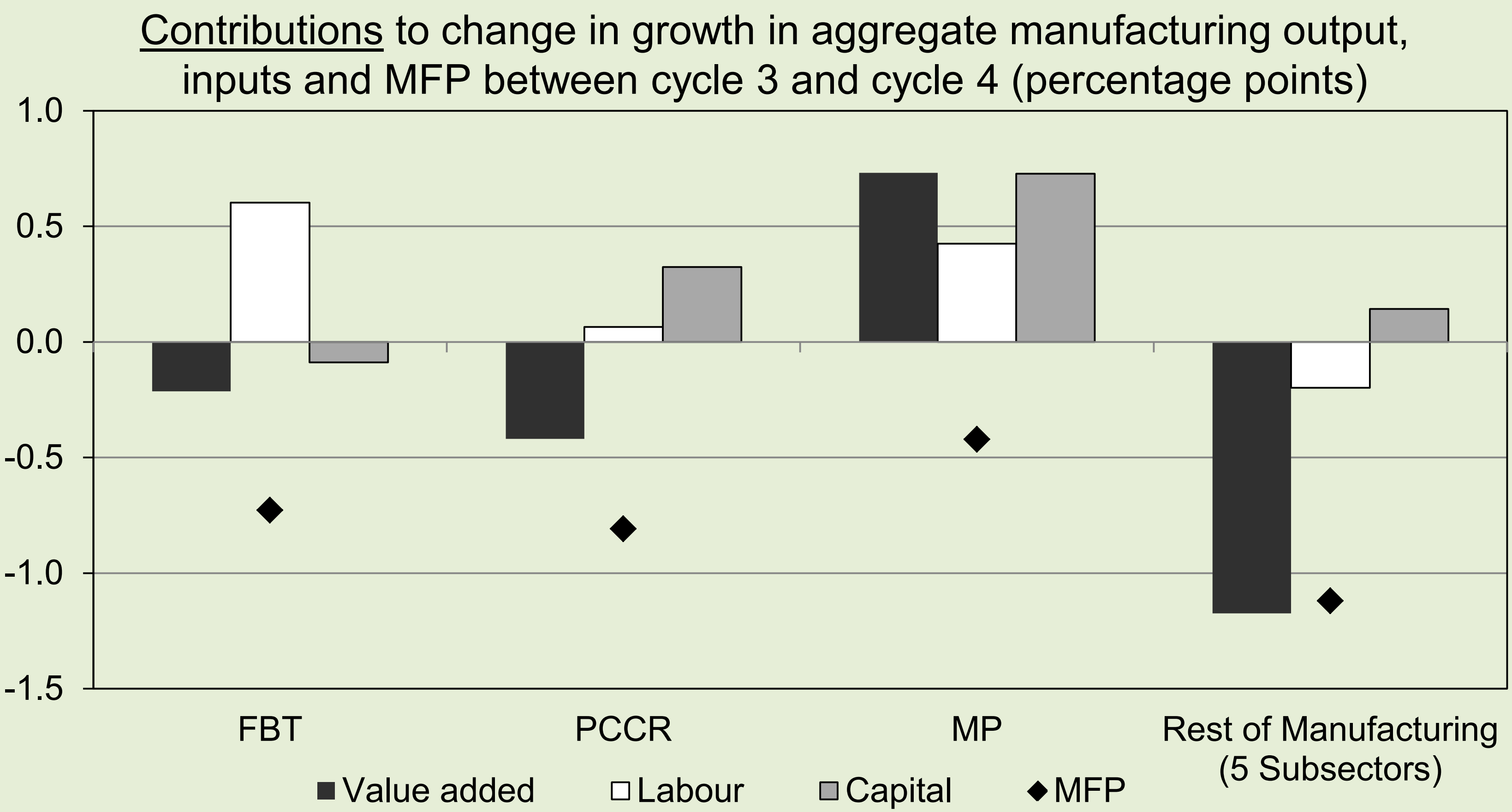
Data source: ABS (5204.0, 2010-11)

Subsector contributions to the decline in mfg MFP growth between the cycles 3 and 4



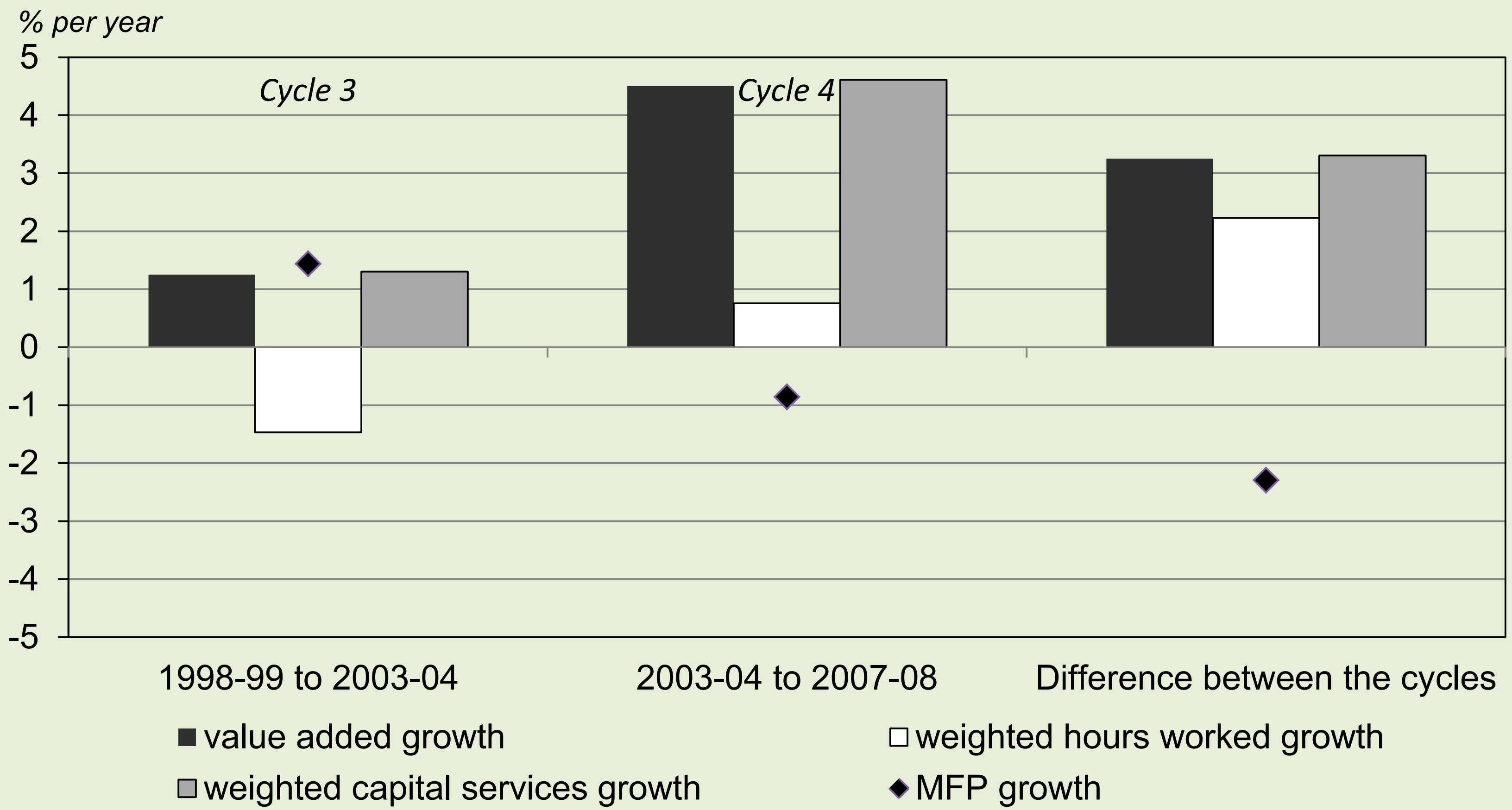
Data source: Authors' estimates (preliminary)

Differing contributions to the proximate causes of the aggregate MFP decline



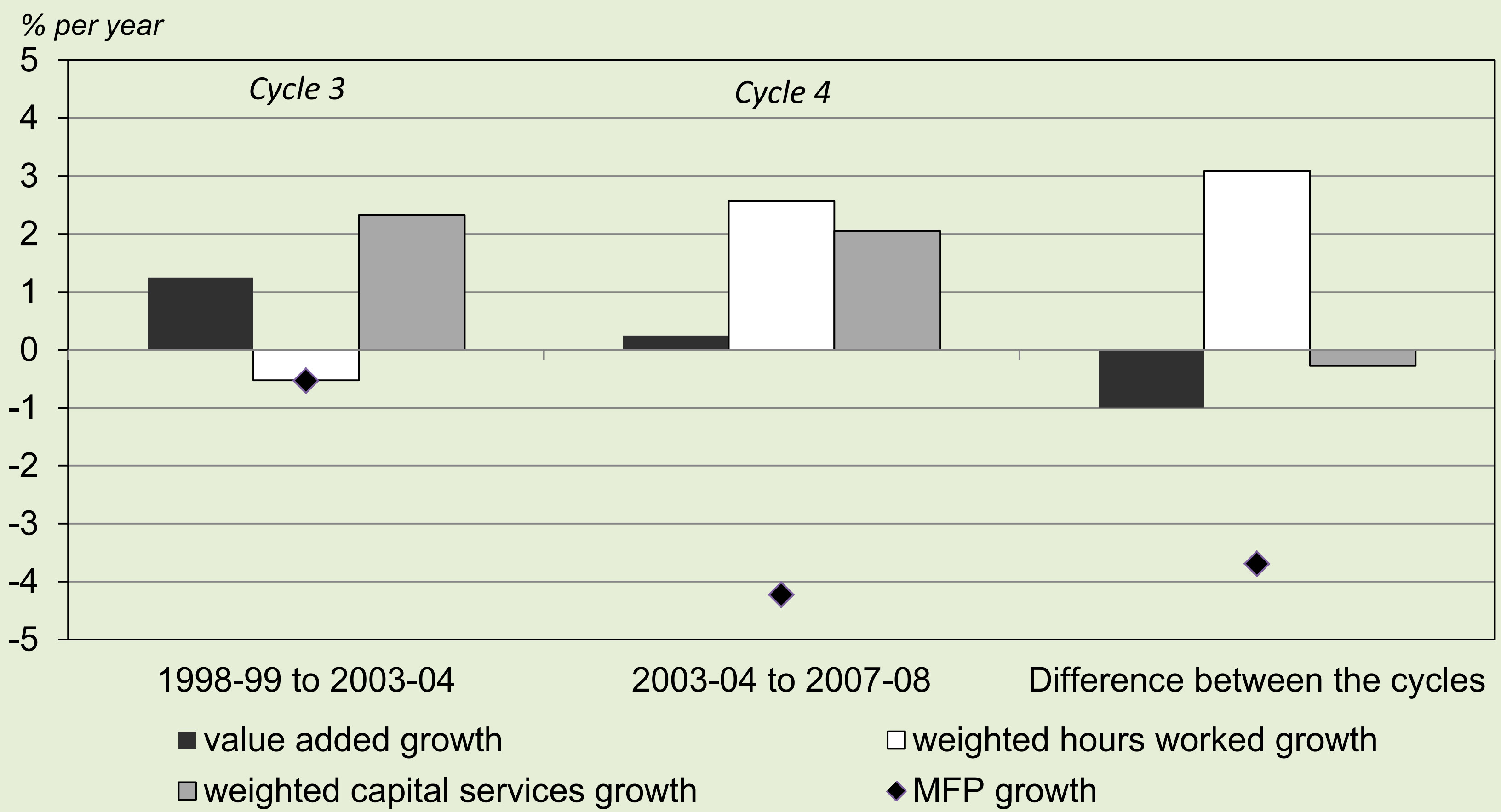
Data source: Authors' estimates (preliminary)

Metal products (MP)



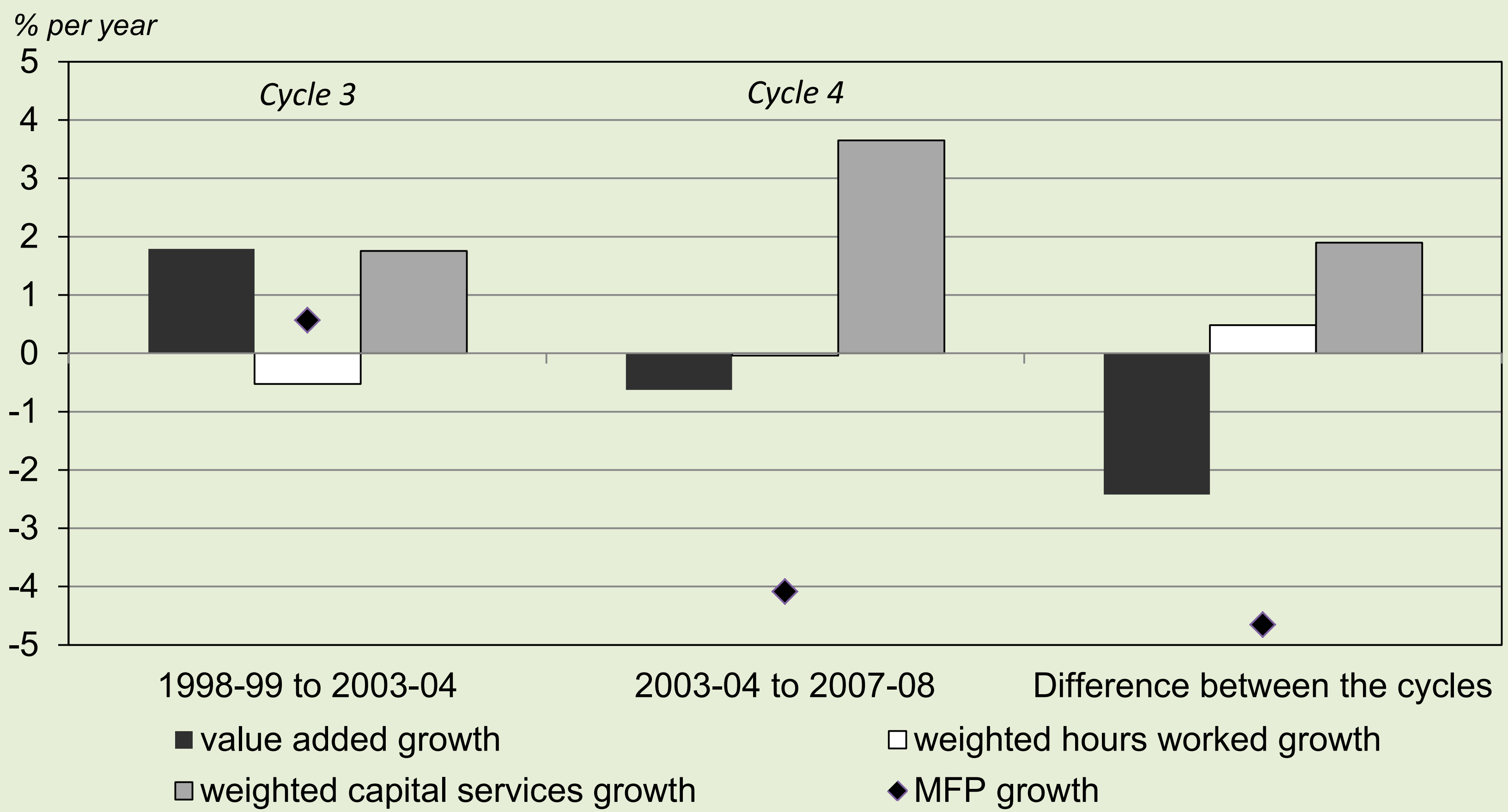
Data source: Authors' estimates (preliminary) based on ABS data

Food, beverages and tobacco products (FBT)



Data source: Authors' estimates (preliminary) based on ABS data

Petroleum, coal, chemicals, and rubber products (PCCR)



Data source: Authors' estimates (preliminary) based on ABS data

Influences on PCCR – Petroleum

- Less value adding
  - *Declining domestic feedstock*
  - *Trend in importing refined fuel*
  - *Underutilised capacity*

- Significant investment due to *Cleaner Fuels Program*
  - *Higher **quality** fuels not fully reflected in productivity measures*

Influences on PCCR – Polymers and rubber

- Diverse subdivision
  - *Including plastics, paints, foam rubber, adhesives and tyres*
- Mixed influences
  - *Greater import competition in plastics and tyres*
  - *Increased demand from construction 'boom'*

Influences on PCCR – Chemicals

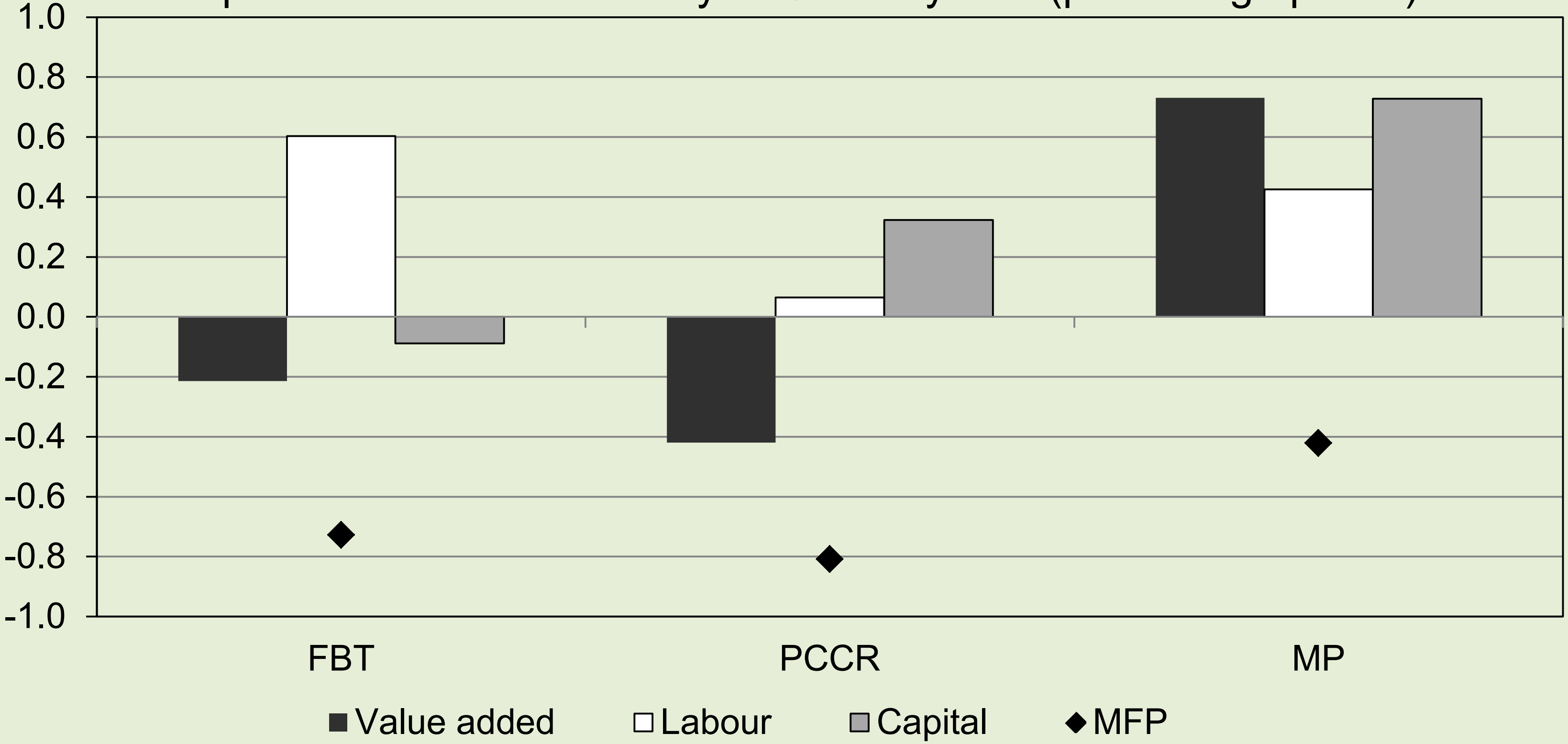
- **Very** diverse subdivision
  - *Industrial gases, fertilisers, pharmaceuticals, cosmetics and cleaners (to name a few)*
- Agricultural and mining related products
  - *Strong demand growth*
  - *Investment to expand capacity, but slow response in output – long lead times*

Influences on PCCR – Chemicals (cont'd)

- Pharmaceutical products
  - *Strong output growth and very strong export growth*
  - *Between the productivity cycles, a decline in investment and employment*
  - *Substantial increase in R&D expenditure*

Three main subsectors have differing proximate causes of MFP decline

Contributions to change in growth in aggregate manufacturing output, inputs and MFP between cycle 3 and cycle 4 (percentage points)



Data source: Authors' estimates (preliminary)

Summary and ongoing research

- Summary
  - *Diversity*
  - *Multiple influences*
- Ongoing research
  - *Further work on influences*
  - *Linking the disaggregated picture with the aggregate estimates*