

# The State of Competition in New Zealand

## Baseline research report

12 May 2026



Access to the data used in this study was provided by Stats NZ under conditions designed to give effect to the security and confidentiality provisions of the Data and Statistics Act 2022. The results presented in this study are the work of the author, not Stats NZ or individual data suppliers.

These results are not official statistics. They have been created for research purposes from the Integrated Data Infrastructure (IDI) and/or Longitudinal Business Database (LBD) which are carefully managed by Stats NZ. For more information about the IDI and LBD please visit <https://www.stats.govt.nz/integrated-data/>.

The results are based in part on tax data supplied by Inland Revenue to Stats NZ under the Tax Administration Act 1994 for statistical purposes. Any discussion of data limitations or weaknesses is in the context of using the IDI for statistical purposes, and is not related to the data's ability to support Inland Revenue's core operational requirements.

This report includes research on and commentary related to the data, but does not include any recommendations that may result from the research.

# Foreword

Tēnā koutou

**We have prepared this report to support informed discussion about competition, the exploration of policy options, and better outcomes for consumers and the economy.**

Well-functioning markets and strong competition are critical to the prosperity and wellbeing of New Zealanders. When markets work well and are supported by fit-for-purpose regulation, they deliver lower prices, greater choice, higher quality goods and services, and stronger incentives for innovation and productivity growth.

This first *State of Competition* report brings together new data and analysis to build a comprehensive evidence base on competition between businesses in New Zealand. Our objective is to deepen understanding of how competition is performing across the economy, establish a baseline for future monitoring, and identify where settings, enablers, and incentives might be improved over time.

The report provides a high-level overview of our research into competition. It reflects growing recognition that features such as market concentration, barriers to entry, and limited competitive pressure affect prices, innovation, and long-term economic performance.

This work reflects the Commission's role in promoting competition for the long-term benefit of consumers. While our statutory functions include enforcement and regulation, building a shared understanding of how markets are functioning is equally important. This report supports transparency, encourages engagement, and informs efforts across government and the private sector to improve market performance.

## **The evidence base**

This report is based on analysis of data from individual businesses (firm-level data). We use this to construct a consistent set of indicators that track competition over time and across sectors. This approach complements our other work including market or sector-specific assessments, to provide a systematic picture of how competitive pressures are evolving across the New Zealand economy. The report highlights areas where competition appears to be working well, as well as areas where structural or behavioural features may be limiting outcomes.

## **How this work supports better outcomes**

Some aspects of competition remain unquantified due to data limitations, uncertainty, or methodological challenges. This report is the starting point for supporting a common understanding of how markets are functioning. That shared understanding is necessary to improve coordination across government and the private sector, and to strengthen market performance.

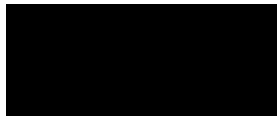
## **Acknowledgements**

This report reflects a collaborative effort across the Commission and with other agencies. It sets out the Commission's view and does not attribute positions or perspectives to individual contributors. I acknowledge Dr Aaron Schiff for his contribution to develop these measures and thank our economics, market studies, and data teams for their expertise and commitment in delivering this work, in particular Ben Temple, David Shaharudin, Hattie Plant, Matthew Bailey, Matthew Steiner, and Rae Rho. We also appreciated the early work and advice shared by Tim Ng and Benjamin Stubbing.

## How to engage and what comes next

A key objective of this work is to make insights about competition and business outcomes more accessible and useful over time. We welcome feedback and collaboration from researchers, policymakers, businesses, and others interested in improving how competition is measured and understood in New Zealand. Please get in touch with us via [contact@comcom.govt.nz](mailto:contact@comcom.govt.nz).

The *State of Competition* report is an important step in strengthening New Zealand's competition evidence base. It will evolve as new data, methods, and insights become available. Our goal is to contribute to a more competitive, dynamic, and productive economy that delivers better outcomes for all New Zealanders.



Dr John Small  
Chair

## Executive summary

This is the Commission's first research report assessing the state of competition between businesses operating in New Zealand. It will act as a baseline report for further reports in future.

The report draws on data from individual businesses (firm-level data) held by Stats NZ and explores trends in competition over 22 years (2001-23). The data we have used is mainly drawn from tax returns and employment records, so is limited to those businesses who interact with the New Zealand tax system.<sup>1</sup>

Our research concludes that while economy-wide trends are mixed over this period, competition appears to be decreasing in some industries. This matters. Strong competition helps to drive better outcomes for consumers. When working well, competition encourages innovation and higher productivity, contributing to improvements in living standards for New Zealanders.

This analysis underlines the OECD's recent call for New Zealand to ensure that our competition settings are at the international frontier to overcome our challenges of size and distance.

We have made the underlying dataset publicly available on our website. This is to enable researchers, policy makers and other stakeholders to explore the data and help inform additional analyses we may undertake in future.

### What is competition and why is it important?

Competition is the process of rivalry between businesses to win and retain customers. It is an ongoing strategic contest and creates incentives for businesses to reduce costs and prices, improve the quality and variety of goods and services, and drive innovation through new products, services, processes and technologies.

### Measuring competition

Competition is multi-dimensional. It can be measured only indirectly. We assessed competition using three sets of measures.

- **Concentration.** These are indicators of the share of industry output held by the largest businesses within an industry. Greater concentration in an industry implies there is less competition.
- **Business dynamism.** These are indicators of business entry, exit and growth within an industry, including the extent to which newer or smaller businesses gain market share at the expense of large incumbents over time. Greater dynamism implies there is more competition in an industry.
- **Performance.** These are indicators that measure the markups put on prices over costs of labour and other inputs, and what happens to profits when these costs change. They indicate how competition affects consumers, whether the benefits of efficiency are passed on and how much inefficiency (or innovation) might lead to lower (or higher) profits.

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<sup>1</sup> Our analysis excludes some entities that contribute to competition such as very small businesses, not-for-profit firms, and overseas entities that are not required to file tax returns. See Attachment A for more details on the types of businesses included in the dataset.

No single set of measures provide a comprehensive view of competition. We chose these measures because they are commonly used around the world to assess competition and we had the data available to calculate them. We have assessed these measures at different levels ranging from economy-wide to the narrowest industry classifications the data allows for.

## Competition measures show mixed results at the economy-wide level

Economy-wide weighted averages of competition indicators are mixed, without a clear overall trend. While market structure looks slightly more competitive, competitive pressure from new and expanding firms appears weaker. Some indicators differ significantly depending on the period considered.<sup>2</sup>

**Concentration** is declining slightly. New Zealand's economy has become slightly less concentrated over the period 2001-23. This trend has occurred consistently over time, including through the global financial crisis (GFC) and COVID-19 pandemic.

**Business dynamism** is declining. The rates of business entry and exit have fallen materially. New entrants are gaining less early traction. Bigger older businesses are becoming more entrenched. This suggests market conditions are favouring larger incumbent businesses and it is harder for smaller, newer businesses to displace them.

The decline in dynamism suggests a decrease in competition, which runs counter to the trend in concentration. One explanation for the apparent contradiction in these measures is that there has been a shift of market share from the largest businesses to smaller businesses that are already operating, but new entrants are finding it more challenging to get established.

**Performance** is a more complicated story.

- Average price-cost margins have been roughly stable over the past two decades, without showing a clear trend. Margins have risen slightly in the post-GFC period, suggesting weaker competition.
- The overall trend from 2001-23 suggests profits have been slightly more affected by changes in costs, indicating greater competition. However, the trend changed direction after the GFC.

Our analysis of indicators at an economy level provides an overarching view of competition but combines a range of industries that may have quite different trends. We have also analysed the measures at a more detailed sector and industry level.

## Competition varies widely between industries

Competition differs across industries. Some industries have much greater competition than others. In some cases, more competition may not be feasible, such as where it is more efficient for fewer businesses to supply an entire market.

To compare competition across industries, we ranked industries by their combined competition outcomes across measures for concentration, dynamism, and performance over 2001-23. We used standard industry classifications that were in the Stats NZ data. Our analysis has found:

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<sup>2</sup> The economy-wide indicators in this report summarise the 'average' state of competition across industries in New Zealand, rather than treating the whole economy as a single market. Changes in the economy-wide indicators over time reflect changes in industry-level competition, as well as changes in the distribution of economic activity across industries.

- The industries with the greatest competition over the period were “Other services”, “Construction”, “Accommodation and food services” and “Administration and support services”.
- Those with the least competition were “Electricity, gas, water and waste services”, “Financial and insurance services”, “Information media and telecommunications” and “Mining”.
- Industries with improving rankings include “Rental, hiring and real estate services”, “Accommodation and food services” and “Administrative and support services”.
- Industries with worsening rankings include “Agriculture, forestry and fishing” and “Wholesale trade”.

New Zealand actively promotes competition in some of the industries lacking competition, including financial services and electricity. Governments have opted to regulate sectors with limited or no competition to improve market outcomes, including in telecommunications, energy networks, transport fuel, the retail payment system, dairy, water, grocery and airports.

### Digging deeper...

Three emerging patterns from the data are worth closer inspection.

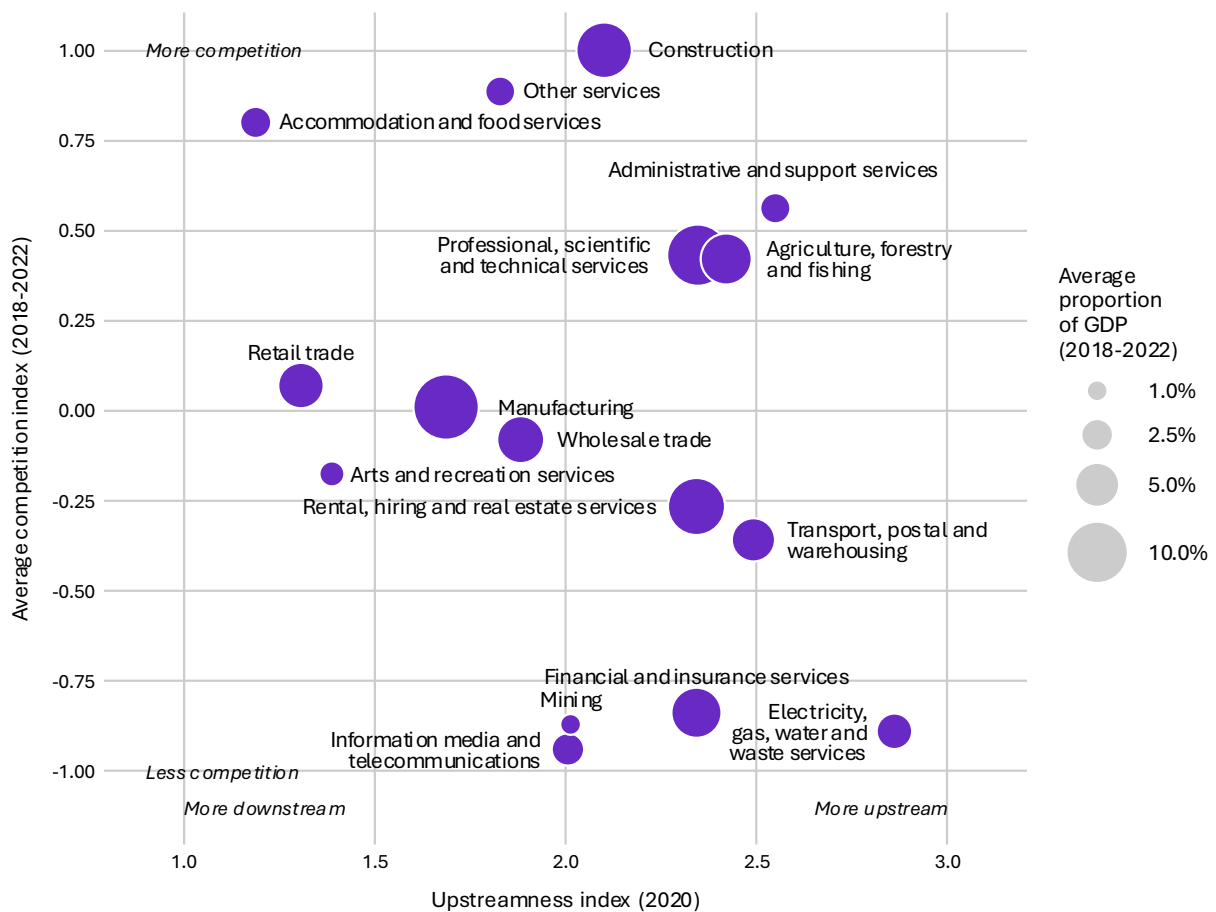
**Upstream market power matters.** We have considered how ‘upstream’ an industry is: that is, how much it supplies inputs to other industries rather than final consumers.<sup>3</sup> An industry is more upstream the further away it is from the final consumer. A lack of competition further up a long supply chain could filter down to other industries, causing greater harm to consumers. As the current oil shock shows, upstream price increases have widespread impacts on the economy.

Concerningly, Figure X1 shows some of the industries with the lowest levels of competition in our analysis are also the ones with important inputs into other industries. These include “Electricity, gas, water and waste services” and “Financial and insurance services”, as shown in the bottom right of the chart.

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<sup>3</sup> In this report, upstreamness is measured using Stats NZ 2020 input-output tables. The upstreamness index reflects the ‘distance’ between an industry’s output and final use (i.e. how many more industries it passes through before reaching its final use).

**Figure X1 Upstreamness index vs competition index**



**Economic structure matters.** Services industries, which make up an increasing proportion of the economy, generally exhibit lower competition than industries in the primary and goods-producing industries. Historically, services have been less exposed to or impacted by international competition and have had high barriers to entry, although technology is changing that in some areas.

**Import competition matters.** Greater exposure to imports is generally associated with stronger competition. We find that in most cases, industries that are more exposed to imports display higher levels of competition. This highlights the importance of trade openness to driving domestic competition. But the import story is a complex one. Some sectors (particularly manufacturing) rely on imports of goods as critical inputs to final products. ‘Weightless’ services, provided increasingly by overseas businesses (often free or bundled with others), bring consumer benefits and can improve business productivity, but may also disrupt existing local business models and investment incentives.<sup>4</sup>

### Limitations of our analysis

This report uses firm-level administrative data to assess economy-wide and industry-level indicators of competition. As with any such analysis, there are important limitations that mean

<sup>4</sup> “Weightless” services are predominantly digital or knowledge-based services that are delivered electronically (rather than in physical form).

the results should be interpreted with care. In some cases, limitations of the underlying data mean our results look different from what might be expected.

- First, competition is not directly observable. We rely on a set of commonly used proxy indicators, each capturing only one dimension of competition. For this reason, no single indicator is determinative, and the indicators sometimes point in different directions.
- Second, the data reflects competition among New Zealand businesses that interact with the tax system. It does not capture some sources of competitive pressure, including competition from overseas firms without a New Zealand tax presence, some very small or informal businesses, and non-price dimensions of competition such as quality, variety or innovation.
- Third, results are based on industry classifications rather than the market definitions typically used in competition law. These classifications may group together businesses that do not compete closely, or combine regulated and unregulated activities, which can affect comparisons across industries. Other firm characteristics and geographic differences in competition are also not considered but could be developed in future.
- Finally, the data was available through 2023 and may still reflect the effects of the COVID-19 recovery. More recent developments, including the impacts of recent regulatory reforms and market studies, are not yet visible in the data.

This report should be viewed as a baseline, economy-wide assessment, not a substitute for detailed market-level analysis. Further detail on data sources, methods and limitations is set out in the technical attachments.

## **Next steps**

Part of the challenge for competition in New Zealand is the small size of our local market and our geographic isolation from international markets. As a result, the OECD has highlighted the importance of strong competition policy to improve New Zealand's economic outcomes.

Although significant progress has been made over the last two decades, our findings highlight there is more work to do. This is consistent with recent efforts to promote competition across the New Zealand economy, including the Government's review of competition laws and sector-specific initiatives (such as the introduction of open banking and the Energy Competition Task Force).

We anticipate this baseline research report will inform policy and regulatory development and will be of use to the agencies and Ministers tasked with enhancing competition settings across the economy.

We plan to build on our analysis and continue monitoring progress in future state of competition reports. We will update our analysis of competition indicators as new data becomes available. We may also undertake new analyses and have identified several possible research topics that could provide further insights. Our priority areas include:

- Improving the data set and monitoring competition trends to detect concentration, identify where entry, exit, or expansion is getting harder and how price margin and profit outcomes are changing.
- Further work on the impact of ownership and control relationships, including whether improved data could better identify common ownership linkages, governance arrangements and different ownership or management practices across the economy.

- Analysing changes in productivity to understand how business expansion and resource reallocation is related to indicators of competition.
- Better identifying different businesses and industries for competition analysis. This could help focus attention on competition in specific markets, regions and across different types of businesses (such as importing and exporting firms, and organisations in the Māori economy).

We look forward to discussing the findings of this report with stakeholders and policy makers, including how we can support analysis of the various ways competition outcomes may interact. We welcome feedback on this first report to help shape future research.

# Contents

<b>Foreword</b>	<b>3</b>
<b>Executive summary</b>	<b>5</b>
What is competition and why is it important? .....	5
Competition measures show mixed results at the economy-wide level.....	6
Competition varies widely between industries .....	6
Digging deeper.....	7
Limitations of our analysis .....	8
Next steps .....	9
<b>Contents</b>	<b>11</b>
<b>Chapter 1 Introduction</b>	<b>13</b>
Purpose.....	13
Competition drives better outcomes for New Zealanders .....	13
Our approach to assessing competition in this report .....	13
There are limits to our analysis .....	17
Structure of this report.....	17
<b>Chapter 2 How competition has evolved across the New Zealand economy</b>	<b>19</b>
Market concentration has steadily declined over most of 2001-2023.....	19
Business dynamism has generally declined.....	20
Market performance measures are mixed .....	22
Analysis by sector generally follows economy-wide trends.....	23
<b>Chapter 3 How competition varies between industries</b>	<b>27</b>
We have compared industry rankings over time.....	27
Competition trends vary between industries across the NZ economy .....	28
Some industries have a more significant impact on the economy.....	30
Industries with more imports are generally more competitive .....	32
The data in the LBD can only tell us so much about competition outcomes .....	36
<b>Chapter 4 Implications of our findings</b>	<b>39</b>
Our overall findings suggest a continued need for competition policy.....	39
Significant work is underway to promote competition in the least competitive sectors.....	41
<b>Chapter 5 Potential extensions for future reports</b>	<b>43</b>
Further work on the impact of ownership and control relationships .....	43
Changes in productivity as an indicator of competition .....	44
Competition and the Māori economy .....	45
Other possible extensions .....	46
<b>Attachment A Data sources and limitations</b>	<b>47</b>
Stats NZ longitudinal business database .....	47
Limitations of LBD data for this report .....	50
Productivity data tables.....	51
Other data sources .....	52
<b>Attachment B Industries we have analysed</b>	<b>53</b>
We used the 2006 ANZSIC standard industry classifications to measure competition among groups of firms.....	53
Descriptive analysis of industries we analysed.....	54
Industries that we are unable to report at the Class level .....	56
<b>Attachment C Concentration measures</b>	<b>58</b>
How we calculated the concentration measures .....	58

Limits on using concentration measures .....	59
Economy-wide results .....	59
Industry-level (Division) results .....	60
Industry-level (Class) results .....	65
<b>Attachment D Business dynamism measures</b>	<b>68</b>
How we have calculated the measures .....	68
Limits on using business dynamism measures .....	70
Economy-wide results .....	70
Industry-level (Division) results .....	72
Industry-level (Class) results .....	80
<b>Attachment E Performance measures</b>	<b>81</b>
Price-cost margins (the Lerner Index) .....	81
Profit elasticity .....	83
Economy-wide results .....	85
Industry-level (Division) results .....	86
Industry-level (Class) results .....	90
<b>Attachment F References</b>	<b>94</b>
<b>Attachment G Glossary</b>	<b>97</b>

# Chapter 1 Introduction

## Purpose

- 1.1 This is our first research report on the state of competition between businesses in New Zealand. It takes a data-driven approach to assessing competition across the New Zealand economy, including how competition has evolved over 2001-2023 and how competition trends differ between industries.
- 1.2 We plan to publish state of competition reports on a regular basis. This report provides a baseline that we intend to expand on in future.
- 1.3 These reports will provide data to help identify emerging competition issues and potential sectors and industries for more in-depth studies, supplementing other information sources that guide our work programme. Over time, we expect our reports and datasets on the state of competition will inform prioritisation of our work, public debate, and policy development.

## Competition drives better outcomes for New Zealanders

- 1.4 Competition is the process of rivalry between businesses to win and retain customers. This rivalry incentivises businesses to reduce costs, improve the quality of their products, and develop new goods, services and technologies.
- 1.5 Competitive markets benefit consumers by helping to keep prices down, ensuring the quality and variety of goods and services remains high, and allowing customers to choose the products and suppliers that best meet their needs.
- 1.6 Competition doesn't just benefit customers. Competition is a key driver of greater value, innovation, growth and productivity, and therefore of better outcomes for New Zealanders. Productivity is the biggest long-run determinant of wages and living standards.<sup>5</sup>
- 1.7 There is a trend of rising profit margins, increasing market concentration, and declining business dynamism across many developed economies internationally.<sup>6</sup> This report explores whether similar trends exist in New Zealand.

## Our approach to assessing competition in this report

### The strength of competition can be inferred from a range of indicators

- 1.8 Competition is a complex process that is not directly observable, so the strength of competition must be inferred from indicators. We have analysed a range of static and dynamic competition indicators which are grouped into three sets of measures.
  - 1.8.1 **Concentration:** These are indicators of the share of industry output held by the largest businesses in an industry. Greater concentration in an industry implies that there is less competition.

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<sup>5</sup> The Treasury (2024).

<sup>6</sup> For example: CMA (2024, pp. 61-67); Competition and Consumer Protection Commission (2025, pp. 4-5).

- 1.8.2 **Business dynamism:** These are indicators of business entry, exit and growth within an industry, including the extent to which newer or smaller businesses gain market share at the expense of large incumbents over time. Greater dynamism in an industry implies that there is more competition.
- 1.8.3 **Market performance:** These measure markups on prices over variable costs (price-cost margins), and what happens to profits when costs change (profit elasticity). They indicate how competition affects consumers, whether the benefits of efficiency are passed on, and how much inefficiency leads to lower profits.
- 1.9 Market performance measures are outcome indicators rather than direct measures of competitive conduct or market structure. They compare revenues to firms' spending on labour and intermediate inputs, not total or average costs, indicating competitive pressure rather than excess profits. Lower margins and profits that respond strongly to cost changes suggest stronger competition, as firms are unable to pass costs through to consumers. When margins rise and profits become less sensitive to costs, firms are better able to keep gains for themselves, indicating weaker competitive pressure.
- 1.10 We have chosen these measures because they are commonly used by competition authorities around the world and we had the data available to calculate them.<sup>7</sup> This approach is consistent with OECD work that interprets trends in entry, exit, firm growth and performance as outcomes of the competitive process rather than as direct measures.
- 1.11 Table 1.1 below lists the competition indicators we've assessed, grouped into the three sets of measures above. It also explains how to interpret each indicator.

**Table 1.1 Summary of competition indicators**

Measure	Indicator	Explanation	Direction associated with more competition
<b>Concentration</b>	Concentration ratio top five firms (CR5)	Sum of industry output shares of the five largest firms as a proportion of the total output of the industry. Lower CR5 is normally associated with stronger competition.	↓
	Herfindahl–Hirschman Index (HHI)	Sum of the squared shares of industry output of all firms in an industry. Lower HHI is normally associated with stronger competition.	↓
<b>Business dynamism</b>	Entry and exit rates	The number of market entries/exits as a proportion of the total number of firms in an industry. Higher exit/entry churn indicates greater	↑

<sup>7</sup> For example, the OECD and UK and Irish competition authorities have recently published reports using similar concentration, business dynamism and market performance measures to assess competition (Calligaris, Criscuolo, De Lyon, Greppi, & Pallanch, 2025), (CMA, 2024), (Competition and Consumer Protection Commission, 2025). Andrews, Criscuolo and Gal (2016) uses cross-country firm-level data to interpret competition as a process that shapes entry, exit, firm growth, and productivity outcomes.

Measure	Indicator	Explanation	Direction associated with more competition
Market performance		business dynamism, which may indicate a more effective competitive process.	
	Industry share of new entrants	Sum of output shares of new entrants in an industry with a separate measure for one year after entry and five years after entry. Higher shares of new entrants may indicate greater business dynamism, which may suggest more effective competitive process.	↑
	Rank persistence of the ten largest firms	Extent to which large incumbent firms maintain their shares of industry output. Measured as the proportion of the top ten largest firms that had remained in the top ten for three consecutive years. Lower rank persistence indicates greater business dynamism, which may indicate more effective competitive process.	↓
	Profit elasticity	Sensitivity of profits to changes in costs. Lower (that is, more negative) profit elasticity is normally associated with stronger competition.	↓
	Price-cost margins	Difference between average per-unit costs and prices. Lower price-cost margins are normally associated with stronger competition.	↓

1.12 We have calculated additional business dynamism indicators which are not presented in the body of this report because they offer limited further insights. These include survival rates for new entrants, industry shares of firms less than five years old, and change in mean age of large firms. These indicators are included in Attachment D.

### We have calculated competition indicators using Stats NZ's longitudinal business database

1.13 Our primary data source is Stats NZ's longitudinal business database (LBD). The LBD provides anonymised data about individual business entities compiled from government data sources. LBD data is updated annually, enabling analysis of trends over time. The most recent data available at the start of the research period was from the 2023 financial year.

1.14 We have analysed competition at different levels of industry aggregation. Enterprises in the LBD are assigned to industries in the 2006 Australian and New Zealand Standard Industrial Classifications (ANZSIC06). We have used the industry classifications assigned in the LBD for our analyses. ANZSIC06 has four levels that start broad and get increasingly narrow:

- 20 Divisions (1-digit level)

- 87 Subdivisions (2-digit level)
- 219 Groups (3-digit level)
- 511 Classes (4-digit level).

1.15 The dataset we have used includes 16 industries at the Division level, and approximately 425 industries at the Class level.<sup>8</sup> Descriptive statistics for the Divisions we have analysed are included in Attachment B.

### **Our results are presented for different industry levels and time periods**

1.16 Where possible we analysed the LBD data at the most detailed industry Class level. We then combined these results (weighting each Class by output) to produce summaries at the Division level and weighting results for Divisions by GDP to produce summaries at the economy level.

1.17 We have assessed trends in competition indicators over two main periods.

1.17.1 **Whole period (financial years 2001-2023):** The full period for which LBD data is available for the indicators used in our analysis.<sup>9</sup>

1.17.2 **Post-GFC period (financial years 2010-2023):** The period following the global financial crisis, to avoid the period affected by the significant economic shock.

1.18 Changes in the external economy and macro drivers will have an impact on how observed indicators might be interpreted, for example in exploring what might be driving changes. While COVID-19 was also a substantial shock that affected the 2021 and 2022 financial years, there is insufficient data after that period to assess its impacts on competition. This may be considered in future reports.

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<sup>8</sup> The excluded industry Divisions largely represent the public sector where there are fewer for-profit enterprises. Results at the industry Class level are presented to the extent possible within the confidentiality rules for publishing LBD data (see Attachment A). The extent to which indicators can be reported for Classes varies by industry, indicator and year, so not all indicators are available for all 425 Classes in every year.

<sup>9</sup> Stats NZ adds information to the LBD as it becomes available to it rather than in real time. This means that the data available in the LBD may lag behind the relevant year of the data. For example, the GST data comes from Inland Revenue therefore will only appear in the LBD once the Inland Revenue department makes it available to Stats NZ. Some datasets in the LBD are subject to revision for example due to late filed tax returns. See Fabling & Sanderson (2016) at footnote 2.

## **We have drawn from previous studies when undertaking our analysis**

- 1.19 Our analysis builds on previous analysis using firm-level productivity tables constructed from LBD data (‘the Fabling-Maré productivity tables’).<sup>10</sup> These tables implement the methods set out in Fabling & Maré (2019) to produce consistent firm-level measures of output and productivity over time. Further detail on the construction of the tables and their limitations is provided in Attachment A.<sup>11</sup>
- 1.20 We have also drawn from the approach to economy-wide assessments undertaken by overseas competition authorities.<sup>12</sup>

## **There are limits to our analysis**

- 1.21 This report is not a substitute for the detailed market-level analysis we undertake in our other competition assessments (for example, when assessing a merger or undertaking a market study). The focus of this report has been to identify what the LBD data says about competition measures for the various industries. This is a starting point for an assessment. A more conclusive view of competition in each industry considers other information that is available.
- 1.22 Each of the competition indicators we have considered has limitations or assumptions that prevent it from providing a complete picture across the economy. The indicators all have measurement issues—they typically measure only one dimension of competition, and there are challenges in interpreting the results.<sup>13</sup> We have used a variety of measures to improve the robustness of our assessment.
- 1.23 There are also several constraints of the LBD data which limit our findings. Because the economy-wide and industry-level indicators are derived from firm-level administrative data, there are limitations to the scope of the analysis and to how the results should be interpreted. A detailed discussion of data sources, assumptions, and limitations is provided in Attachment A. The limits of each measure are discussed in Attachments C, D and E. The next two chapters focus on presenting and interpreting the results, rather than restating those limitations.

## **Structure of this report**

- 1.24 The remaining chapters of this report are:

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<sup>10</sup> Notably Fabling & Maré (2019) and Ng & Stubbing (2025). We have used a dataset that Ng and Stubbing (2025) produced (based on an updated version of the original Fabling-Maré Productivity Tables) as the starting point for our analysis. We thank the authors for their assistance and for sharing their analysis with us. The paper and dataset are available [here](#).

<sup>11</sup> Fabling & Maré (2019) describes the methods for constructing firm-level productivity tables from LBD data, including firm linking over time and the estimation of output and inputs suitable for productivity analysis. The productivity tables are an input to our analysis. All competition indicators, interpretations and conclusions in this report are those of the Commission.

<sup>12</sup> This includes the UK Competition and Markets Authority’s (CMA) “The State of UK Competition” reports and Irish Competition and Consumer Protection Commission’s (CCPC) “State of Competition” report (December 2025). The CMA have released three reports into the state of UK competition, in [2020](#), [2022](#) and [2024](#).

<sup>13</sup> For example, when concentration rises it is not always bad for competition because bigger companies can benefit from economies of scale, allowing them to produce in bulk or invest in better technology, putting downward pressure on prices.

- 1.24.1 **Chapter 2: How competition has evolved across the New Zealand economy** considers whether competition in New Zealand has become stronger or weaker over time, based on cross-economy averages.
- 1.24.2 **Chapter 3: How competition varies between industries** considers how competition differs between industries, and identifies industries where competition appears to be getting stronger or weaker. Results are reported at the Division level – the broadest industry grouping.
- 1.24.3 **Chapter 4: Implications of our findings** considers the implications of our findings in the context of other studies and competition policy more generally.
- 1.24.4 **Chapter 5: Potential extensions for future reports** outlines additional analysis we may undertake in future state of competition reports.

## Chapter 2 How competition has evolved across the New Zealand economy

- 2.1 Economy-wide averages of competition indicators show mixed results, without a clear trend. Some indicators suggest competition is increasing over time, others suggest competition is decreasing, and some differ significantly depending on the period considered.
- 2.2 The economy-wide indicators in this report summarise the ‘average’ state of competition across industries in New Zealand, rather than treating the whole economy as a single market. Changes in the economy-wide indicators over time reflect changes in industry-level competition, as well as changes in the distribution of economic activity across industries.
- 2.3 The role of the external economy and macro drivers is also relevant. Several of the time-series figures in this chapter include shaded areas corresponding to major global macroeconomic disruptions, including the GFC and the COVID-19 pandemic. These periods reflect economy-wide shocks affecting demand, costs, and firm behaviour across many industries. While we have not formally separated the effects of competition from broader macroeconomic influences in this analysis, these events are relevant for interpreting what might be driving changes in the indicators.

### Market concentration has steadily declined over most of 2001-2023

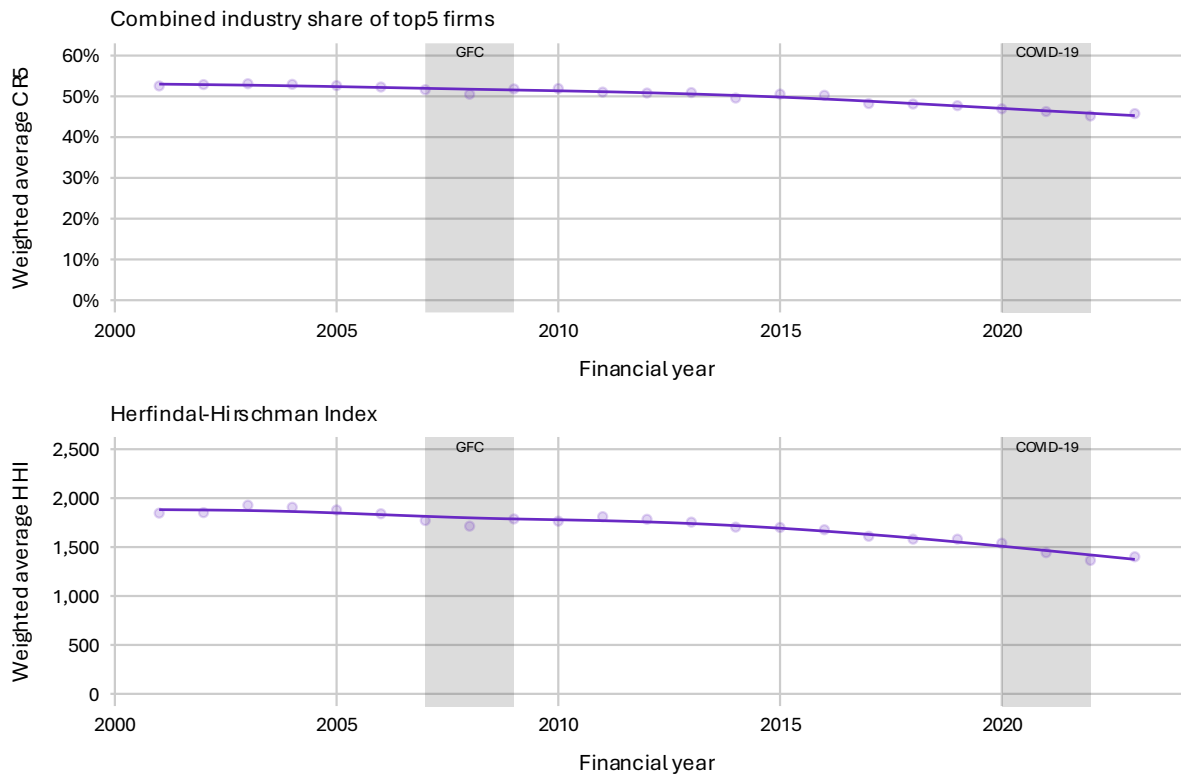
- 2.4 Competition regulators often measure concentration when assessing the extent of competition in a market.<sup>14</sup> In general, markets where market share is distributed among a range of competitors (low concentration) tend to be more competitive than markets where a small number of businesses hold a large share of the market. However, concentration alone is not determinative of competitive outcomes.
- 2.5 The average combined share of the five largest businesses in each industry (CR5) has had a steady downward trend over the period. A declining CR5 suggests the largest businesses hold a smaller share of the market, which normally indicates markets are becoming more competitive. The downward trend appears to be more pronounced during the post-GFC period.
- 2.6 HHI is also declining over the full period, although it has more variation in its trend than CR5, with slight rises and falls over the period. HHI has a more pronounced fall in the post-GFC period.
- 2.7 These indicators suggest that concentration has declined across the New Zealand economy (Figure 2.1), implying that structural aspects of competition have improved.<sup>15</sup>

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<sup>14</sup> We have used the term “market” generically here, rather referring to a formal market definition used in the context of competition law (e.g. when assessing a merger).

<sup>15</sup> Trendlines shown in charts are fitted using a generalised additive model (GAM) to provide a smooth representation of underlying trends. This approach is used consistently throughout the report.

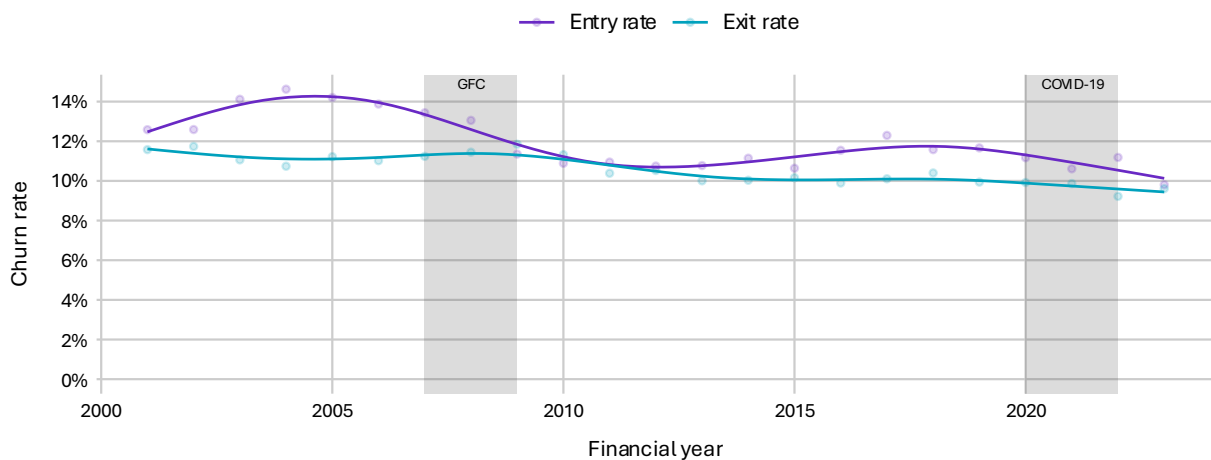
**Figure 2.1 Concentration measures (economy-wide, GDP-weighted averages)**



## Business dynamism has generally declined

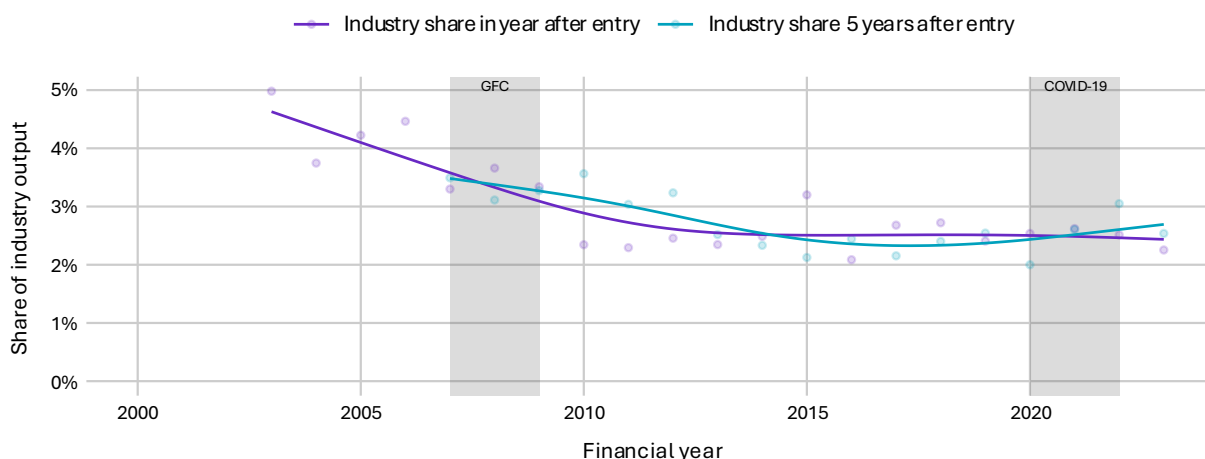
2.8 Between 2001 and 2023, the rate of businesses starting up or closing down has declined, meaning there is less movement of businesses in and out of industries (Figure 2.2). Entry rates fell sharply after 2005, picked up for a short period after the GFC, and then dropped again before COVID-19. Business exit rates have steadily declined over the period. These trends suggest reduced business dynamism.

**Figure 2.2 Entry and exit rates (economy-wide, GDP-weighted averages)**



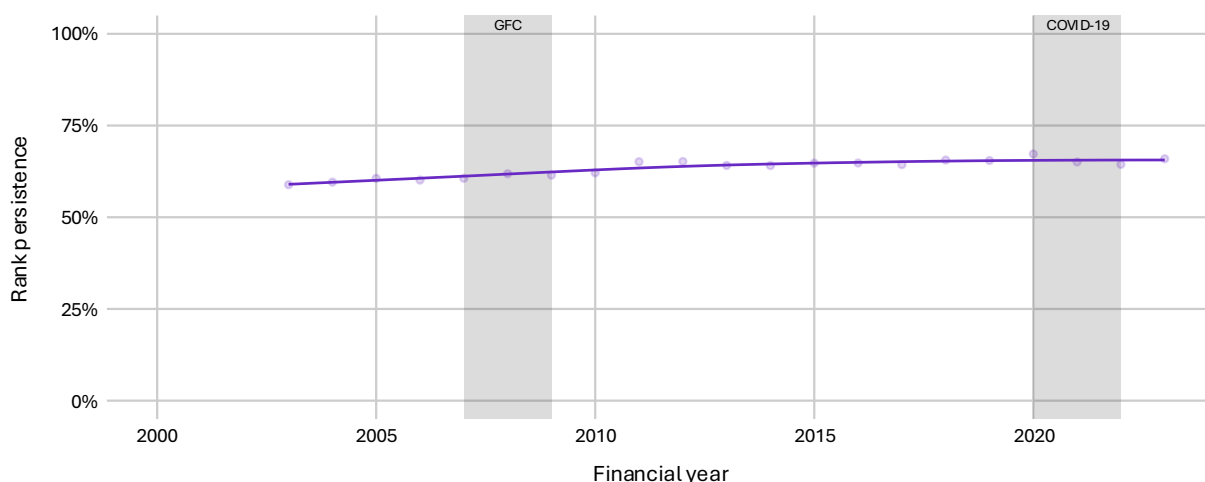
2.9 The industry share of new entrants (Figure 2.3) has generally been declining. The main declines for industry share for new entrants occurred during the first half of the period covered, before flattening after the GFC. The lines for industry share one year after entry and five years after entry are similar, suggesting that businesses which have entered industries have not grown markedly. It is unclear to what extent these changes are driven by competition dynamics within markets or by external macroeconomic forces, given their timing in relation to the GFC and COVID-19.

**Figure 2.3 Industry share of new entrants (economy-wide, GDP-weighted averages)**



2.10 Rank persistence (Figure 2.4) has steadily increased. This suggests that large businesses are increasingly able to maintain their positions in their industries over time, which is associated with reduced business dynamism.

**Figure 2.4 Rank persistence (economy-wide, GDP-weighted averages)**



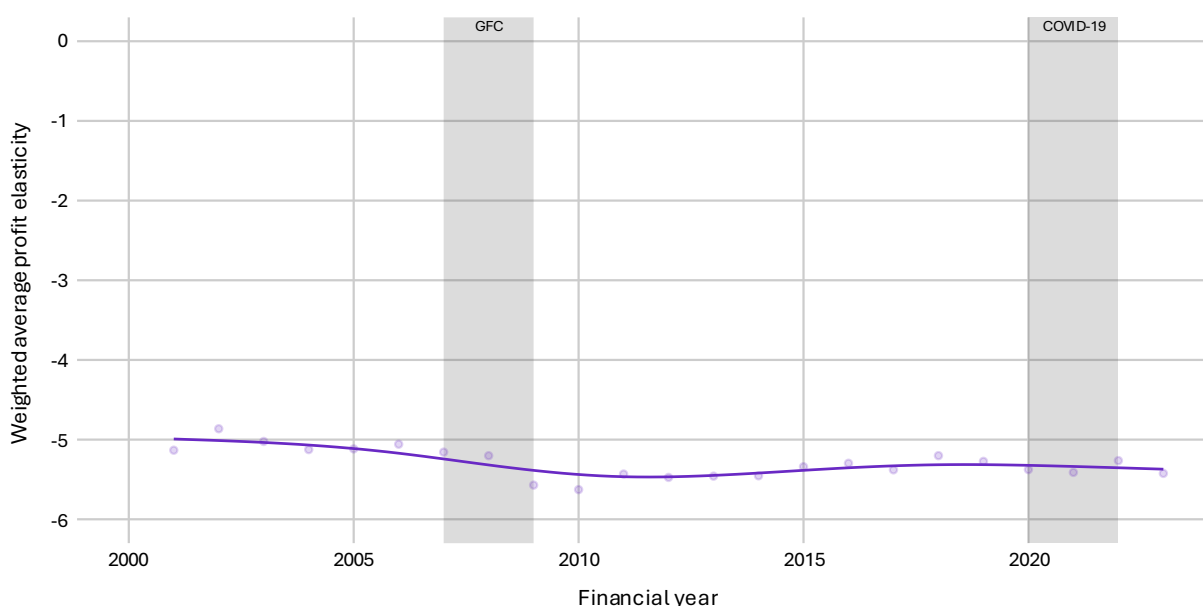
2.11 Overall, the falling share of new entrants (Figure 2.3) and rising rank persistence (Figure 2.4) suggest new entrants seem to have done marginally better earlier in the assessment period. More recently, businesses that entered markets do not seem to have grown markedly. This suggests that conditions are getting easier for larger businesses and harder for smaller businesses.

- 2.12 Business dynamism is declining across several measures, suggesting the competitive process is becoming less effective. The decline in dynamism suggests a decrease in competition, the opposite to the trend in concentration.
- 2.13 One explanation for the apparent contradiction in these measures is that there has been a shift of market share from the largest businesses to smaller businesses that are already operating, but new entrants are finding it more challenging to establish themselves.

## Market performance measures are mixed

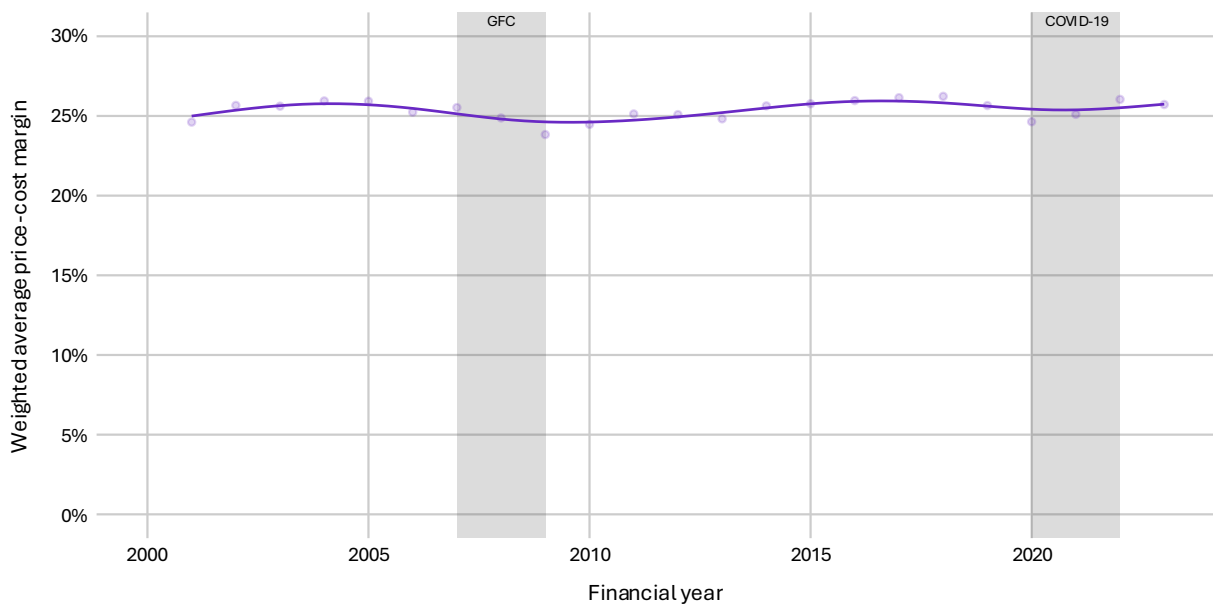
- 2.14 **Profit elasticity** (Figure 2.5) measures how sensitive businesses are to changes in costs. Businesses that face greater competition are more likely to be sensitive to changes in costs, which is indicated by a more negative profit elasticity.
- 2.15 Average profit elasticity has changed over the period assessed. There is a downward trend across the whole period (2001-2023), suggesting businesses are more responsive to changes in costs (which indicates greater competition). However, there is an upwards trend in profit elasticity over the post-GFC period, suggesting weaker competition over that period.

**Figure 2.5 Profit elasticity (economy-wide, GDP-weighted averages)**



- 2.16 **Price-cost margins** (Figure 2.6) will normally fall in response to stronger competition as businesses lower prices towards their costs.
- 2.17 Average price-cost margins have been relatively stable over the past two decades, without showing a clear trend. Margins have risen slightly in the post-GFC period, which suggests weaker competition.

**Figure 2.6 Price-cost margin (economy-wide, GDP-weighted averages)**



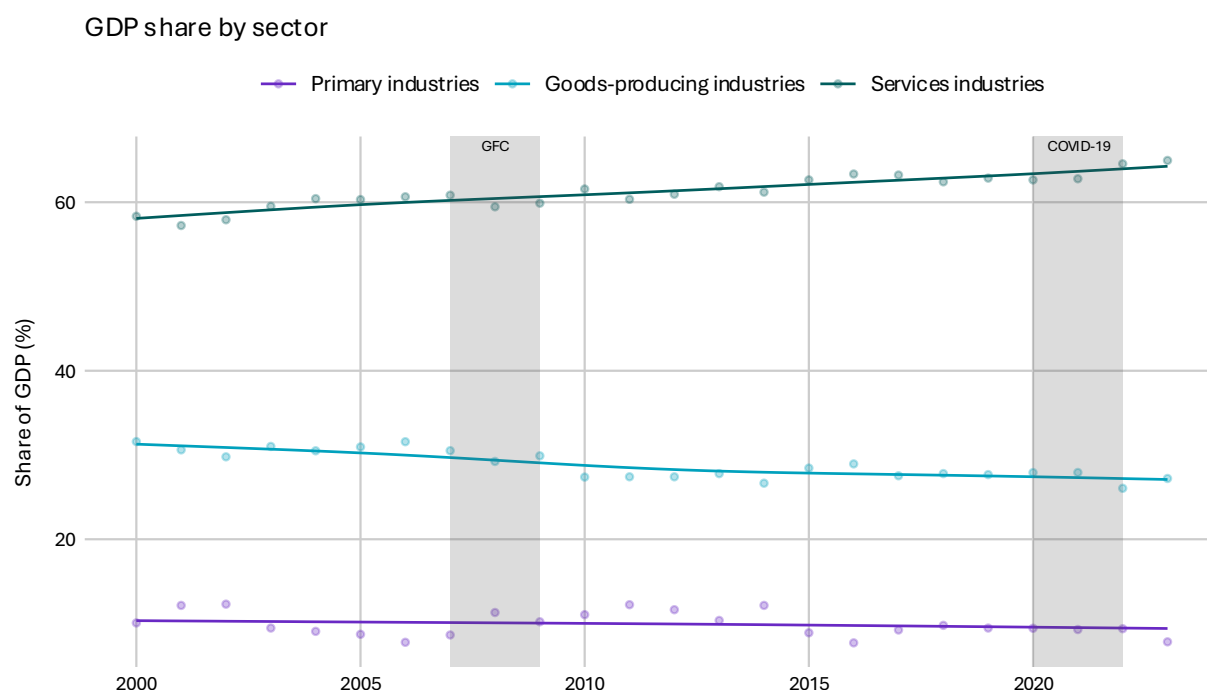
2.18 Overall, the market performance indicators show mixed results. Trends depend on the indicator and time period considered.

### **Analysis by sector generally follows economy-wide trends**

2.19 Economy-wide trends can be broken down into sectors – that is, primary industries, goods-producing industries and services industries.

2.20 As shown in Figure 2.7, these sector groupings have different contributions to GDP. For example, the extent of competition in the services sector is important since it accounts for the largest share of GDP and that share has been growing over time.

**Figure 2.7 GDP share by sector**



2.21 Figure 2.8 below summarises competition indicators by sector (services, primary, and goods-producing industries) based on GDP-weighted averages of industry Divisions.<sup>16</sup> Many of the sectoral measures follow the economy-wide trends, with some exceptions.

2.22 The **services sector** shows a decrease in concentration measures (implying improving competition). However, there are decreasing trends for almost all business dynamism measures. Profit elasticity has decreased over the whole period, although it has flattened off in the post-GFC period. Price-cost margins do not show any clear trend.

2.23 The **primary sector** shows concentration rose initially but has been falling in the post-GFC period. There appears to be decreasing trends for almost all business dynamism measures, with some showing significant falls (for example, industry share of entrants after 1 year and 5 years). Profit elasticity fell and then rose, while price-cost margins do not have a clear trend.

2.24 **Goods-producing industries** show a decreasing trend for concentration, especially in recent years. However, there appears to be decreasing trends for some business dynamism indicators, although others show increases especially in the post-GFC period (for example, industry share of entrants after 5 years). Profit elasticity and price-cost margins do not show a clear trend, although appear to be overall declining slightly. Goods producing industries have notably lower markups than services and the primary sector, and profits are more sensitive to cost changes.

<sup>16</sup> The groupings of industries into sectors follows Stats NZ's approach. The primary sector is defined as the Agriculture, Forestry and Fishing, and Mining industries. The goods-producing sector is defined as the Manufacturing, Electricity, gas, water and waste services, and Construction industries. All other industries fall into the services sector (Stats NZ, 2016).

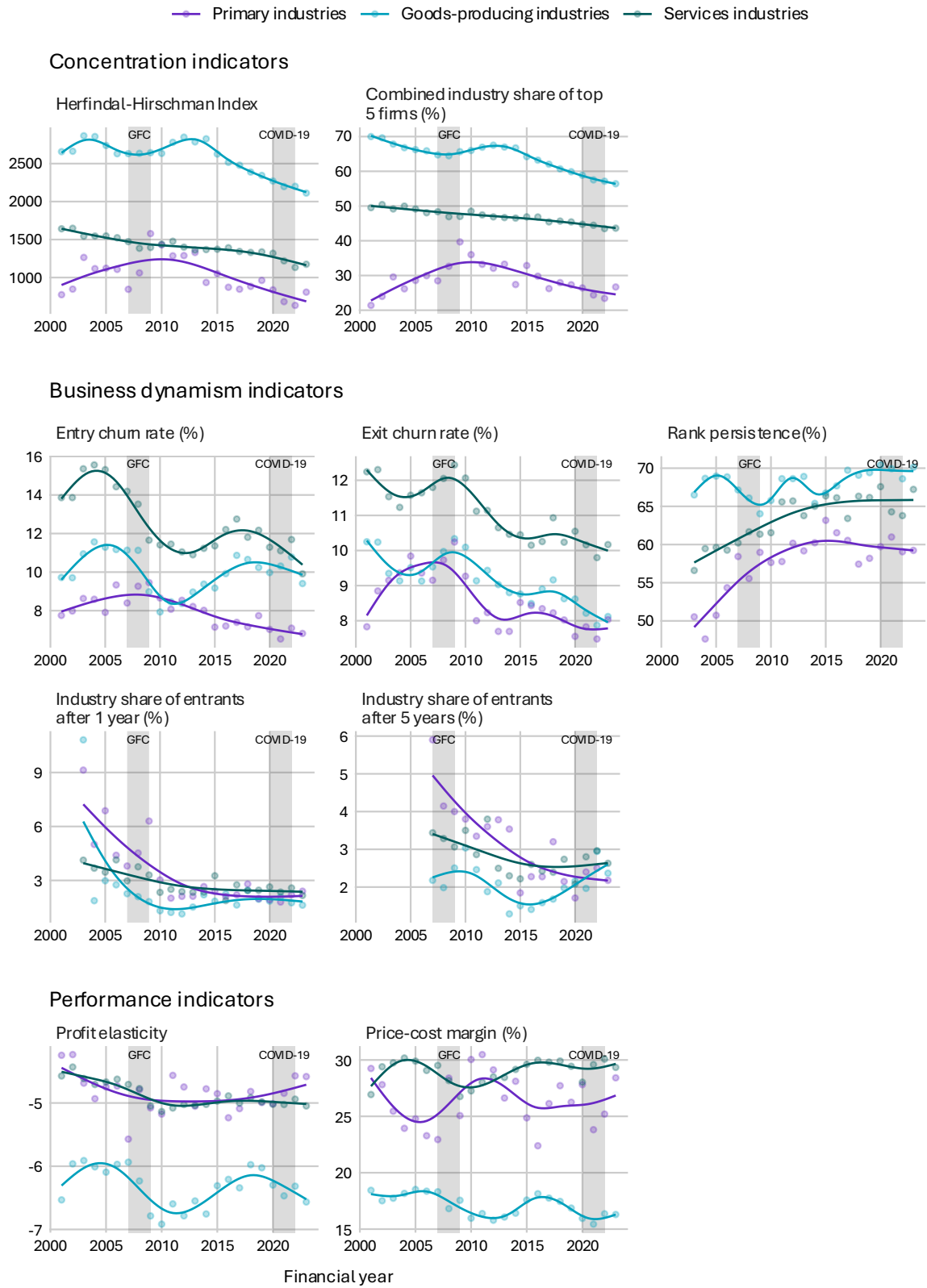
- 2.25 More generally, the services sector appears relatively unconcentrated compared to primary and goods producing sectors, but performance indicators suggest weaker competition. This finding could be impacted by factors discussed elsewhere in this report, for example:
- 2.25.1 the way ownership and control relationships are captured in the LBD;<sup>17</sup> and/or
  - 2.25.2 relatively less exposure to competition from imports.<sup>18</sup>
- 2.26 Similarly, goods producing industries appear relatively highly concentrated, but performance indicators suggest stronger competition than services and primary industries. This may be because many goods producing industries are more exposed to international trade and/or are subject to economic regulation (which seeks to promote comparable outcomes to those expected if there was effective competition).

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<sup>17</sup> See paragraphs 3.31 to 3.34 and 5.4 to 5.6 for discussion of the impact of ownership and control relationships.

<sup>18</sup> See paragraphs 3.15 to 3.23 for discussion of the relationship between competition indicators and the exposure to imports.

**Figure 2.8 Summary of GDP-weighted average indicators by sector**



## Chapter 3 How competition varies between industries

- 3.1 This section presents our results at the industry Division level. We have calculated competition indicators for Divisions by combining the averages of competition indicators for the industry Classes within each Division (weighted by output).<sup>19</sup>
- 3.2 To enable readers to further assess industries of interest, we have made the underlying dataset available on our website. This includes the competition indicators at both the Division and Class industry levels.

### We have compared industry rankings over time

- 3.3 To summarise multiple competition indicators in a way that allows comparison across industries, we have constructed a composite competition indicator that combines measures of concentration, business dynamism, and market performance.<sup>20</sup> The composite indicator aggregates the underlying indicators to provide a summary view, without introducing any new information.
- 3.4 We have compared rankings between Divisions using the composite indicator.<sup>21</sup> Figure 3.1 shows the composite indicator by industry Division for 2001-2023. Industries are displayed in order, from those with the most to least competition (based on their ranking as at 2023). The results suggest that:
- 3.4.1 the industries that were ranked the highest for competition over the period were “Other services”, “Construction”, “Accommodation and food services” and “Administration and support services”;
  - 3.4.2 the industries ranked lowest for competition were “Mining”, “Electricity, gas, water and waste services”, “Financial and insurance services” and “Information media and telecommunications”;
  - 3.4.3 industries with improving rankings include “Rental, hiring and real estate services”, “Accommodation and food services” and “Administrative and support services”; and
  - 3.4.4 industries with worsening rankings include “Agriculture, forestry and fishing” and “Wholesale trade”.

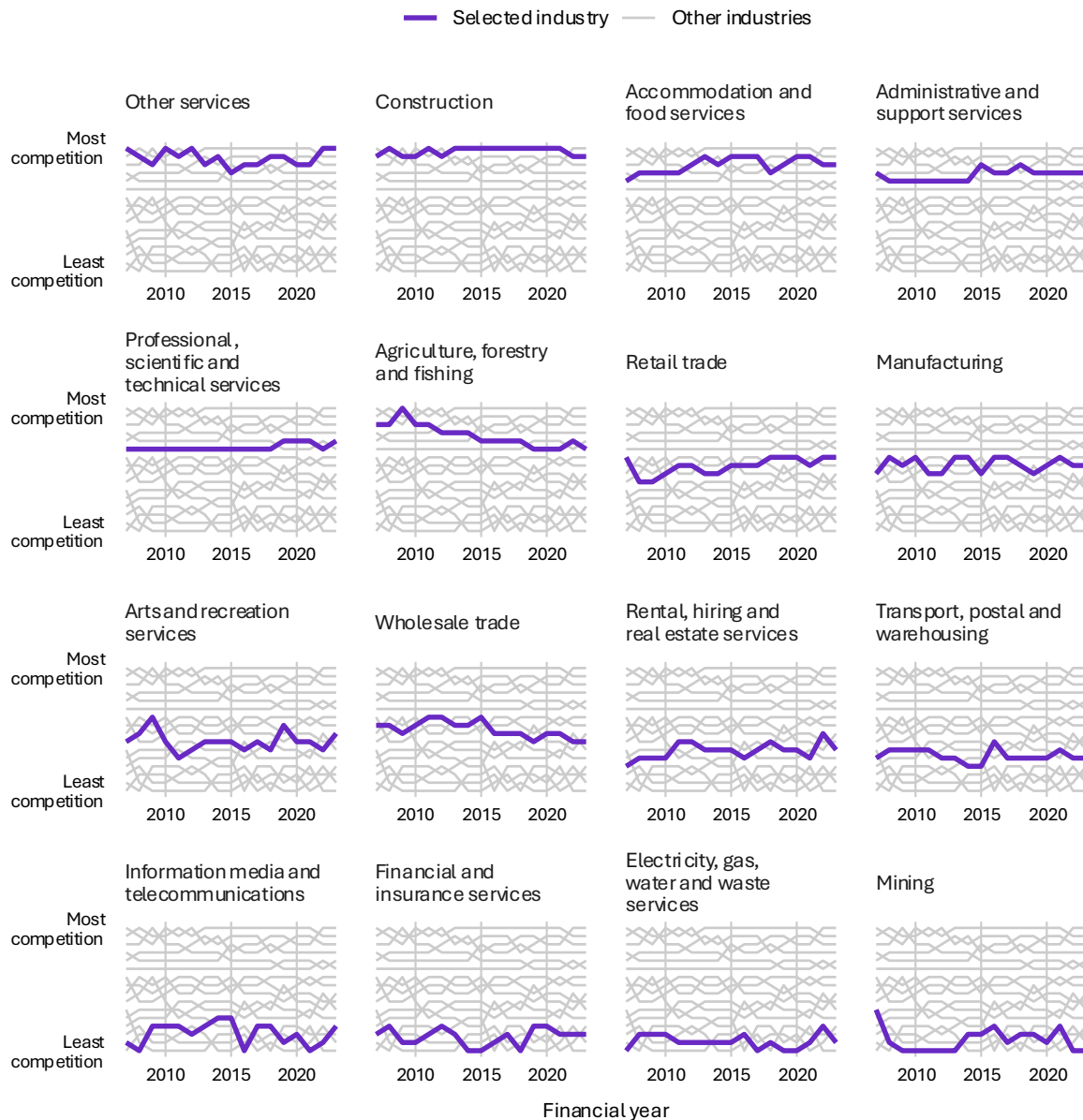
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<sup>19</sup> The indicators for Divisions were calculated within the secure Stats NZ Data Lab and include results for Classes that could not be reported individually due to confidentiality requirements.

<sup>20</sup> For the purposes of aggregation and ranking, the method used for the composite indicator is based on that described in Abele, Calligaris, Criscuolo, & Greppi (2025). The composite indicator involves standardising our competition indicators by converting them to z-scores (mean / standard deviation) and then averaging the indicators within the business dynamism, concentration, and performance categories. The averages for these three categories are then averaged again to produce a single combined score for each industry, which is ranked to produce the overall composite ranking.

<sup>21</sup> Industry rankings may differ depending on assumptions used to construct the composite indicator.

**Figure 3.1 Composite ranking of industries (Divisions)**



### Competition trends vary between industries across the NZ economy

3.5 We have also assessed trends for individual Divisions – that is, whether competition appears to be improving or worsening over time based on the various indicators. It is not always meaningful to compare levels across industries because the indicators are sometimes driven by features of the industries. For example, we would expect margins to be higher in industries with high fixed costs.

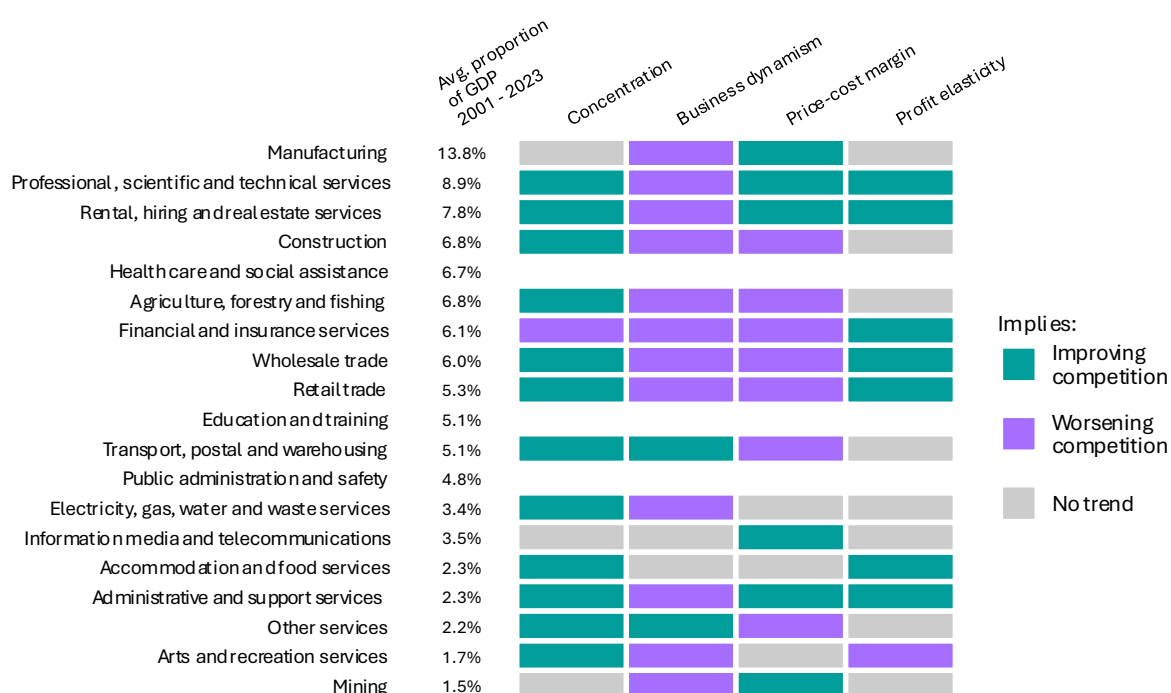
3.6 The charts below summarise whether our indicators suggest improving or worsening competition. The whole period (2001-2023) and post-GFC period (2010-2023) are presented separately.<sup>22</sup>

<sup>22</sup> For the purposes of our analysis, we have listed the market performance indicators (price-cost margins and profit elasticity) separately. We consider these measures are sufficiently distinct to report them separately the tables.

3.7 Over the whole period (Figure 3.2):

- 3.7.1 Concentration appears to have declined – implying improving competition for most industries. Business dynamism, however, also appears to have declined – implying worsening competition for most industries. Price-cost margins are mixed, whereas profit elasticity mostly shows no trend or improving competition.
- 3.7.2 “Financial and insurance services” has the most measures implying a worsening trend in competition.
- 3.7.3 “Professional, scientific and technical services”, “Rental, hiring, and real estate services”, and “Administration and support services” have the most measures implying improving trends in competition.

**Figure 3.2 Significant trends for whole period (2001-2023) – Industry level (Divisions)**

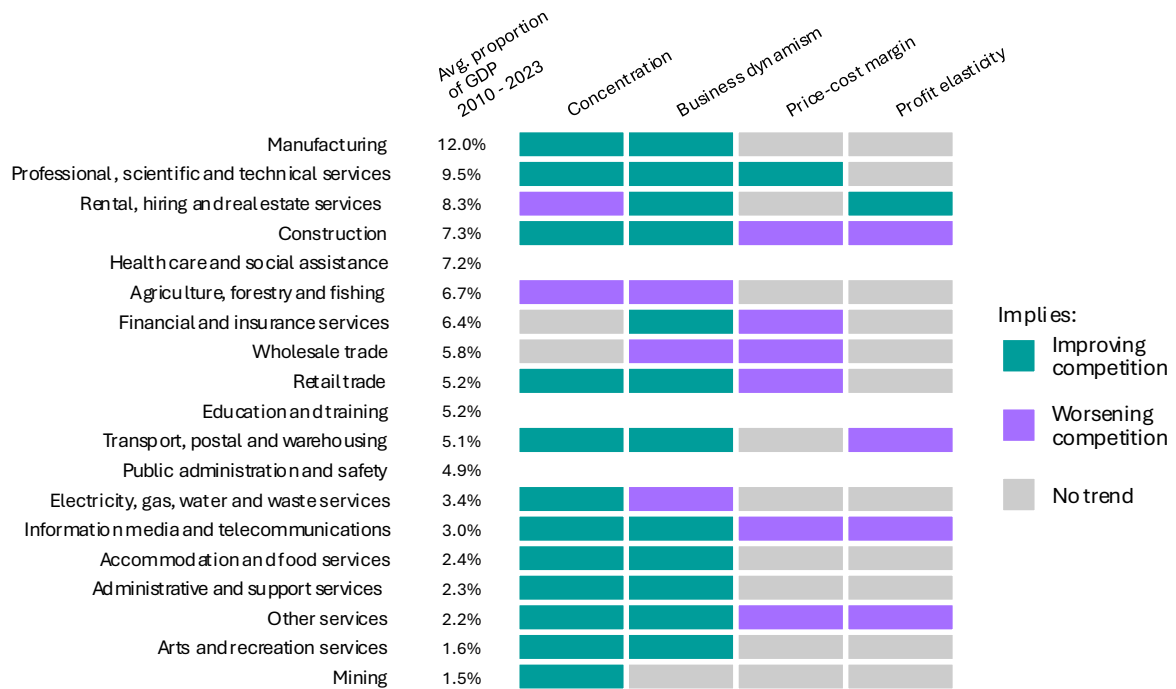


3.8 Over the post-GFC period (Figure 3.3):

- 3.8.1 Concentration and business dynamism imply improving competition trends for most industries. Price-cost margins and price elasticity mostly show no trend or worsening competition.
- 3.8.2 “Agriculture, forestry and fishing” and “Wholesale trade” are examples of Divisions with multiple worsening trends and no improving trend for competition.
- 3.8.3 “Professional, scientific and technical services” has the most measures showing improving competition trends.

3.8.4 “Manufacturing”, “Accommodation and food services”, “Administration and support services” and “Arts and recreation services” have multiple measures showing improving trends and no worsening trends.

**Figure 3.3 Significant trends for post-GFC period (2010-2023) – Industry level (Divisions)**



### Some industries have a more significant impact on the economy

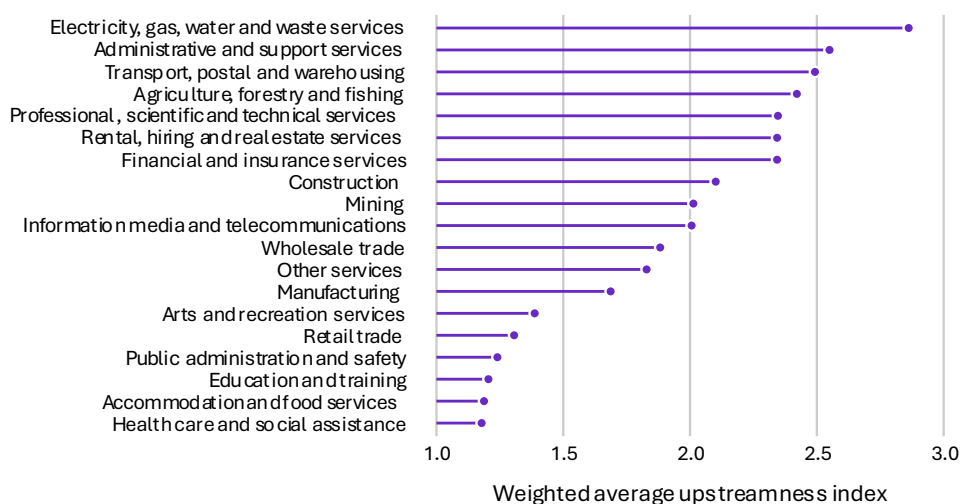
3.9 When undertaking our analysis at the Division level, we have considered the significance of each industry to the wider economy. In our analysis of trends (Figure 3.2 and Figure 3.3), industry Divisions were ranked based on their contribution to GDP. In Attachment B we set out more information that can help provide an indication of the significance of each industry based on number of firms, employees and share of GDP.

3.10 Another way to assess the wider economic importance of competition outcomes is to consider an industry’s upstreamness (its position in the supply chain relative to final consumers). An industry is more upstream the further away it is from the final consumer. This is an important consideration because a lack of competition further up a long supply chain could filter down to other industries, causing greater harm to consumers.<sup>23</sup>

<sup>23</sup> For example, electricity is an industry with high upstreamness because it provides an essential input to most other industries.

3.11 We show in Figure 3.4 a measure of each industry’s upstreamness based on how ‘far’ an industry’s output is from final use (for example, final consumption, investment, or export). We summarise this information using an upstreamness index which takes the value of one if an industry’s output is sold directly to final users and has higher values if the output passes through further stages of processing in other industries before reaching its end use.<sup>24</sup>

**Figure 3.4 Upstreamness index for Divisions (2020)**



3.12 Figure 3.5 plots the competition index (composite indicator) averaged for 2018-2022 against the upstreamness index.<sup>25</sup> The upstreamness index is calculated using the 2020 input-output tables and therefore reflects the structure of supply chains at that point in time.

3.13 The industries that are of most concern are those that show relatively weak competition and are further upstream in the production chain (that is, industries towards the bottom right of the chart). This chart indicates that:

- 3.13.1 regulated industries (i.e. “Electricity, gas, water and waste services” and “Information media and telecommunications” are relatively upstream and less competitive;<sup>26</sup>
- 3.13.2 “Financial and insurance services” warrants attention, given it has relatively high upstreamness but is less competitive; and
- 3.13.3 “Transport, postal and warehousing”, “Rental hiring and real estate services” and “Wholesale trade” are other industries to keep an eye on.

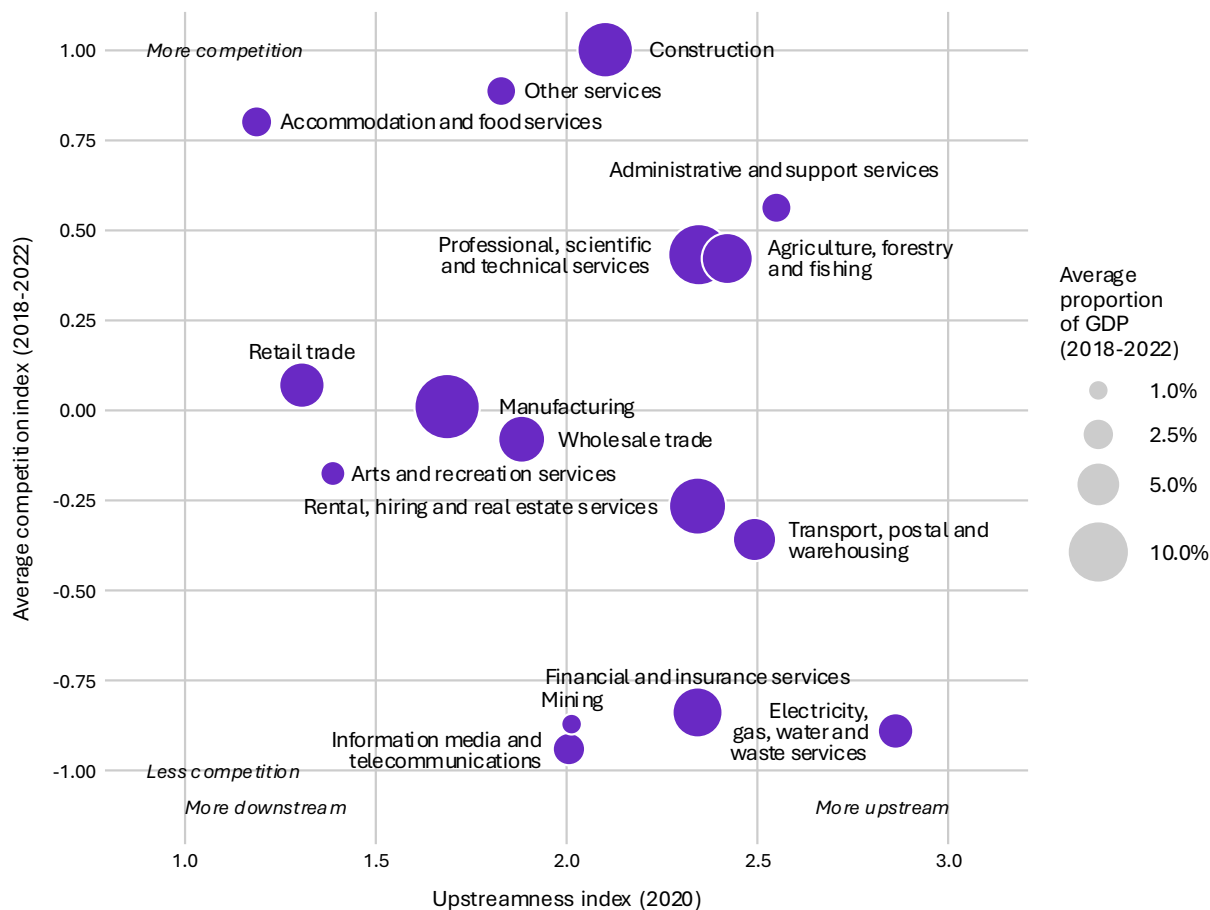
<sup>24</sup> In this report, upstreamness is measured using Stats NZ 2020 input-output tables. The upstreamness index is expressed as a weighted average number of production stages that an industry’s output passes through before it reaches final use. It is calculated by tracing each dollar of an industry’s output forward through the production network: output going directly to final use is assigned a distance of 1, output sold to industries whose production is itself sold to final users is assigned a distance of 2, and so on, with weights reflecting the share of output flowing along each path.

<sup>25</sup> The composite indicator is shown in Figure 3.1 above.

<sup>26</sup> “Mining” also has relatively low competition and high upstreamness but contributes a small proportion of GDP.

3.14 Although some of the industries invite a closer look, Chapter 4 notes that some are already being regulated, while others have been subject to market studies. All industries are subject to competition laws.

**Figure 3.5 Upstreamness index vs competition index**



### Industries with more imports are generally more competitive

3.15 Imports are important for New Zealand, a small open economy. We have assessed the relationship between competition indicators (price-cost margins, profit elasticity, HHI and CR5) and the exposure of each industry Division to imports.

3.16 A measure for the level of import competition for each industry was not available when undertaking this analysis. As a proxy, we used data on imports used as inputs in each industry contained within Stats NZ 2020 input-output tables, comprising goods and services.<sup>27</sup>

<sup>27</sup> Stats NZ input-output tables show the relationships between industries, the goods and services they produce, and who uses them. The tables contain detailed data about the production and expenditure measures of GDP (Stats NZ, 2021).

- 3.17 Figure 3.6 shows the relationship between industry exposure to imports and competition indicators, for all industry Divisions.<sup>28</sup> This shows modest correlations across the competition indicators, including a positive relationship for structural measures of concentration (HHI and CR5). When considered across the economy as a whole, industries with higher import exposure do not appear to systematically exhibit stronger competition.<sup>29</sup>
- 3.18 Figure 3.7 shows the relationship between imports and competition indicators excluding Manufacturing. In this case, there is a low to moderate negative correlation for each competition indicator, suggesting that industries with a higher proportion of imports tend to have stronger competition.
- 3.19 One explanation for this pattern is that imports play different roles across industries. In some industries, imports primarily compete with domestically produced goods and services sold to consumers, exerting direct competitive pressure. In other industries, imports are mainly used as inputs, embedded in supply chains and production processes, where they may support scale, efficiency, and innovation rather than intensifying competition in final markets.
- 3.20 The contrast between Figure 3.6 and Figure 3.7 illustrates that import exposure reflects different economic functions, depending on supply-chain position (upstreamness). These differences matter for how competition measures should be interpreted in different industries.
- 3.21 Manufacturing materially shapes the aggregate relationship between imports and competition. It is one of the largest Divisions by number of Classes, covering activities including food and beverage manufacturing through to machinery, chemical, and fabricated metal production. As a Division, it accounts for a large share of imports, output, and concentration.<sup>30</sup> Imports in this Division are likely to be predominantly used as intermediate inputs rather than sold directly to consumers. As a result, import exposure may reflect upstream input use and global supply-chain integration, rather than direct competition.

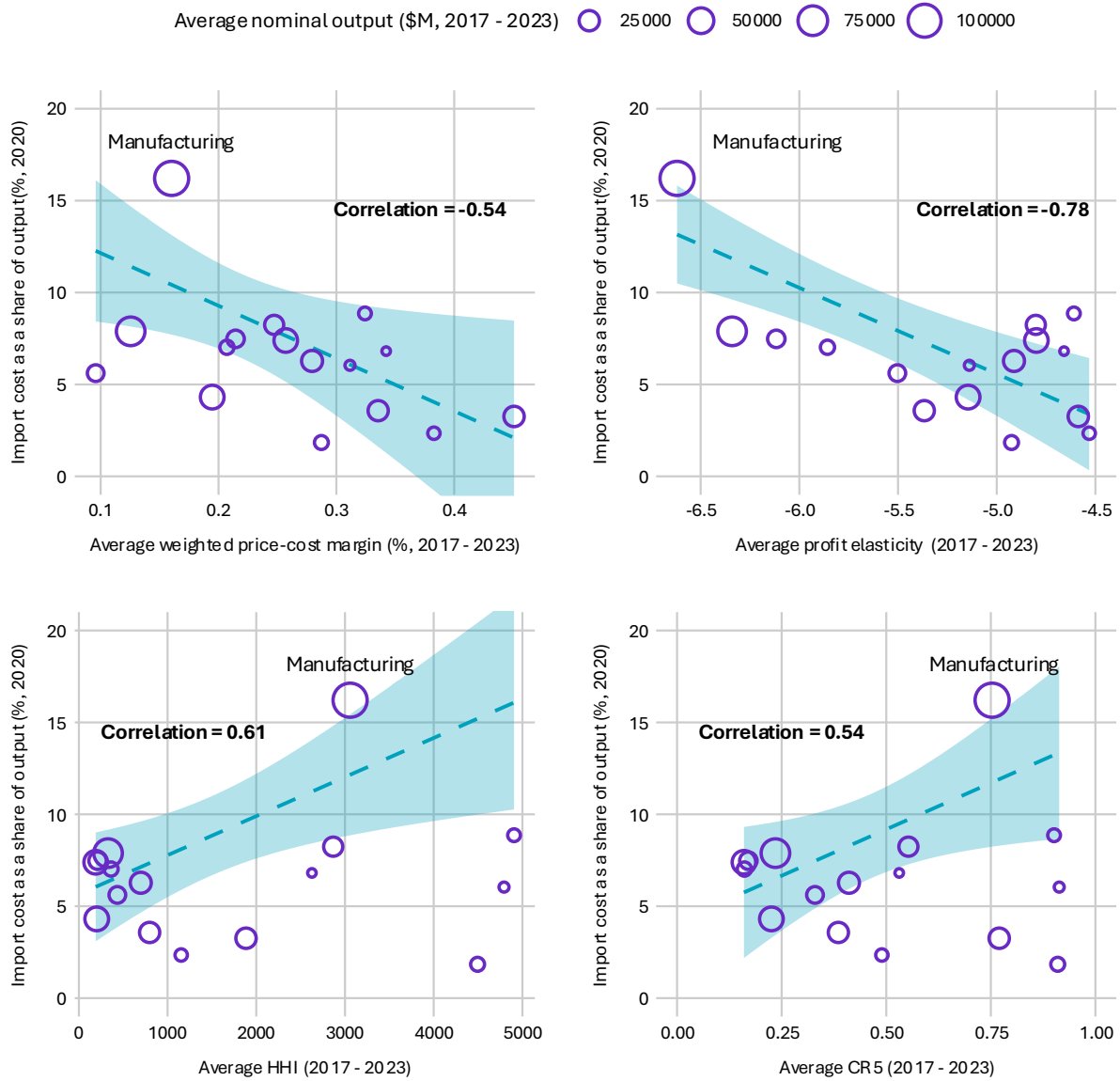
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<sup>28</sup> This is known as correlation. The correlation coefficient,  $r$ , measures the strength and direction of the relationship between two variables. The value of  $r$  is always between +1 and -1. A value close to 1 indicates a strong positive relationship between the two variables: when one increases, the other also increases. A value close to -1 indicates a strong negative relationship: when one increases, the other decreases.

<sup>29</sup> We have measured the import proxy as a proportion of industry supply of goods and services in basic prices (also contained in the input-output tables). The bubble in the charts show each industry's mean nominal output between 2017 to 2023.

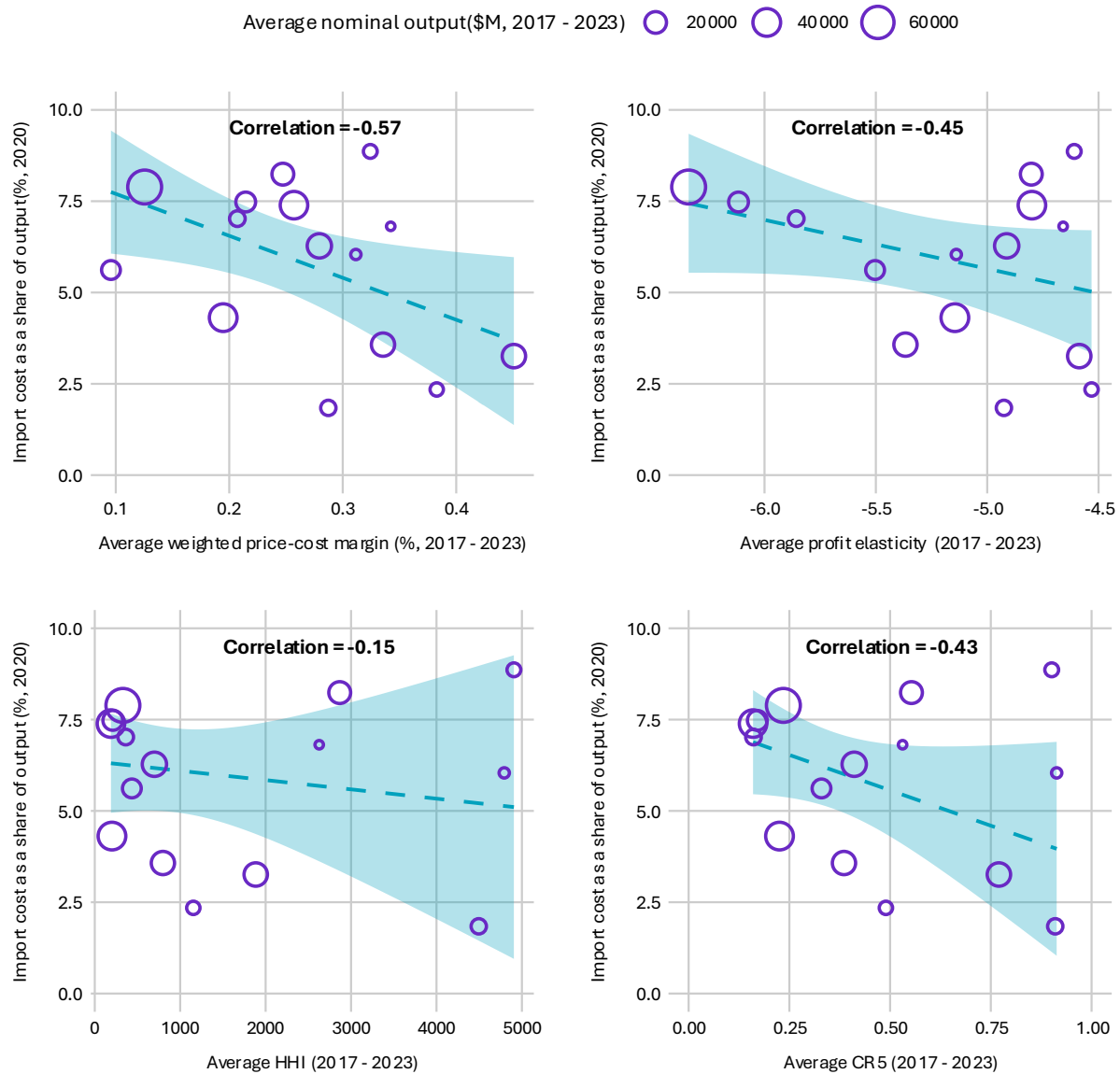
<sup>30</sup> Reflected in our inability report detailed findings at the Class (4-digit) level, as indicated by the suppression results shown in Figure B2.

**Figure 3.6 Relationships between competition indicators and imports (including Manufacturing)**



Notes: (i) Import share is calculated as a proportion of imports as inputs relative to industry supply of goods and services in basic prices in 2020. (ii) Competition measures are the mean value of the relevant measure over the period 2017 – 2023 (to capture either side of the 2020 input-output tables data on imports). (iii) The size of each bubble in the charts reflects the size of the industry in terms of average nominal output between 2017 – 2023. (iv) Trendline is calculated using a linear model weighted by mean nominal output. (v) Shaded area represents the 95% confidence interval of the trendline. (vi) Correlations are weighted by mean nominal output.

**Figure 3.7 Relationships between competition indicators and imports (excluding Manufacturing)**



- 3.22 These results highlight the importance of considering the external economy and supply-chain structure when assessing competitive conditions. In a small open economy such as New Zealand, imports can influence competition through multiple channels. These include direct competitive pressure in final markets and indirect effects through access to critical upstream inputs that support production and growth.
- 3.23 To understand this would require looking at more detailed industry breakdowns of competition indicators for Manufacturing, noting the confidentiality and reporting challenges described in the next section. While imperfect, the proxy we have used to estimate the level of import exposure over time could also be updated and improved. Understanding these differences is important for interpreting aggregate relationships between import exposure and competition indicators across industries.

## **The data in the LBD can only tell us so much about competition outcomes**

- 3.24 We have assessed competition at different levels of aggregation in this report. Chapter 2 analyses results at the national and sector level, while this chapter presents results at the industry Division level.
- 3.25 The most granular industry classification is the Class level. Given the dataset we have used includes over 400 Classes, it is not feasible to discuss each of them in this report. However, Attachment C and Attachment E contain some analysis at the Class level (for concentration and performance measures respectively). We have made the underlying dataset available on our website, to enable readers to assess Classes of interest (for the non-dynamism measures).
- 3.26 We have calculated competition indicators for these different industry levels, and we consider this is the best representation of competition in the economy that the LBD will allow for. However, in some cases, our results may look different from what might have been expected. There are some reasons for this:
- the ANZSIC industry classifications in the data differ from market definitions typically used in competition assessments
  - ownership and control relationships aren't always accurately reflected
  - non-price benefits of competition haven't been assessed
  - for many industries, particularly small ones, confidentiality requirements mean that we are unable to report results at the most granular industry Class level due to the very small number of businesses.
- 3.27 Caution is needed when interpreting results. Importantly, the analysis in this baseline research report cannot be a substitute for, nor over-ride, any detailed competition assessments we undertake in other contexts (e.g. when assessing a merger, undertaking a market study, or monitoring competition in regulated sectors).

### **ANZSIC classifications differ from market definitions used in competition assessments**

- 3.28 The industry classifications used in the LBD are typically not the same as the market definitions we would use when assessing competition. For example, in the LBD a meat processor would fall under the following classifications:
- Division – C Manufacturing
  - Subdivision – 11 Food Product Manufacturing
  - Group – 111 Meat and Meat Product Manufacturing
  - Class – 1111 Meat Processing.
- 3.29 The narrowest classification is Class 1111 Meat Processing which includes all types of animals except poultry and includes activities such as: abattoir operation, animal meat packing and freezing, lard or tallow rendering, and meat manufacturing. Our analysis in this report is also on a national basis.

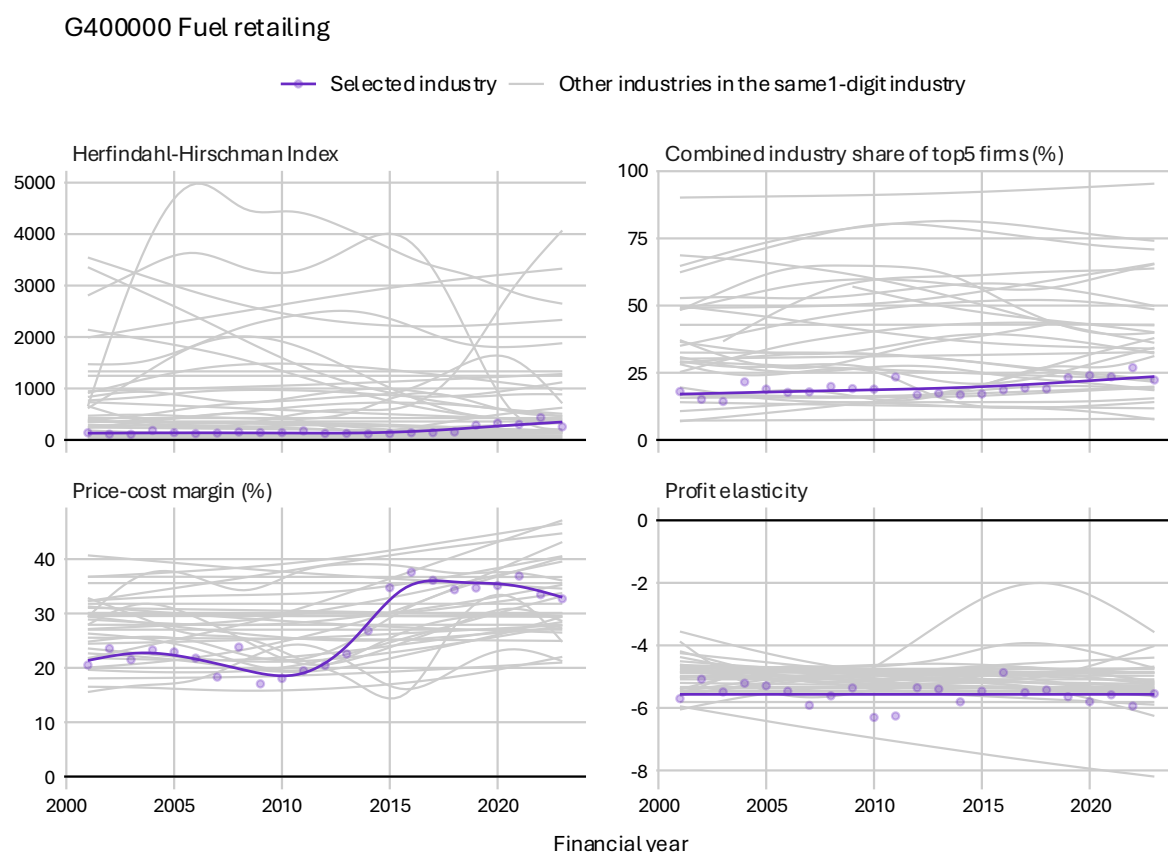
3.30 As a comparison, in a 2016 merger clearance between businesses in Class 1111 Meat Processing, we assessed competition in a market for the purchase of beef animal waste from processors in a specific region (Canterbury).<sup>31</sup> This is a far narrower scope relative to Class 1111 in relation to animal, activity and geography.

### Ownership and control relationships aren't always accurately reflected

3.31 In some cases, corporate structures might give the impression of greater competition than is likely to be the case. It appears that individually-owned stores trading under a common banner may be reported separately in the LBD. If so, they would be treated as competitors in this analysis (when a traditional market definition may not see them as competitors).

3.32 Fuel retailing is an example. Figure 3.8 below suggests that fuel retailing is an industry with relatively low concentration, based on our analysis of LBD data at the industry Class level. The combined share of the top five businesses is less than 25%.

**Figure 3.8 Fuel retailing competition indicators (2001-2023)**



<sup>31</sup> Commerce Commission (2016, p. 15).

- 3.33 This result from the LBD contradicts our industry knowledge from previous and ongoing work on the fuel sector. Most petrol and diesel is supplied by the three major fuel companies (Z Energy, BP and Mobil), with Gull and other distributors (e.g. Waitomo and NPD) having significantly smaller shares. It is likely that this seemingly erroneous result arises because many retail fuel businesses in New Zealand are owned as individual businesses or franchises but operate under the same brand or parent company.
- 3.34 Similar issues may arise in other industries, such as groceries where Foodstuffs stores are individually owned but trade as a co-operative (under common banners).

### **Non-price benefits of competition haven't been assessed**

- 3.35 We have not considered non-price benefits of competition (such as improvements in product quality and/or variety) in this report. These benefits are not directly captured in the LBD data unless consumers are prepared to pay more for them.
- 3.36 This can be particularly important in industries like telecommunications, where network coverage and download speeds can be important drivers of consumers' choice of provider.

### **For many industries we are unable to report results at the most granular industry Class level**

- 3.37 Confidentiality rules prevent the publication of results for some industry Classes. These rules are more likely to apply where there are a small number of businesses in the industry, or the industry is dominated by a few large businesses.
- 3.38 There are low numbers of competitors and/or high concentration across a wide range of industries at the Class level, including:<sup>32</sup>
- various dairy product processing and manufacturing industries as well as dairy wholesaling
  - infrastructure sectors including electricity generation, gas and water supplies, sewerage and waste disposal services
  - telecommunications network operators
  - various financial services including health insurance, superannuation funds and building societies
  - air and rail transport, and parking services
  - basic product manufacturing including sugar, bread, biscuits, soft drinks, beer and spirits, paper products, pesticides, adhesives, plaster products, concrete products, clay bricks, and mattresses.

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<sup>32</sup> Figure B2 on page 57 includes further detail on industry Classes with high rates of suppression due to confidentiality requirements.

## Chapter 4 Implications of our findings

- 4.1 The preceding chapters found that competition indicators show mixed trends at the economy-wide level. While there are some signs that industries are becoming less concentrated, dynamism and the industry share that new entrants are able to achieve appears to be declining.
- 4.2 While these overall trends are observed in the data we have analysed, individual businesses and consumers may observe different outcomes. The trends are also occurring in the face of significant competition law and regulation imposed by successive governments over multiple decades. It is very likely that competition and outcomes for consumers would be substantially worse and/or worsening without this intervention.
- 4.3 This chapter discusses some implications of these findings in the context of other studies and competition policy more generally. We note that:
- 4.3.1 our overall findings are consistent with recent studies by the OECD, which has recommended an increased policy focus on competition in New Zealand; and
  - 4.3.2 significant work is already underway to promote competition in the least competitive sectors and across the economy more broadly.

### **Our overall findings suggest a continued need for competition policy**

- 4.4 Despite the limitations of industry-level analysis using LBD data, our findings are largely consistent with the known challenges for competition in small economies. This emphasises the importance of enforcing competition law and promoting competition through sector-specific regulation.
- 4.5 Small economies must balance the need to have businesses large enough to achieve efficiencies from scale, with having enough businesses for meaningful competition. Not only is New Zealand's economy relatively small compared with other countries, it has the added challenge of being distant from global markets. Unlike small economies close to large markets, New Zealand faces high transport costs, long lead times for delivery, and a higher risk of supply-chain disruption. New Zealand also has a geographically dispersed population and regional economies.
- 4.6 Many industries cannot support more than a few efficient-scale businesses. Adopting new technologies and production methods, including those developed in overseas markets, makes high concentration more likely.
- 4.7 As a result, the OECD and others have advised that stronger competition policy may deliver relatively larger benefits for New Zealand than for other countries.<sup>33</sup> There are several reasons for this.

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<sup>33</sup> Dennery (2024).

- 4.7.1 **Entry barriers are amplified.** A new entrant must overcome not only minimum efficient scale hurdles but also logistics costs, long supply chains, and delays relative to offshore competitors. This makes New Zealand markets more prone to “stable oligopolies” that can persist for long periods. Competition laws help to limit barriers to entry by preventing businesses with market power engaging in conduct that substantially lessens competition.
- 4.7.2 **Innovation incentives are mixed.** High concentration and small market size can reduce incentives to invest in research and development. Remoteness increases the cost of acquiring new technology and talent. Businesses may favour adopting proven technologies late rather than being early adopters. On the other hand, small startups can be a source of innovation. However, our findings on challenges to entry and growth suggest startups may have trouble reaping the benefits of innovation. We intend to do more work in this area (see Chapter 5 for more detail).
- 4.7.3 **Risks of weak competition are greater.** In small and remote supply chains, businesses often integrate upstream or downstream to manage cost and reliability. Integration can increase efficiency, but when already-large businesses integrate further, competitors can find it harder to enter and expand in markets. Competition laws regulate mergers to prevent businesses getting too large.
- 4.8 These points suggest that New Zealand can’t rely on global competition to discipline domestic businesses the way larger economies closer to international markets can. Merger regulation allows us to prohibit mergers that may have an adverse effect on competition. However, natural market forces in small economies mean there will often be a tendency towards market structures where there are only a few businesses (known as an ‘oligopoly’).
- 4.9 Regulation and competition policy may therefore have a stronger role in substituting for absent market forces, to ensure competition is as effective as possible. If there is only so much that can be done about market structure, a greater benefit can come from regulating conduct.<sup>34</sup>
- 4.10 Where concentration is necessary to achieve efficiencies, effective competition policy and our enforcement of the Commerce Act can help. Active enforcement can maintain tension on large incumbent businesses to face either displacement from entering and expanding businesses, or effective regulation to promote competition. This includes regulation to promote outcomes consistent with workable competition, in markets where competition is not feasible in the near term.

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<sup>34</sup> For example, in 2024 the Commission filed proceedings against GIB plasterboard manufacturer Winstone Wallboards in relation to conduct that we believed was harming competition (Commerce Commission, 2024a). The proceedings are still before the courts.

- 4.11 In situations where legal tests for anticompetitive conduct are not met, firms may still depend on a small number of providers in concentrated upstream sectors for essential inputs, data, or market access. Competition risks can arise if these firms have limited practical alternatives and switching is difficult, costly, or slow. Such cases may warrant more detailed market analysis and focused monitoring of competition trends, particularly where there are implications for wider efficiency and productivity.

### **Significant work is underway to promote competition in the least competitive sectors**

- 4.12 Chapter 3 identified several important industries of interest which have a combination of relatively low competition and high upstreamness. These include:
- 4.12.1 electricity, gas, water and waste services;
  - 4.12.2 information media and telecommunications; and
  - 4.12.3 financial and insurance services.
- 4.13 The Government has actively sought to promote competition in many of these industries. The Commerce Commission administers regulation in sectors with limited or no competition: telecommunications, energy networks, transport fuel, the retail payment system, dairy, water, grocery, and our largest airports. Through regulation we seek to achieve outcomes comparable to those expected if there was effective competition and improvements in efficiency to unlock more investment certainty and potentially more competition in downstream markets. We look for opportunities to deregulate where possible and we will continue to monitor and promote competition in these industries.
- 4.14 Examples of steps taken include:
- 4.14.1 The Electricity Authority and Commerce Commission formed the Energy Competition Task Force in 2024 to promote competition in the electricity sector. This includes considering options to level the playing field, such as non-discrimination obligations.<sup>35</sup> The Government also recently undertook a review of electricity market performance.
  - 4.14.2 The telecommunications industry has been subject to significant change over the past two decades, including structural separation of Telecom, and introduction of 2degrees in the mobile market following regulatory and policy intervention. There has also been, and will continue to be, deregulation where appropriate.<sup>36</sup> We continue to take an active role in promoting competition and monitoring the sector.

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<sup>35</sup> Electricity Authority (2025).

<sup>36</sup> See for example Commerce Commission (2026a).

- 4.14.3 In the finance and insurance industry, we monitor and regulate the retail payments system. In 2024, we completed a market study into personal banking services, and the Government has introduced reforms to promote competition in the sector (including introducing open banking through the Consumer Data Right).<sup>37</sup> A cross-agency review into insurance affordability is currently being conducted by the Council of Financial Regulators (including an initial competition assessment we are undertaking).
- 4.14.4 In August 2025, the Commerce Commission was established as the economic regulator for water services, to provide transparency, improve service performance and enhance investment certainty for urban development. Our work has included establishing information disclosure rules for local councils and water organisations that deliver water supply and water services.<sup>38</sup>
- 4.15 Other sectors that have received significant regulatory attention include groceries, fuel, and dairy. These sectors were less prominent in Chapter 3, due to the industry Division groupings used for the LBD (e.g. groceries and fuel are both included in the very broad “retail trade” industry classification). These industries may also be affected by the data limitations discussed in Chapter 3, such as ownership and control relationships. We will consider whether these data limitations can be overcome as part of our next report.
- 4.16 More generally, we will continue to enforce competition laws, including through our merger clearance regime, cartel enforcement and investigations into anticompetitive agreements and misuse of market power.<sup>39</sup> Competition laws are periodically reviewed to ensure they are effective in improving competition. For example:
- 4.16.1 In 2020, the Government announced a review of section 36 of the Commerce Act 1986 (the provisions relating to conduct by individual businesses with market power). The reforms broadened the scope of conduct that might be caught by section 36.
- 4.16.2 In 2024, the Government announced a review of competition laws. This included a review of the Commerce Act and the governance and effectiveness of the Commerce Commission. The announced reforms include new rules to prevent anti-competitive conduct.

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<sup>37</sup> In 2024 we authorised an application by Payments NZ to work with current and future API providers and fintechs to jointly develop a new partnering framework relating to the provision of API services by API providers to third parties (Commerce Commission, 2024b).

<sup>38</sup> Commerce Commission (2026b).

<sup>39</sup> Fair trading (Fair Trading Act 1986) and credit (Credit Contracts and Consumer Finance Act 2003) laws also support competition because they require businesses to compete fairly for customers.

## Chapter 5 Potential extensions for future reports

- 5.1 We intend to establish an ongoing work programme to build on the analysis in this report. Over time, we expect our state of competition reports to inform prioritisation of our work, public debate and further development of competition policy.
- 5.2 We expect to update our findings as new data becomes available. We may also undertake new analysis. We have already identified a series of possible research topics that may provide further insights. Questions we are interested in better understanding include:
- How is competition tracking?
    - Are New Zealand industries becoming more or less concentrated over time?
    - Are new businesses entering and effectively challenging incumbents?
    - Are price-cost margins rising or falling in New Zealand industries?
    - Which industries are driving nationwide trends in competition indicators?
  - Can we update our understanding of upstreamness and economic significance of industries beyond 2020 with updated input-output data?
  - Can we get data to understand the impact of ownership and control relationships (including the degree of common linkages, accountability structures) and identify Māori ownership, governance, and management participation across the economy?
  - Can we identify changes in productivity and any relationships with competition?
- 5.3 We welcome suggestions for extensions to this research that could deepen its relevance for consumers, market participants, public interest researchers, as well as for policy and regulatory agencies.

### Further work on the impact of ownership and control relationships

- 5.4 As discussed in Chapter 3, control relationships within brand groups, chains of stores or co-operatives may not always be accurately reflected in the LBD. In some industries, individually registered businesses trading under a common brand or banner may be reported separately in LBD data. They are therefore treated as competitors in our analysis when a more accurate market definition may not see them as competitors. This is an important limitation for concentration and dynamism indicators in some industries (e.g. retail trade).

- 5.5 While the LBD includes some information about direct ownership relationships for enterprises, it does not appear to capture the full range of arrangements that may impact on competition including partial ownership and other controls created through contractual relationships.<sup>40</sup> Addressing this would likely require augmenting existing LBD data with additional information about ownership networks (including partial ownership) and other types of control relationships (e.g. as captured by ‘trading names’ of businesses that operate under a single banner).
- 5.6 In addition, a more detailed understanding of ownership structures, including the extent of common ownership and characteristics of ownership networks, is important. Common ownership can weaken businesses’ incentives to compete vigorously. When common ownership is present, standard concentration indicators may understate the effective level of concentration. Improving our understanding of ownership structures may help explain why some industries with many businesses have high markups and reduced dynamism, and support the design of policy responses and remedies.

### **Changes in productivity as an indicator of competition**

- 5.7 Using the available LBD data, we intend to further analyse the extent to which more productive businesses win and retain market shares, as an indicator of competition.
- 5.8 If competition is working well we would expect to see more productive businesses entering, growing and gaining market share, while also seeing less productive businesses shrink or exit. This competitive mechanism, working well, raises efficiency, innovation, and long-run economic performance. When this competitive mechanism is weak, it can signal problems with competition or resource allocation.
- 5.9 Future analyses of how market shares align with firm productivity could provide further evidence on whether competition is effectively reallocating resources toward more productive businesses. Economic literature emphasises that stronger competition is associated with a tighter relationship between firm efficiency and market outcomes, as more productive businesses are better able to expand while less productive businesses lose share.
- 5.10 OECD research uses firm-level data to distinguish between productivity growth at the leading edge of industries and slower diffusion to other firms, highlighting the role of competition, entry, and business dynamism in shaping aggregate outcomes. Indicators based on this reallocation mechanism could potentially be estimated using the LBD and the Fabling-Maré productivity tables.<sup>41</sup>

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<sup>40</sup> Where applicable, the LBD identifies a “parent” and “group top” enterprise for each enterprise. Our initial analysis found that accounting for these relationships only slightly increases average industry concentration measured at the Division level, including in industries where chain banners are important such as retail. This suggests that the existing ownership information in the LBD may provide an incomplete picture of aggregation via ownership and control relationships.

<sup>41</sup> Boone (2008) develops a measure of competition based on the relationship between firm efficiency and relative profitability, showing that more intense competition strengthens the reallocation of profits and market shares toward more efficient firms. See Boone, van Ours, & van der Wiel (2007) and Boone (2008). Andrews, Criscuolo and Gal (2016) review international firm-level evidence showing that weak competition is associated with declining business dynamism and slower diffusion of best practices from highly productive firms to the wider economy. The Fabling-Maré productivity tables are compiled from raw data in the LBD, described in Fabling & Maré (2019). See paragraph A21 for more details.

## Competition and the Māori economy

- 5.11 Demographic drivers of population growth and age structure suggest that the Māori economy is likely to play an increasingly important role in New Zealand’s economic wellbeing.<sup>42</sup>
- 5.12 The Productivity Commission’s report into frontier firms found that the Māori economy shows strong potential for innovation, growth, and improved wellbeing.<sup>43</sup> It reported that employment in Māori authorities and SMEs has grown faster than the wider economy, with many SMEs investing in expansion. Māori businesses are more likely to export and have higher rates of innovation, and research and development compared to other New Zealand businesses.<sup>44</sup>
- 5.13 Māori businesses face challenges – including barriers to accessing capital. For example, the Reserve Bank (2022) found that Māori businesses, on average, pay higher implied interest rates on debt compared to non-Māori businesses.<sup>45</sup> While there was no evidence that lenders penalise businesses simply for Māori ownership, Māori businesses are over-represented in firm characteristics that raise the borrowing costs of businesses.<sup>46</sup> The report also noted that Māori businesses likely face additional structural barriers that perpetuate economic disparities.<sup>47</sup>
- 5.14 Consistently detecting Māori businesses in the LBD over the study period (spanning 2001-2023) relies on a constructed definition, since ethnicity, tribal affiliation, or other identifiers could apply to different firm attributes or governance arrangements. We are aware of other research based on surveys, disclosed ethnicity of proprietors, and other mappings that better capture collective ownership, as well as efforts to connect Māori and Pasifika business networks.<sup>48</sup>
- 5.15 We are interested in working with other researchers into competition issues, particularly those facing Māori businesses. Some topics may be well-suited to the Commission’s role and capabilities:
- 5.15.1 Whether Māori businesses face competition-specific barriers to entry, expansion, or access to key inputs in concentrated or regulated markets.

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<sup>42</sup> According to BERL’s Te Ōhanga Māori reports, the Māori economy’s contribution to New Zealand’s GDP has increased significantly overtime (from 5.5% in 2010 to 8.9% in 2023) (BERL, 2025). The latest data from *Te Matapaeroa* (Te Puni Kōkiri’s data and insights series about Māori-owned businesses) found that, as of 2023, the rate of growth of the number of Māori owned businesses continues to outpace overall growth of New Zealand businesses.

<sup>43</sup> NZ Productivity Commission (2021, p. 56). Frontier firms in an industry are defined to be the top 10% of firms in terms of productivity. The Productivity Commission used the top 30%, to overcome the problems of New Zealand’s small dataset.

<sup>44</sup> *Te Matapaeroa 2023* also found that the most significant industry (Divisions) for Māori owned businesses, in terms of total sales, were: Construction; Agriculture, forestry and fishing; Professional, scientific and technical services; and Retail trade.

<sup>45</sup> Ball, Richardson, & Zheng (2022).

<sup>46</sup> Overall, Māori firms tend to have higher debt ratios, a larger proportion of firms with negative equity and lower labour productivity. The working proprietors of Māori firms also tend to be younger. Māori firms also have a lower share of their liabilities made up of direct loans from shareholders—i.e. less of their loans come directly from the owners of the firm.

<sup>47</sup> For example, lower rates of home ownership and Māori land reducing the opportunities to access collateral.

<sup>48</sup> For recent work developing and applying methods to identify Māori-led firms in the LBD using administrative data on working proprietors and examining how alternative definitions affect analysis of firm outcomes, see Fabling & Maré (2024).

5.15.2 Whether conduct by large incumbents disproportionately constrains Māori businesses in sectors where Māori asset ownership is significant.

5.15.3 How collective ownership, joint ventures, and other forms of coordination among Māori entities interact with competition law in practice.

## Other possible extensions

5.16 For future reports over the longer term, we will consider additional analyses to strengthen our assessment of competition and deepen our understanding of the factors driving observed trends. The selection of these analyses will be informed by our evolving understanding of the most important research questions and the feasibility of analysis given the available data.

5.17 Some of this work may benefit from collaboration with other government agencies, such as Stats NZ, MBIE and Treasury. We also encourage further research by the academic community to help address potential extensions of our work, as outlined below.

5.18 Possible future extensions of our work may include:

5.18.1 **Technical improvements to the competition indicators:** Including improving the data used to calculate outputs, costs and profit of businesses for competition analysis purposes, understanding the implications of businesses that switch industries over time, looking at competition in sub-national geographic markets, and expanding the set of indicators to capture other dimensions of competition such as innovation and employment outcomes.

5.18.2 **Analysis of the drivers of competition performance:** Investigating the business and industry characteristics that are associated with different profit margins and profit elasticity.

5.18.3 **Exploring the relationship between market concentration and business dynamism:** Analysis of the extent to which changes in concentration reflect reallocation among incumbent businesses, versus entry and exit.

5.18.4 **Factors influencing entry and entrant survival:** Examining how entry and exit rates vary across industries with different competition and regulatory settings, and testing whether survival of entrants differs systematically between concentrated and unconcentrated markets. Further analysis could explore which characteristics influence survival and market share of entrants, such as initial entry size, industry, location, incumbent concentration and size.

5.18.5 **Relationships between competition and innovation:** Testing relationships between research and development and innovation outcomes and measures of concentration or market power.

5.18.6 **Relationship between merger and acquisition activity and markups:** Assessing whether merger and acquisition activity is concentrated in sectors that have seen an increase in markups.

5.19 We welcome suggestions on other possible extensions of our analysis for future reports.

## Attachment A Data sources and limitations

- A1 Stats NZ's LBD is the primary data source we have used in preparing this report. The LBD provides a rich source of anonymised data about individual business entities compiled from government data sources including tax returns and business-related surveys. LBD data is updated annually, enabling analysis of trends over time.
- A2 We set out below a description of how LBD data is collected and limitations of this data, including which businesses are included and excluded.
- A3 We have also used some public data published by Stats NZ including business demography, GDP by industry, and input-output tables.

### Stats NZ longitudinal business database

- A4 The LBD contains operational, financial, and ownership information about almost all businesses in New Zealand and other economically active entities such as state-owned enterprises and non-profit organisations. It is compiled from administrative data sources and business surveys administered by Stats NZ. Data for continuing entities is linked over time to enable longitudinal analysis.
- A5 Data is anonymised and confidentiality rules set by Stats NZ limit what can be reported. This includes ensuring that businesses cannot make reliable inferences about their competitors by combining reported data with their own data.
- A6 The information below is summarised from the [rough guide to the LBD](#) published by the Treasury in 2016 and [information about the LBD](#) on Stats NZ's website.

### Data sources and historic data

- A7 Key sources of LBD data include:
- A7.1 business income tax returns (IR4 and IR10 forms) and GST returns;
  - A7.2 employment data based on personal income tax data (EMS, IR4S, IR7, IR3 forms); and
  - A7.3 business surveys conducted by Stats NZ such as the Annual Enterprise Survey (AES) and Business Operations Survey (BOS).
- A8 In the LBD, data from tax and GST returns is available for all individual businesses that filed these returns, and data from business surveys is available for businesses that were part of the survey sample. Availability of historic data varies by data source, but most datasets are available from around 2005 onwards and some datasets go back to 1999. LBD data is updated annually, but some surveys are not run every year. Changes to some surveys and tax forms over time mean there are some structural breaks in the data that need to be considered when analysing trends.

- A9 Much of the financial data in the LBD that we used for our analysis is from tax returns. The businesses whose information is recorded in that data are those that interact with the New Zealand tax system. This includes companies, partnerships, trusts and sole traders. Our analyses do not take into account competition that derives from businesses not captured in the LBD and so may underestimate competition in some industries.
- A10 The LBD financial data does not include entities that do not pay tax such as: household and private activity; some small businesses that do not meet the GST thresholds; overseas entities that are not required to file tax returns; some not-for-profit entities; and illegal, informal and cash businesses. Examples of entities that may be unrepresented in the data are web-based firms as Meta and Google. Such firms have significantly impacted many industries in New Zealand but may have limited tax return data in New Zealand and may not be captured in Stats NZ's business surveys.
- A11 The LBD will also not include revenue of those New Zealand businesses that are not required to be declared for tax in New Zealand, such as revenues from overseas subsidiaries.
- A12 The Annual Enterprise Survey is also a source for some data that we have used in our analyses. The AES is an annual survey that measures the financial performance and financial position of New Zealand businesses.<sup>49</sup> The AES however does not cover all businesses, accounting for around 60% of GDP.
- A13 Most of the data used in our analysis is available for the 2001 to 2023 financial years. Most LBD data is reported for March-ending financial years. Data for entities that use other balance dates is assigned to the nearest March year.
- A14 Stats NZ adds information to the LBD as it becomes available to it rather than in real time. This means that the data available in the LBD may lag behind the relevant year of the data. For example, the GST data comes from Inland Revenue therefore will only appear in the LBD once the Inland Revenue department makes it available to Stats NZ. Some datasets in the LBD are subject to revision, for example, due to late filed tax returns.<sup>50</sup>

### **Business population and attributes**

- A15 The basis of the LBD is the Business Register (BR) maintained by Stats NZ. This is a comprehensive database of almost all New Zealand businesses, except for some small sole traders who are not registered for GST. The BR is used to construct the Longitudinal Business Frame (LBF) which forms the 'spine' of the LBD for linking data on individual businesses across data sources and over time.
- A16 The LBD also includes information about government agencies and other non-profit organisations. Our analysis is based on privately owned for-profit businesses only.
- A17 Businesses are classified into industries using the [ANZSIC06](#) classification. This enables analysis of competition indicators by ANZSIC06 industries. Results for some industries, however, cannot be reported due the confidentiality rules (see below).

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<sup>49</sup> See Stats NZ (2023).

<sup>50</sup> See Fabling & Sanderson (2016) at footnote 2.

## Relevant data for competition indicators

- A18 Data in the LBD and in the Fabling-Maré productivity tables that can be used for competition analysis includes:
- A18.1 Revenues and outputs, for calculation of industry shares and derived indicators such as HHI and CR5.
  - A18.2 Operating costs and net profits, for calculation of gross margins and profits rates.
  - A18.3 Capital investment and capital stock, for monitoring investment levels and calculating rate of return on assets.
  - A18.4 Birth dates and activity status, for monitoring entry, exit or inactivity, and survival. These can also be used to disaggregate other metrics by firm age.
  - A18.5 Employment data, for measuring firm size.
  - A18.6 Data about innovation from the Research and Development Survey and from Intellectual Property Office data including patents, trademarks and design registrations.
  - A18.7 Business Operations Survey (BOS) data including detailed information about business behaviour and performance. Potential competition-related indicators from the BOS include research and development activity, innovation outcomes, perceptions of competitors, and changes in profitability, productivity, and market share.

## Confidentiality rules for LBD output

- A19 [Confidentiality rules](#) set by Stats NZ must be applied to all outputs derived from LBD data before it can be reported, and all data used for this report complies with these rules. For business data, the rules include:
- A19.1 All outputs based on data from fewer than three business entities must be suppressed. This directly limits the extent to which indicators can be reported for some ANZSIC06 industries and/or geographic areas.
  - A19.2 Base-3 random rounding is applied to all counts in output (counts are randomly rounded to multiples of 3). This means it is not possible to accurately report the number of businesses in small industries or for small groups of businesses with certain characteristics, such as new entrants in some industries.
  - A19.3 The “p% rule” is applied to all output totals, means, and similar statistics, including ratios derived from totals, such as industry shares, HHI, and concentration ratios.
    - A19.3.1 The objective of the p% rule is to ensure that a business cannot accurately estimate information about any of its competitors by combining its own data with outputs derived from the LBD.

- A19.3.2 Essentially the p% rule establishes a threshold for the accuracy with which a business could estimate information about its competitors. Results that fall below this threshold must be suppressed. The exact threshold used for suppression under the p% rule is confidential.<sup>51</sup>
- A19.3.3 The p% rule is based on the percentage difference between the actual value for the largest contributor to a result derived from LBD data and the estimate of that value that the second largest contributor to the result could obtain by using the published total and their own data. The p% rule is therefore more likely to result in suppression for industries with few competitors, or in industries dominated by a few large firms.
- A19.4 Medians and percentiles must be suppressed if the underlying count (sample size) is smaller than a certain threshold that varies with the percentile. For example, medians are suppressed for counts under ten, while 5<sup>th</sup> and 95<sup>th</sup> percentiles are suppressed for counts under 100.
- A19.5 Data from the Annual Enterprise Survey must be suppressed for certain industries including supermarkets and grocery stores.
- A19.6 It is generally possible to report output from regression models estimated using LBD data, as long as the regression is estimated on at least five data points and does not have dummy variables as the only explanatory variables (as these produce coefficients that are equivalent to means, in which case the other confidentiality rules need to be applied).

## Limitations of LBD data for this report

- A20 There are several constraints on LBD data which limit our ability to assess competition:
- A20.1 Firms in the LBD data are assigned to ANZSIC06 industries, rather than to markets we would typically consider when assessing competition.<sup>52</sup> The ANSIC06 industry definitions—even at the most detailed (Class) level—will not necessarily align with how we would analyse competition between firms.
- A20.2 In the data that we have used, the ANZISC06 classification for a firm is based on its predominant industry between 2001 and 2023. However, a firm may operate over several industries, and this may change over time.

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<sup>51</sup> As an example of the p% rule, suppose there are four firms in an industry, A, B, C, and D with revenues 50, 100, 150 and 200. The total revenue (500) and derived statistics can only be reported for this industry if firm C (second largest contributor) cannot accurately estimate the revenue of firm D (largest contributor). The value of p in this case is the difference between firm C's estimate of firm D's revenue (500 – 150 = 350) and firm D's actual revenue (200), i.e. the value of p is 75%. If this is less than the confidential p% threshold, the total of 500 and any derived statistics would be suppressed.

<sup>52</sup> A market includes goods or services that consumers view as good substitutes. However, businesses in the LBD are classified using ANZSIC industry classifications.

- A20.3 Our results are also presented at the national level – geographic differences in competition are not considered in this report (although we may consider that in future reports). Although geographic analysis is possible with LBD data, confidentiality rules are likely to limit what can be reported for small areas.
- A20.4 In other cases, some industry classifications may combine regulated and unregulated markets. This may dilute results when viewing competition measures at the Division level.
- A20.5 The size of some industries limits the statistical reliability of their measures, since confidentiality rules (designed to protect individual firms from being identified, discussed in paragraph A19 above) affect which industries can be disaggregated in reporting. This is particularly an issue for highly concentrated industries, where (paradoxically) the data likely to be restricted may relate to markets of high interest for competition policy.
- A20.6 Control relationships within brand groups or chains of stores may not always be accurately reflected in the LBD. In some industries, individually owned stores trading under a common banner may be reported separately and therefore are treated as competitors in our analysis when a traditional market definition may not see them as competitors. This is an important limitation for concentration and dynamism indicators in some industries (e.g. retail trade).
- A20.7 The data we have used is mainly drawn from tax returns and the Annual Enterprise Survey, so is limited to those businesses who interact with the New Zealand tax system. This means that our analysis excludes some entities that contribute to competition such as very small businesses, not-for-profit entities, and overseas entities that are not required to file tax returns and are not captured in Stats NZ business surveys.
- A20.8 LBD data was collected for administrative purposes rather than for statistical purposes or for analysing competition. This means that competition indicators derived from LBD data differ from theoretical indicators in some cases.
- A20.9 Some firms are excluded from the analysis due to data quality issues. These are typically small or transient firms, so our analysis may slightly understate the extent of competition in some industries.

## **Productivity data tables**

- A21 Our analysis made extensive use of the Fabling-Maré productivity tables derived from LBD data. We used the version of the productivity data tables that were updated to the financial year ending March 2023. There are two key advantages of using the productivity data tables over the raw LBD data.
- A21.1 The tables provide data for ‘permanent’ enterprises, which overcome breaks in enterprise identifiers in the LBD data due to changes in entity names or legal forms.
- A21.2 The tables reflect extensive cleaning and standardisation of the raw LBD data to correct for common reporting issues and to calculate economically meaningful indicators such as gross output.

- A22 The tables exclude some enterprises due to data quality issues that could not be corrected. These appear to be mostly small or transient enterprises that do not significantly affect the industry-level competition indicators.
- A23 We also tested concentration indicators based on GST revenues, rather than the productivity data and these showed similar trends for industry Divisions. GST data includes more enterprises than the productivity data, but provides an incomplete picture for some goods and services that are exempt from GST such as financial services. On balance, our view is that the output-based competition measures derived from the Fabling-Maré productivity tables provide more reliable competition indicators.

## Other data sources

- A24 We also used the following public data sources:
- A24.1 business demographics data: counts of enterprises and employment by industry and year;<sup>53</sup>
  - A24.2 real GDP by industry and year, used for weighting industry Division results to create economy-wide summaries;<sup>54</sup> and
  - A24.3 the 2020 input-output tables, for calculating upstreamness and imports analysis.<sup>55</sup>

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<sup>53</sup> Available at [https://explore.data.stats.govt.nz/vis?fs\[0\]=Economy%2C0%7CBusiness%20demography%23CAT\\_BUSINESS\\_DEMOGRAPHY%23&pg=0&fc=Economy&bp=true&snb=14&df\[ds\]=ds-nsiws-disseminate&df\[id\]=BDS\\_BDS\\_004&df\[ag\]=STATSNZ&df\[vs\]=1.0&dq=TOTAL..&to\[TIME\]=false](https://explore.data.stats.govt.nz/vis?fs[0]=Economy%2C0%7CBusiness%20demography%23CAT_BUSINESS_DEMOGRAPHY%23&pg=0&fc=Economy&bp=true&snb=14&df[ds]=ds-nsiws-disseminate&df[id]=BDS_BDS_004&df[ag]=STATSNZ&df[vs]=1.0&dq=TOTAL..&to[TIME]=false)

<sup>54</sup> Available at <https://infoshare.stats.govt.nz/> (Table reference: SNE047AA).

<sup>55</sup> Available at <https://www.stats.govt.nz/information-releases/national-accounts-input-output-tables-year-ended-march-2020/>.

## Attachment B Industries we have analysed

- B1 This attachment:
- B1.1 describes the industry classifications used for our analysis; and
  - B1.2 provides descriptive analysis of the industries analysed, including number of firms, total output, employment and upstreamness.

### We used the 2006 ANZSIC standard industry classifications to measure competition among groups of firms

- B2 When we assess competition, we often use a tool known as ‘market definition’.<sup>56</sup> A market is defined as including all those goods or services that consumers would view as good alternatives.<sup>57</sup> We can get a sense of what goods and services are in the same market by looking at how consumers react to a change in the price of one of the products. If the price of one product in a market increased then consumers would switch to other goods or services within the market. In general, the more firms that supply goods and services that are in the market (or could enter the market), the stronger the competition.
- B3 In this report we have analysed competition on an industry basis rather than at the market level. This is because the data we have used within the LBD is classified at the industry level, using the 2006 ANZSIC definitions. ANZSIC is a hierarchical classification that has four levels: Divisions (or 1-digit industries), Subdivisions (2-digit), Groups (3-digit) and Classes (4-digit), that start broad and get increasingly narrow. For example, a meat processor may have the following classifications:
- B3.1 Division – C Manufacturing
  - B3.2 Subdivision – 11 Food Product Manufacturing
  - B3.3 Group – 111 Meat and Meat Product Manufacturing
  - B3.4 Class – 1111 Meat processing.
- B4 We excluded from our analysis all industries in three Divisions: "Public administration and safety", "Education and training", and "Health care and social assistance". These industries include many public-sector organisations and have lower numbers of for-profit enterprises, and they did not have the necessary data to conduct many of the analyses.

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<sup>56</sup> For more information about how we define markets see Commerce Commission (2022, p. 17).

<sup>57</sup> We also include in the market any products for which a supplier could easily alter its manufacturing process to produce the good or service in question.

- B5 Where possible we analysed the LBD data at the most detailed level, which is the Class level. Confidentiality rules prevent us from reporting results for some Classes. In all cases, we report results for Divisions that represent output-weighted averages or totals of results for all relevant Classes within the Division.<sup>58</sup> Despite the limitations of confidentiality rules, LBD data can still be used to produce substantially more granular results than most other public industry-level data.
- B6 Even where we use the narrowest definition of industries, this may not accord with the goods and services that would fall within a defined market for competition analysis. A defined market only includes those goods and services that compete closely, which may not be the case for goods and services supplied by firms in the same industry Class. For example, for meat processing we might only include meat processors that process certain types of meat or are only in a particular location. We identify in Attachments C, D and E how this might impact the analyses that we conduct.
- B7 Our results may also be sensitive to which firms are included in each industry. In the LBD, each firm is allocated to only one industry in each year, while in reality some firms may operate in multiple industries. In addition, the subset of data that we used for our analysis assigns each firm to only one industry in all years, using rules to assign industries to firms that changed industry over time.

## **Descriptive analysis of industries we analysed**

- B8 The table below sets out some descriptive analysis of industry Divisions that we have analysed. The table includes for each Division, the number of firms, employees and GDP (along with the proportion of the total) which helps provide an indication of the relative importance of each Division. For example, “Agriculture, forestry and fishing” accounts for 10% of total firms, 5% of total employees, and 6% of total GDP.
- B9 Another way to measure the importance of an industry is to consider its “upstreamness” set out in Figure B1.<sup>59</sup> Upstreamness is based on the fraction of an industry’s output that becomes an input for other industries. Industries that have a higher upstreamness could be viewed as more important, since a lack of competition in those industries will flow through to all the industries for which it is in an input (directly or indirectly).

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<sup>58</sup> Weighted average results for industry Divisions were calculated in Stats NZ’s secure Data Lab environment and include results for any industry Classes within each Division that could not be reported separately due to confidentiality rules.

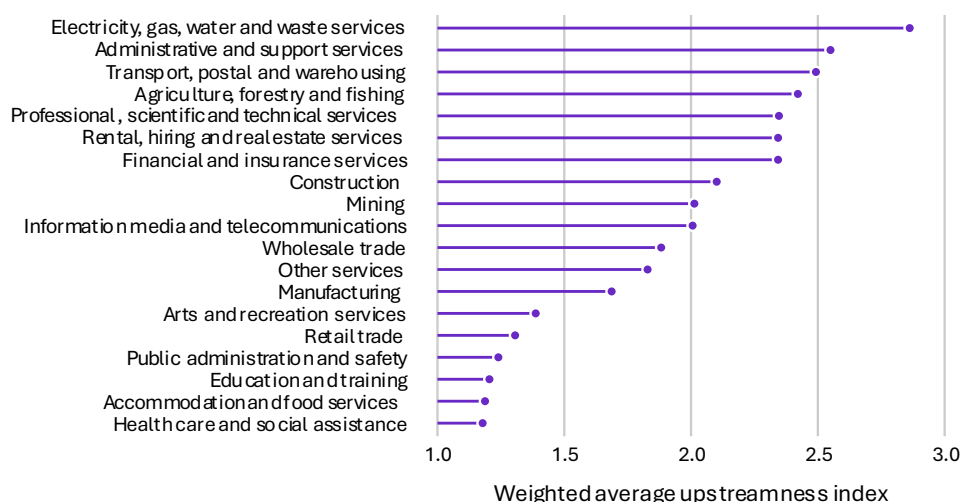
<sup>59</sup> The upstreamness values in Figure B1 were calculated from the 2020 input-output tables following the method described in Antràs, Chor, Fally, & Hillberry (2012).

**Table B1 Descriptive statistics on industries, 2024**

Division code	Industry	Firm count	Firm share	Employee count	Employ. share	GDP (\$ Millions)	GDP share
<b>A</b>	Agriculture, forestry and fishing	62424	10.2%	118900	4.8%	16735	4.8%
<b>B</b>	Mining	708	0.1%	6300	0.3%	3098	0.9%
<b>C</b>	Manufacturing	22902	3.7%	251300	10.1%	34512	9.9%
<b>D</b>	Electricity, gas, water and waste services	1275	0.2%	23100	0.9%	11119	3.2%
<b>E</b>	Construction	82059	13.4%	213000	8.5%	32410	9.3%
<b>F</b>	Wholesale trade	16671	2.7%	124000	5.0%	18922	5.4%
<b>G</b>	Retail trade	29961	4.9%	228100	9.1%	17873	5.1%
<b>H</b>	Accommodation and food services	25275	4.1%	179600	7.2%	9184	2.6%
<b>I</b>	Transport, postal and warehousing	17286	2.8%	104600	4.2%	18054	5.2%
<b>J</b>	Information media and telecommunications	7614	1.2%	30600	1.2%	8077	2.3%
<b>K</b>	Financial and insurance services	47319	7.7%	69000	2.8%	26334	7.5%
<b>L</b>	Rental, hiring and real estate services	127857	20.8%	39700	1.6%	28931	8.3%
<b>M</b>	Professional, scientific and technical services	72699	11.8%	191700	7.7%	36913	10.5%
<b>N</b>	Administrative and support services	22074	3.6%	117500	4.7%	8860	2.5%
<b>O</b>	Public administration and safety	1434	0.2%	170800	6.8%	18402	5.3%
<b>P</b>	Education and training	10674	1.7%	206000	8.2%	17071	4.9%
<b>Q</b>	Health care and social assistance	25002	4.1%	291300	11.7%	29880	8.5%
<b>R</b>	Arts and recreation services	12060	2.0%	44700	1.8%	5360	1.5%
<b>S</b>	Other services	28896	4.7%	87200	3.5%	8493	2.4%

Source: Stats NZ Aotearoa Data Explorer, Infoshare

**Figure B1 Upstreamness index for Divisions (2020)**



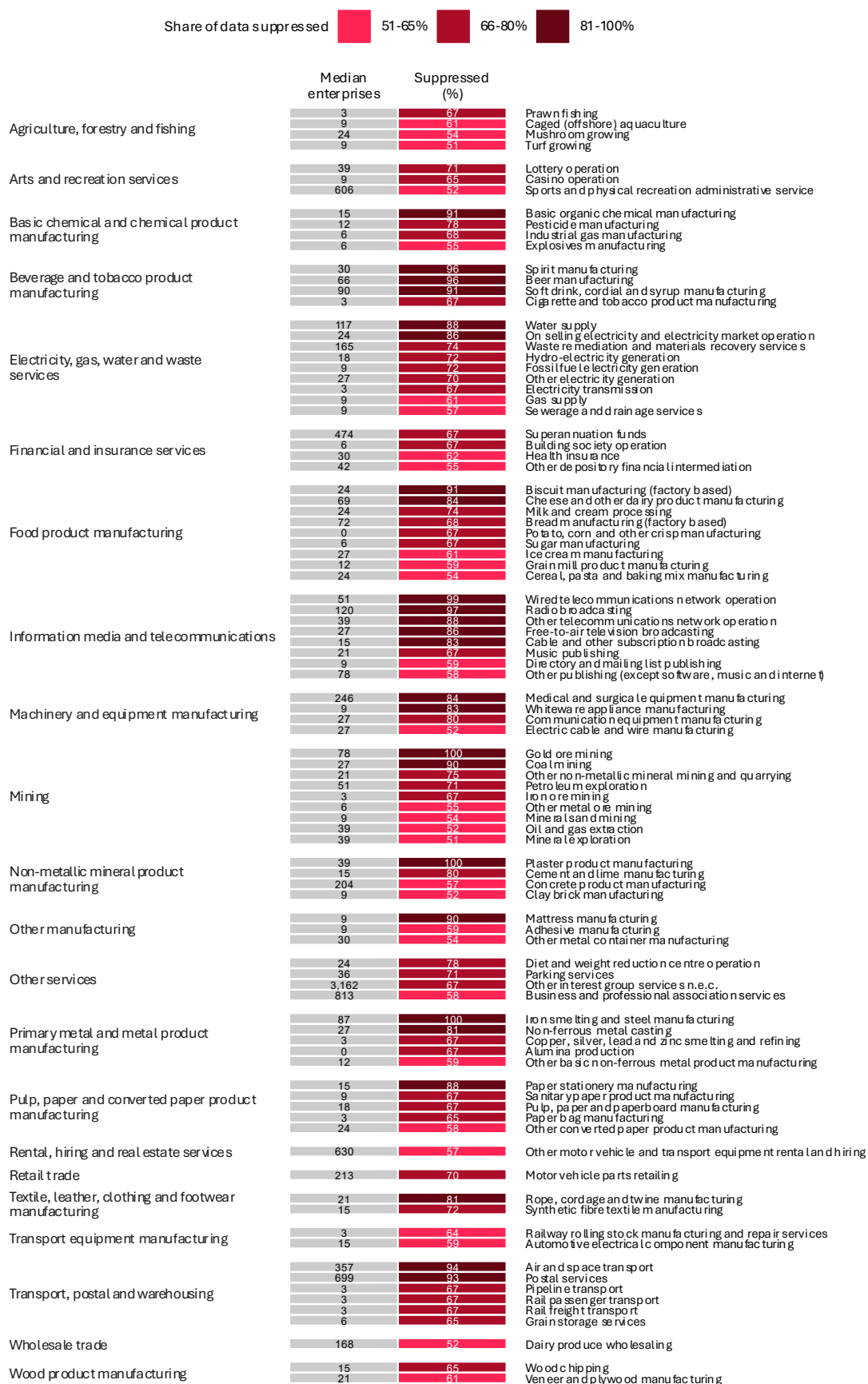
## Industries that we are unable to report at the Class level

- B10** Confidentiality rules prevent the publication of results for some industry Classes. This is more likely to occur if there are a small number of firms in the industry, or if the industry is dominated by a few large firms.
- B11** Figure B2 summarises the proportion of annual competition indicators that were suppressed for Classes where more than half of the results were suppressed.<sup>60</sup> The figure also shows the median number of enterprises from 2001 to 2023 in each industry reported by Stats NZ in the publicly available business demographics data.<sup>61</sup>
- B12** This analysis potentially indicates that there are low numbers of competitors and/or high concentration across a wide range of industries, including:
- B12.1** various dairy product processing and manufacturing industries as well as dairy wholesaling;
  - B12.2** infrastructure sectors including electricity generation, gas and water supplies, sewerage and waste disposal services;
  - B12.3** telecommunications network operators;
  - B12.4** various financial services including health insurance, superannuation funds and building societies;
  - B12.5** air and rail transport, and parking services; and
  - B12.6** basic product manufacturing including sugar, bread, biscuits, soft drinks, beer and spirits, paper products, pesticides, adhesives, plaster products, concrete products, clay bricks, and mattresses.

<sup>60</sup> Profit elasticity is based on regression analysis and therefore typically does not need to be suppressed unless the number of businesses in the industry is very small.

<sup>61</sup> Note that enterprise counts in the business demographics data are randomly rounded to the nearest multiple of 3.

**Figure B2 Proportion of indicators suppressed for industry Classes with high rates of suppression**



## Attachment C Concentration measures

- C1 Concentration is the extent to which industries are supplied by a small number of large firms. In general, more firms in a market will result in more competition, but the distribution of shares across firms also matters. Higher levels of concentration can indicate that industries are dominated by only a few firms even if there are many firms in the market, which may indicate a lack of competition.
- C2 We have considered two measures of concentration that are commonly used by competition authorities.<sup>62</sup>
- C2.1 Concentration ratios (CR) – the combined share of the largest firms.
- C2.2 Herfindahl–Hirschman Index (HHI) – the sum of the squares of the shares of all participants in a market.

### How we calculated the concentration measures

- C3 Both concentration ratios and HHI are calculated using industry shares of output. We used the LBD data to calculate industry shares at the Class level and calculated output-weighted averages of the Class results at the Division level. Firms are based on the “permanent enterprises” (PENT) datasets created by Fabling & Maré from LBD data. We used annual gross nominal output from these datasets to calculate industry shares at the Class level. In these datasets, each firm’s output is based on productivity tables derived from Annual Enterprise Survey and company tax data.
- C4 Concentration ratios are the combined share of the largest firms. The number of top firms may be the top three, four, five or ten firms.<sup>63</sup> For our analysis we have combined the top five firms, which is referred to as ‘CR5’.
- C4.1 CR5 for Classes was calculated as the combined industry share of the top 5 firms in each Class and year.
- C4.2 CR5 for Divisions was calculated as an output-weighted average of CR5 across the relevant Classes.
- C5 HHI is the sum of squared shares of all firms in the market. For example, a market with 100 suppliers each with 1% would have an HHI of 100. The maximum possible HHI in a monopoly market is 10,000. Squaring the shares gives larger firms a greater weight, which means HHI takes into account distribution of shares as well as the number of firms. For example, a market where one firm has a much larger share than its rivals will have a higher HHI than a market with the same number of equally sized firms.
- C5.1 HHI for Classes was calculated as 10,000 x the sum of squared industry shares of firms in each industry and year.

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<sup>62</sup> For example, the Commerce Commission uses CR3 as an indicator of whether a merger may raise concerns (Commerce Commission, 2022, p. 23). The US Department of Justice uses HHI (US DOJ and FTC, 2023, pp. 5-6). The ACCC uses HHI (ACCC, 2025, p. 58).

<sup>63</sup> As noted, the Commerce Commission uses CR3. The CMA State of Competition report uses CR5 and CR10. The Competition Bureau Canada uses CR4 (CBC, 2011, pp. 18-19).

C5.2 HHI for Divisions was calculated as an output-weighted average of HHI across the relevant Classes.

## Limits on using concentration measures

- C6 First, the HHI and CR5 have been calculated based on industry at the national level rather than a market. The properly defined relevant markets may be narrower, comprising fewer products and a narrower geographic area.<sup>64</sup> This means that HHI and CR5 could underestimate the true level of concentration. Calculating concentration measures at the national level may not reflect changes in competition in local areas, for example if a national chain opened a store in a local area.<sup>65</sup>
- C7 Second, the level of concentration in a market may be affected by market size and fixed costs. If there are high fixed costs in a market relative to demand, it may only be able to sustain a few suppliers. A high concentration might merely reflect the nature of the market. This is often the case in regulated industries where it is not feasible to have many competitors. In such industries, regulation is used to achieve better outcomes for consumers.
- C8 More generally, theoretical research demonstrates that commonly used competition measures, including concentration and price-cost margins, may either increase or decrease as competition intensifies, depending on market structure and competitive conduct.<sup>66</sup>
- C9 Concentration measures therefore provide a snapshot of a market at a given point in time. We are concerned where firms enjoy enduring market shares. However, concentration ratios do not necessarily reflect the dynamic features of a market. For example, intense competition (e.g. because a firm became more efficient) could result in some firms exiting the market resulting in a higher concentration. Only looking at concentration measures could incorrectly diagnose this scenario as a reduction in competition. Concentration is also less of concern where there are low barriers to entry and expansion. For these reasons concentration measures should also be considered alongside dynamic measures of competition, such as the entry and exit rates of a market.

## Economy-wide results

- C10 On an overall weighted-average basis we find that the concentration appears to have declined, as shown in Figure C1 below.
- C10.1 CR5 has had a steady downward trend over the period. A declining CR5 suggests the largest firms hold a smaller share of the market, which normally indicates markets are becoming more competitive. The downward trend appears to be more pronounced during the post-GFC period.

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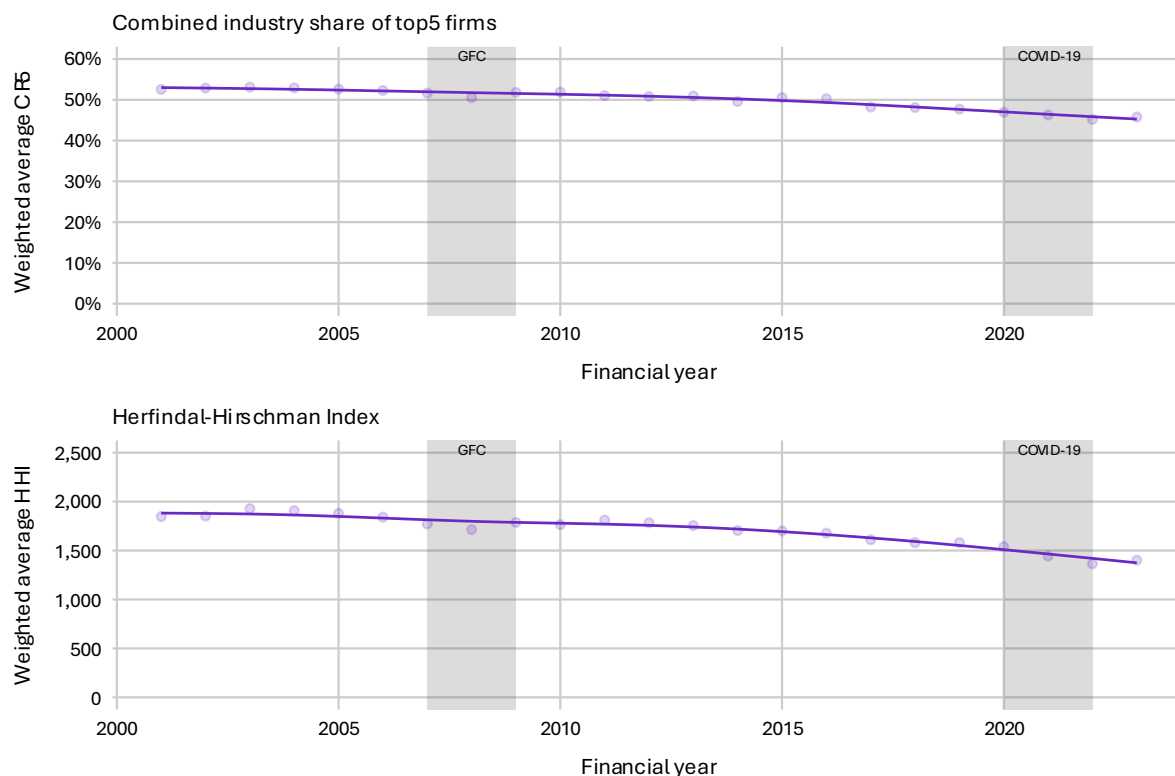
<sup>64</sup> It is also possible that the relevant market is broader than the industry we analysed. In short, it is unclear how closely the industry classifications accord with the relevant markets.

<sup>65</sup> Wainscoat & Twort (n.d.). For example, Rossi-Hansberg et al found that, while national concentration was increasing in the US, local concentration was declining (Rossi-Hansberg, Sarte, & Trachter, 2020).

<sup>66</sup> Boone, van Ours, & van der Wiel (2007).

C10.2 HHI is also declining over the full period, although it has more variation in its trend than CR5 with slight rises and falls over the period. HHI has a more pronounced fall in the post-GFC period.

**Figure C1 Concentration measures (economy-wide, GDP-weighted averages)**



## Industry-level (Division) results

C11 Concentration appears to be decreasing for most Divisions. This suggests there are more firms operating in those industries and/or industry shares becoming more evenly distributed, which is consistent with improving competition. The fall in concentration seems more pronounced in the post-GFC period.

C12 CR5 appears to be decreasing for most Divisions (see Figure C2).

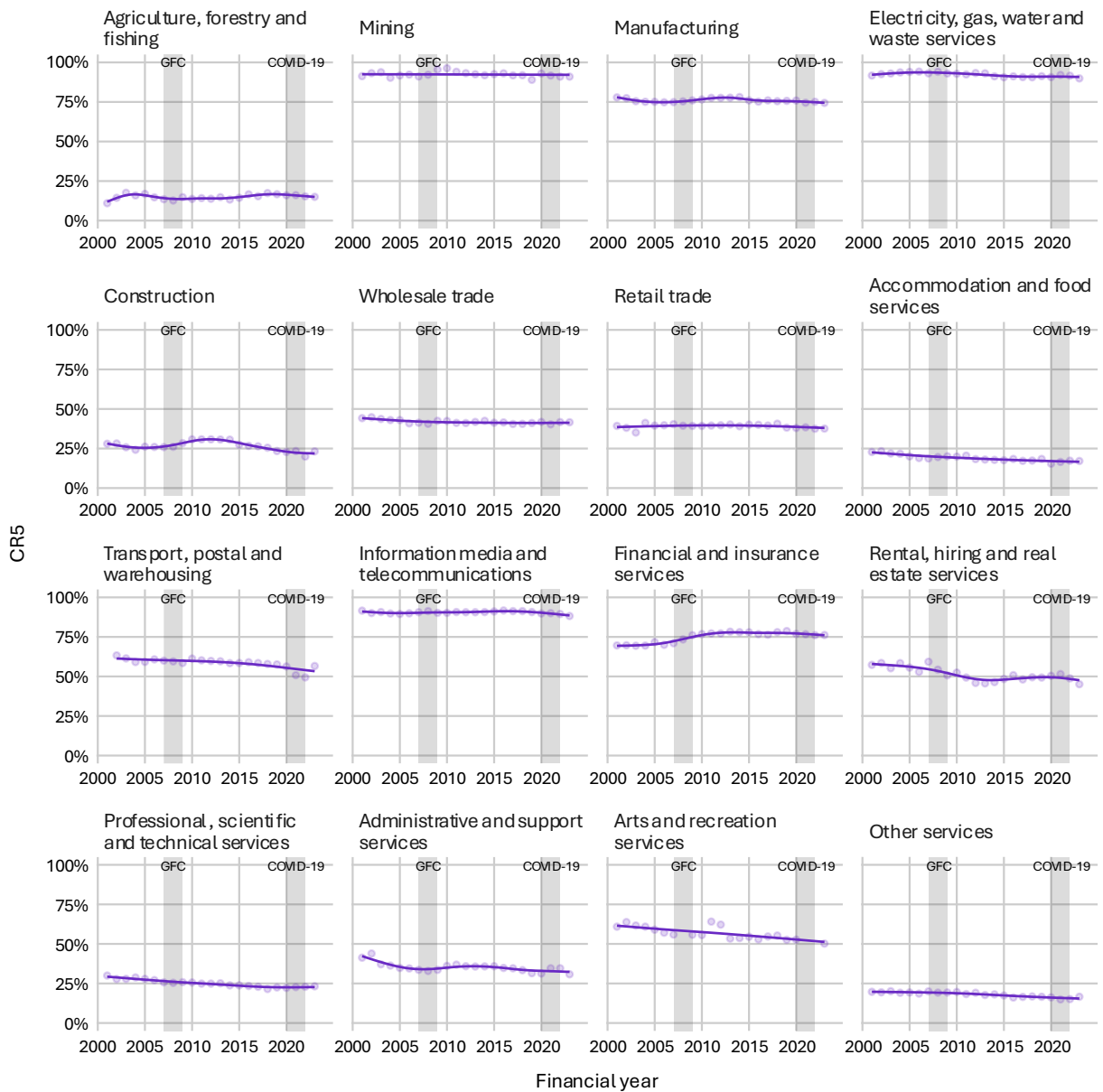
C12.1 Over the whole period, the industries that showed particularly large decreases include: “Transport, postal and warehousing”, “Rental, hiring and real estate services”, “Professional, scientific, and technical services”, “Administrative and support Services” and “Arts and recreation services”.

C12.2 In the post-GFC period, the industries that showed particularly large decreases include: “Transport, postal and warehousing”, “Professional, scientific, and technical services”, and “Arts and recreation services”.

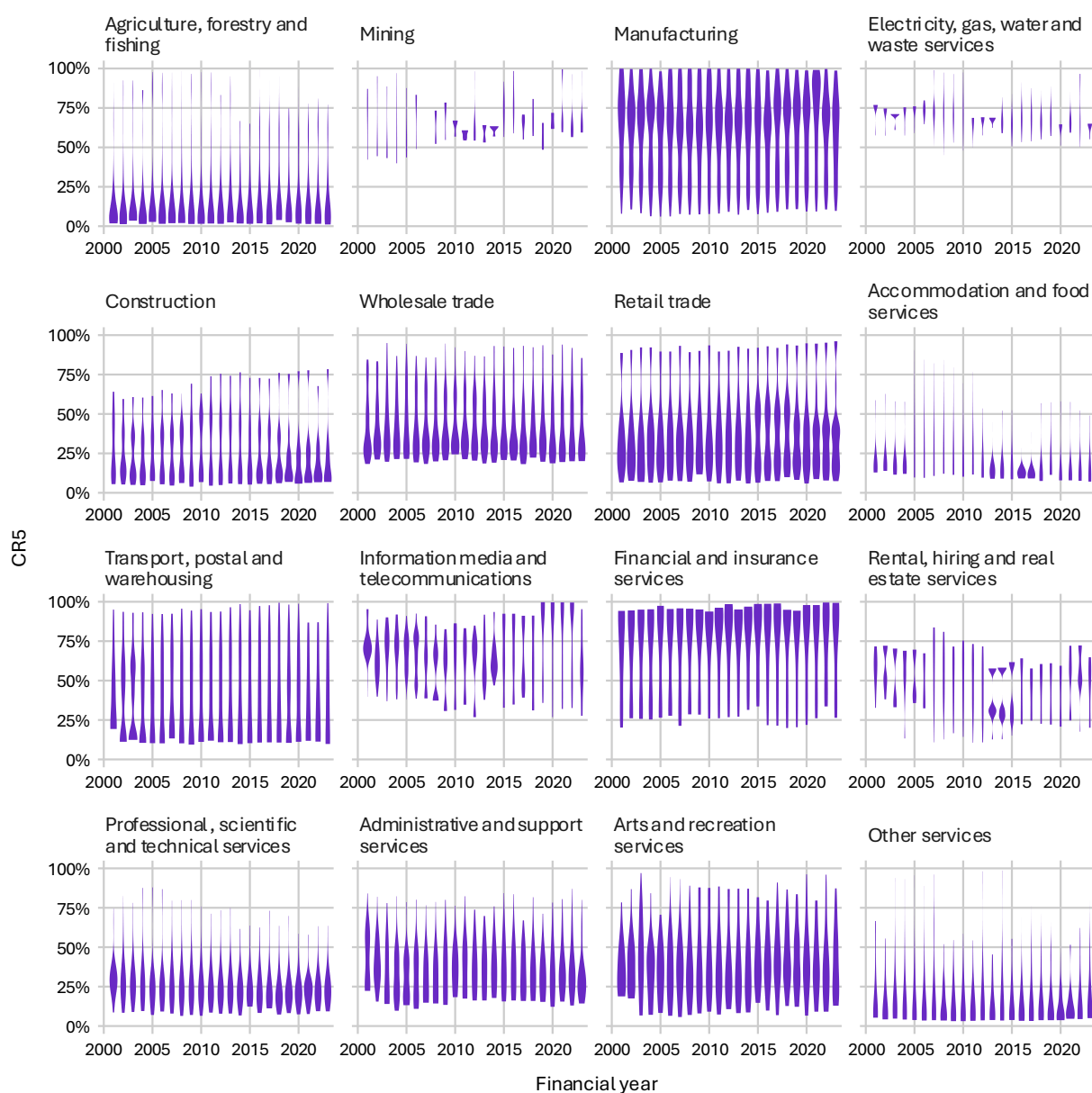
C13 Some industries had increasing CR5. Over the whole period, CR5 increased for “Agriculture, forestry and fishing” although it has low CR5 overall and the increase is modest. “Financial and insurance services” also increased over the whole period. It has a high CR5, though the trend appears to improve after the GFC.

- C14 We have also set out below charts showing how the industry shares were distributed at Class level within each Division (See Figure C3). This provides further insight for each Division into how Classes are trending over time. For example:
- C14.1 Divisions such as “Agriculture, forestry and fishing” and “Retail trade” have low CR5 overall, but have some classes with high CR5 (as illustrated by the high points of the chart).
  - C14.2 The distribution of CR5 across industry Classes within Divisions such as “Accommodation and food services” and “Rental, hiring and real estate services” changes significantly over time, which may suggest substantial changes in concentration in some Classes.
  - C14.3 In most Divisions, there are some Classes with very high levels of concentration. In addition, the distributions of CR5 shown in Figure C3 are affected by confidentiality rules that prevent the measure from being reported for some industry Classes. This means the distributions in Figure C3 may omit some more concentrated industries.
  - C14.4 Divisions such as “Manufacturing” and “Transport, postal and warehousing” comprise classes with a broad range of CR5 levels.

**Figure C2 Weighted average CR5 using output – Industry level (Division)**



**Figure C3 CR5 distribution across Classes – Industry level (Division)**

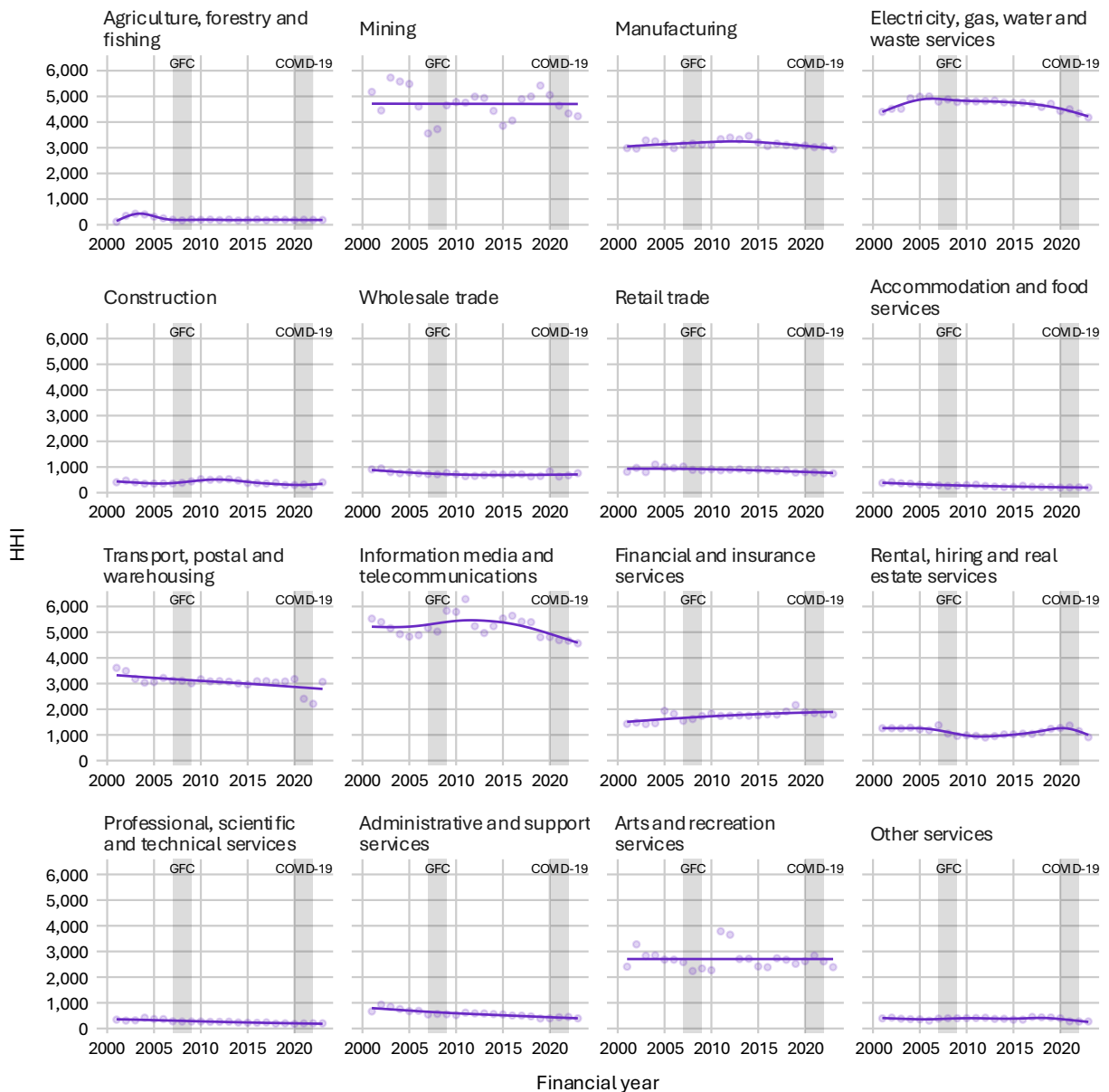


C15 HHI appears to be decreasing for most divisions (see Figure C4).

C15.1 Over the whole period, the industries that showed particularly large decreases include: “Wholesale trade”, “Accommodation and food services”, “Transport, postal and warehousing”, “Information media and telecommunications”, and “Administrative and support services”.

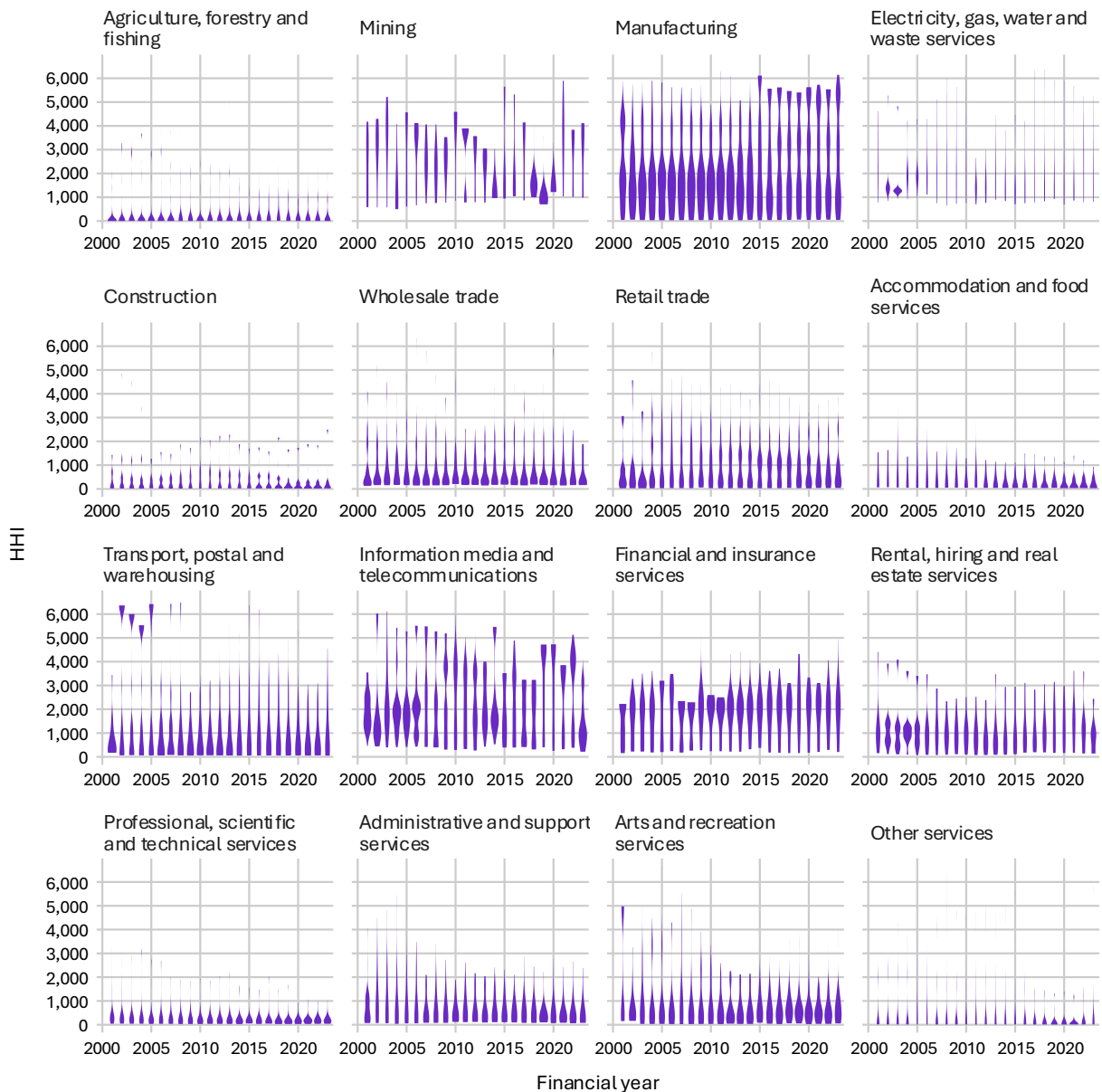
C15.2 During the post-GFC period, the industries that showed particularly large decreases include: “Transport, postal and warehousing” and “Information media and telecommunications”.

**Figure C4 Weighted average HHI using output – Industry-level (Division)**



C16 The distribution of HHI across industry Classes within each Division shows some highly concentrated Classes (Figure C5). As with CR5, confidentiality rules mean that these distributions may omit highly concentrated industries.

**Figure C5 Distribution of HHI across Classes using output – Industry-level (Division)**



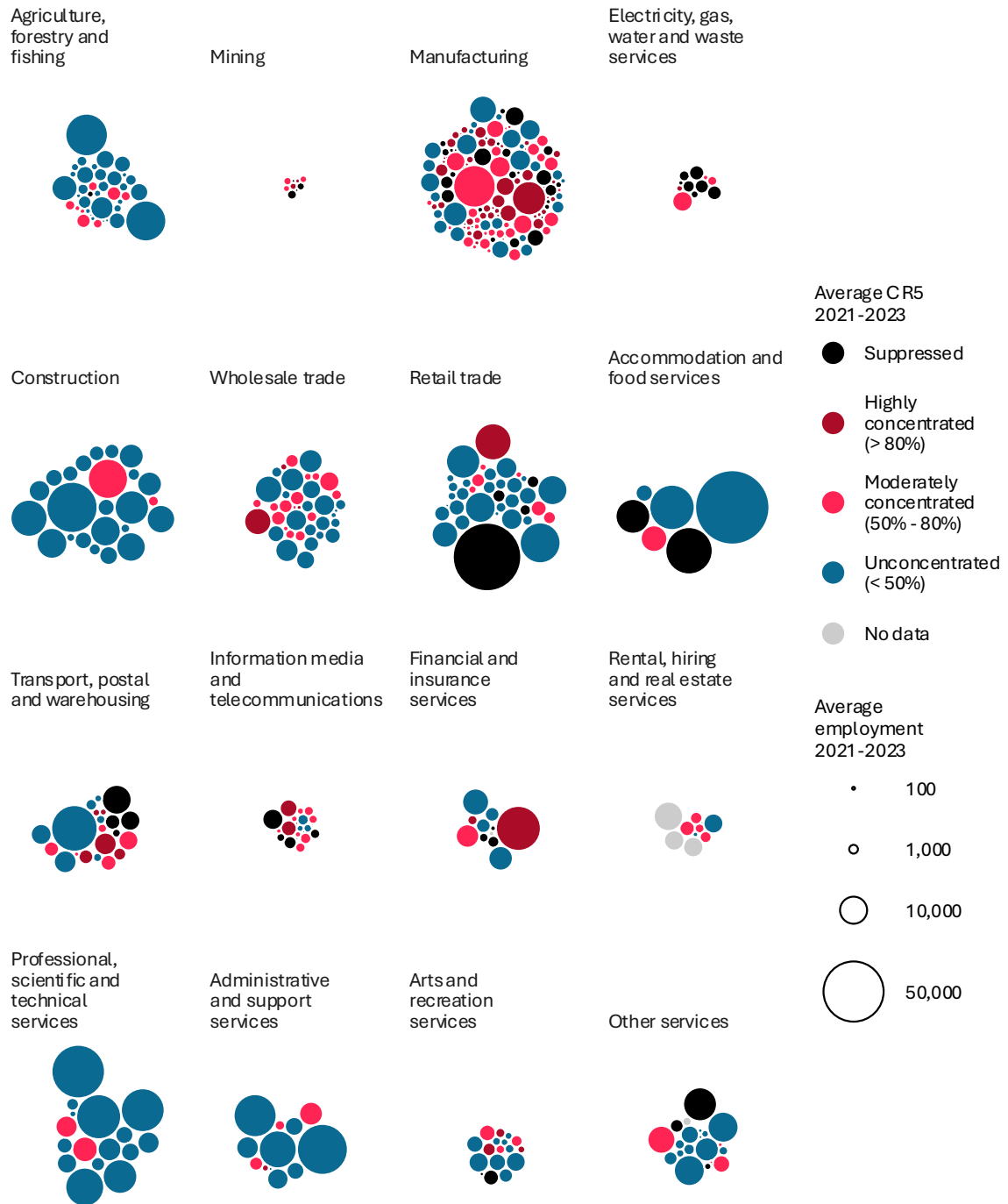
## Industry-level (Class) results

- C17 Figure C6 and Figure C7 show CR5 and HHI at the most granular level possible using LBD data, the industry Class level. The results are averaged across 2021-2023.
- C18 Each industry Class is represented by a bubble. Highly concentrated industries are red and unconcentrated industries are blue. Moderately concentrated industries are pink. Bigger bubbles indicate larger industries, as measured by average employment.
- C19 Results for very highly concentrated industries tend to be suppressed due to confidentiality requirements. Suppressed industries are shown in black.<sup>67</sup>

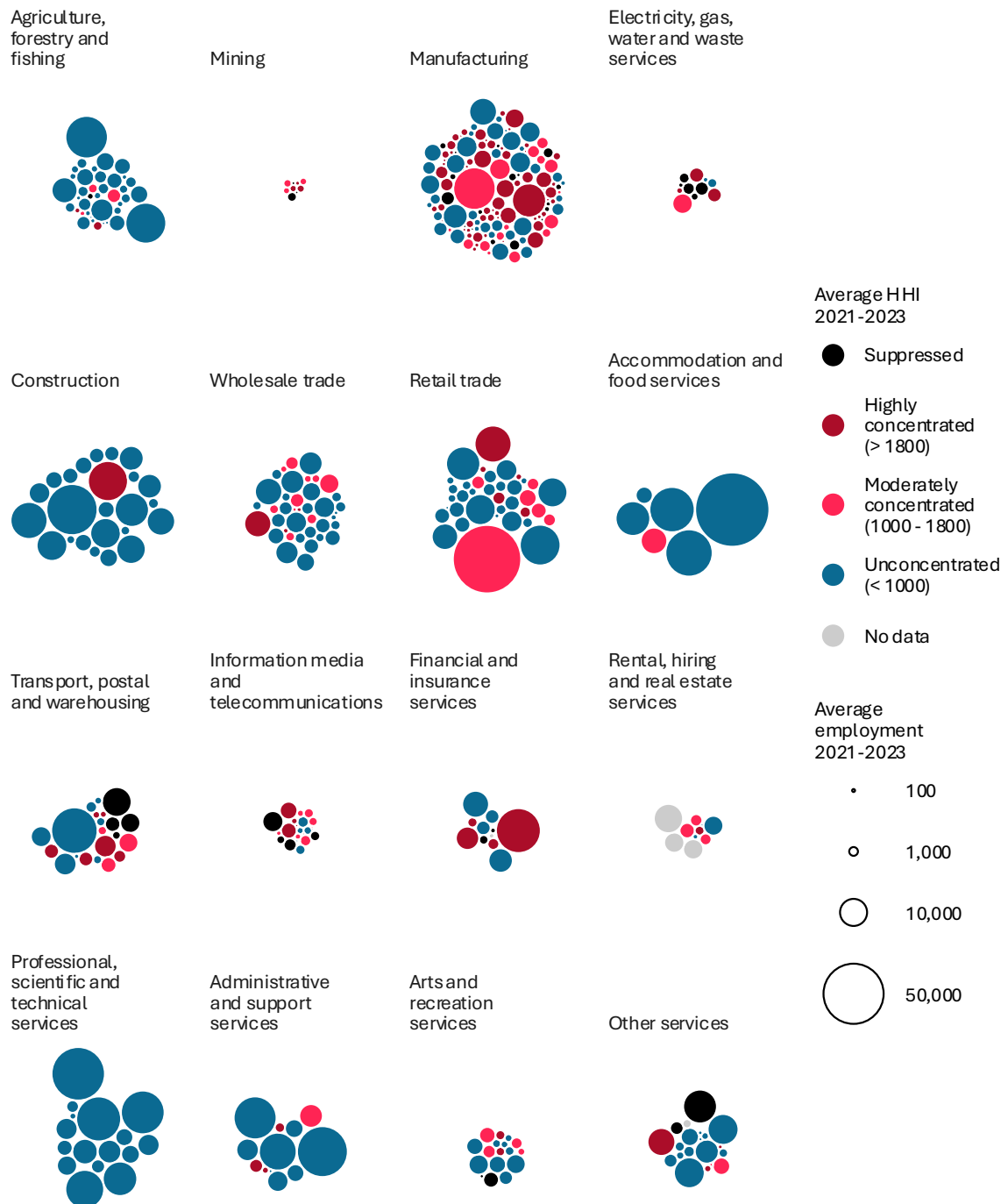
<sup>67</sup> While we cannot show these individual industry Class results, these industries are included in the aggregated economy-wide and Division level indicators elsewhere in this report.

C20 Electricity, gas, water and waste services is an example of an industry grouping with high concentration, as shown by the cluster of red and black bubbles. There are highly concentrated industries within almost all industry groupings.

**Figure C6 Average CR5 (2021-2023) for industry Classes**



**Figure C7 Average HHI (2021-2023) for industry Classes**



## Attachment D Business dynamism measures

- D1 Business dynamism measures help assess the ability of more efficient firms to contest the position of less efficient firms. High levels of business dynamism will incentivise market participants to improve their offers to consumers. Even markets that are highly concentrated could be competitive if incumbents face the threat of displacement from new entrants.
- D2 We have considered the following business dynamism measures:
- D2.1 firm entry and exit rates;
  - D2.2 industry share of new entrants and exiters, and shares of entrant cohorts;
  - D2.3 survival rates for entrant cohorts;
  - D2.4 industry shares of firms less than five years old;
  - D2.5 rank persistence of the ten largest firms; and
  - D2.6 change in mean age of large firms.
- D3 All measures were calculated using the Fabling-Maré productivity tables.

### How we have calculated the measures

#### *Entry and exit rates*

- D4 Entry rates are calculated as the number of new firms in an industry divided by the number of existing firms in an industry (also referred to as the ‘churn rate’). Exit rates are the ratio of firms that exited the industry to total firms.
- D5 To calculate churn rates, we derived activity indicators for the “permanent enterprises” (PENT) datasets created by Fabling & Maré from LBD data.
- D5.1 Active firms in a year are those that reported either GST revenue or employment in that year (including sole traders).
  - D5.2 Firms entering an industry in a year are defined as firms that were active in that year and not active in the prior year.
  - D5.3 Firms exiting an industry in a year are defined as firms that are not active in that year but were active in the prior year. Exit is thus recorded in the year after last activity.
  - D5.4 An individual firm may enter and exit an industry multiple times if it is temporarily inactive. Other business dynamism measures below only consider the first recorded entry of each firm.

### *Industry share of new entrants and exiters*

- D6 Industry share of entrants and exiters use the same definition of firms as the entry and exit rates (see paragraph D5). That is, entrant firms are those that are active in a given year but not the year before (based on reported GST revenue or employment). Exiter firms are firms not active in a given year, but active the year before. To calculate industry share we made the following assumptions.
- D6.1 Since an entrant may enter part-way through the year (their first active year may be less than 12 months), industry shares of entrants are calculated in the year after entry.
  - D6.2 Since an exiter may exit part-way through the year, industry shares of exiters are calculated in the year before exit.
  - D6.3 Entry, exit and industry shares are analysed for Classes and aggregated (summed) to Divisions for reporting.
- D7 Shares are calculated as the share of total industry output accounted for by entrants and exiters respectively in each year.
- D8 A similar analysis was performed to analyse industry share of entrant cohorts, i.e. to track the industry share of firms that entered each Class in each year separately. This analysis was based only on the *first* observed entry of each firm.

### *Survival rates for entrant cohorts*

- D9 Survival rates for entrant cohorts are the proportion of new entrants that are still active for a given number of years after entry (e.g. three, five and ten). These survival rates are tracked for each annual entry cohort separately over time. An entrant is assumed to have survived if it had any recorded GST revenue or employment in a given year after entry. This analysis was based only on the first recorded entry of each firm.

### *Industry shares of firms less than five years old*

- D10 Active firms are those that reported either GST revenue or employment in the year. To calculate the firm age:
- D10.1 Ages of active firms are calculated using the enterprise birth dates recorded in the Longitudinal Business Frame (LBF).
  - D10.2 Recorded birth dates do not always align with the year of first activity of firms, and this causes some firm ages to be negative. Firms with negative ages were discarded before calculating industry shares.
  - D10.3 The overall accuracy of birth dates recorded in the LBF is unknown but generally aligns with year of first activity for firms born after 2000.
  - D10.4 Since activity of firms is reported for financial years ended March, firm ages are calculated as at 30 September of the calendar year prior to the March-ending year reported.
- D11 Shares are calculated as the share of total industry output accounted for by firms aged less than five years old.

### *Rank persistence*

- D12 Rank persistence analyses whether large firms tend to maintain their position in the market over time. If the ranks of firms change frequently it may indicate the ability of rivals to easily win share, an indicator of a dynamic market. Rank persistence can be calculated in different ways. We assessed this by analysing the proportion of the ten largest firms in an industry that remained within the top ten for three consecutive years. Rankings are calculated within ANZSIC06 industry Classes and aggregated to industry Divisions for reporting.

### *Change in average age of large firms*

- D13 The average age of firms with more than 50 full-time equivalent employees (including working proprietors) was calculated using the birth date information recorded in the LBD. The annual change in average age was then calculated for each industry. If the average age increases by less than one year each year, it means that younger firms are becoming large and/or older large firms are exiting the market, which may reflect an increase in competition.

## **Limits on using business dynamism measures**

- D14 Individual business dynamism measures alone may not tell the full story and should be analysed in conjunction with other measures of business dynamism and competition. For example, high entry and exit rates may reflect the same firms entering but then being forced out due to barriers to expansion. Other measures such as rank persistence and the average age of firms can assess whether entrants are able to gain a meaningful presence.
- D15 An apparent lack of business dynamism (based on low scores on the various measures) does not necessarily imply poor outcomes for consumers. Business dynamism is important to ensure that inefficient incumbents are displaced by more efficient challengers. But if the incumbent firms continue to provide attractive offers to customers (perhaps due to the threat of potential entry), then customers will not be harmed.
- D16 Related is that an increase in business dynamism will not necessarily imply consumer welfare improvements.<sup>68</sup> Turnover of businesses and jobs comes at a cost to firms and workers to reallocate. The benefit of increased dynamism is if it results in an improvement of product and economic growth. However, those improvements are not necessarily correlated with the level of business dynamism. Imperfect competition may result in too much or too little investment in innovation. There may be an inverted U-shape: innovation initially increases as competition increases but when there is too much competition, there is not enough profit available to drive incentives for firms to innovate.<sup>69</sup>

## **Economy-wide results**

- D17 Overall, the indicators in Figure D1 suggest that business dynamism has declined over the full period, with a weaker trend for most in the post-GFC period.

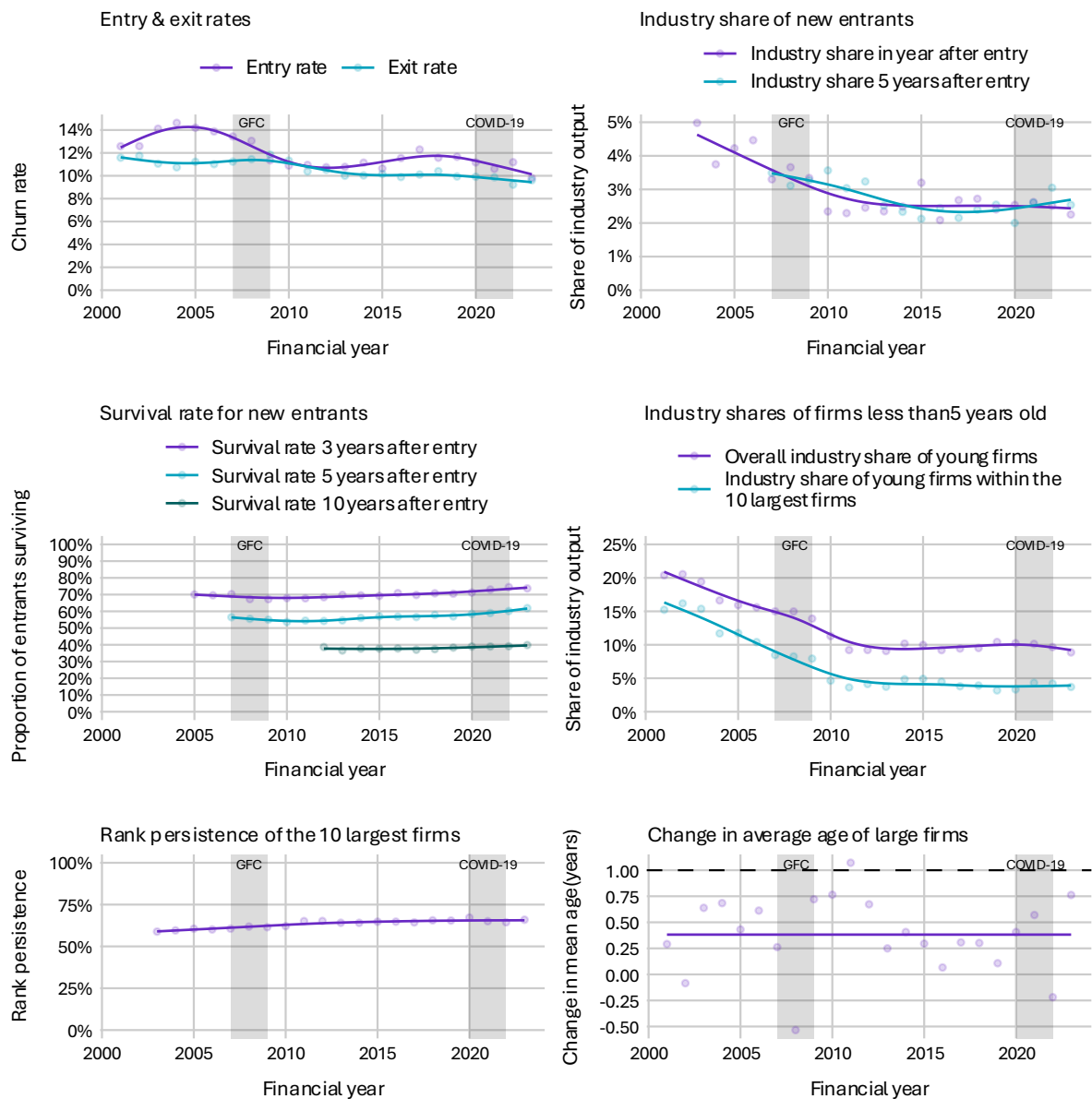
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<sup>68</sup> King (2023).

<sup>69</sup> Aghion, Bloom, Blundell, Griffith, & Howitt (2005).

- D18 There has been a decline in entry and exit churn, suggesting a reduced rate that firms enter and exit the market. Rank persistence (the extent to which large firms can maintain their position in the market) has increased. The mean age of the largest firms is rising and the share of top ten firms for young firms is declining. These all point to a decline in business dynamism.
- D19 One measure suggesting an improvement is the survival rate of entrant cohorts, which had an upward trend since around 2010. However, the share of new entrants and young firms have been declining over time. This suggests that entrant cohorts are becoming more successful at surviving but with a smaller share of the market. There also seems to be little difference in the share of new entrants a year after entry and after five years, which suggests that entrants have generally struggled to improve their position over time.

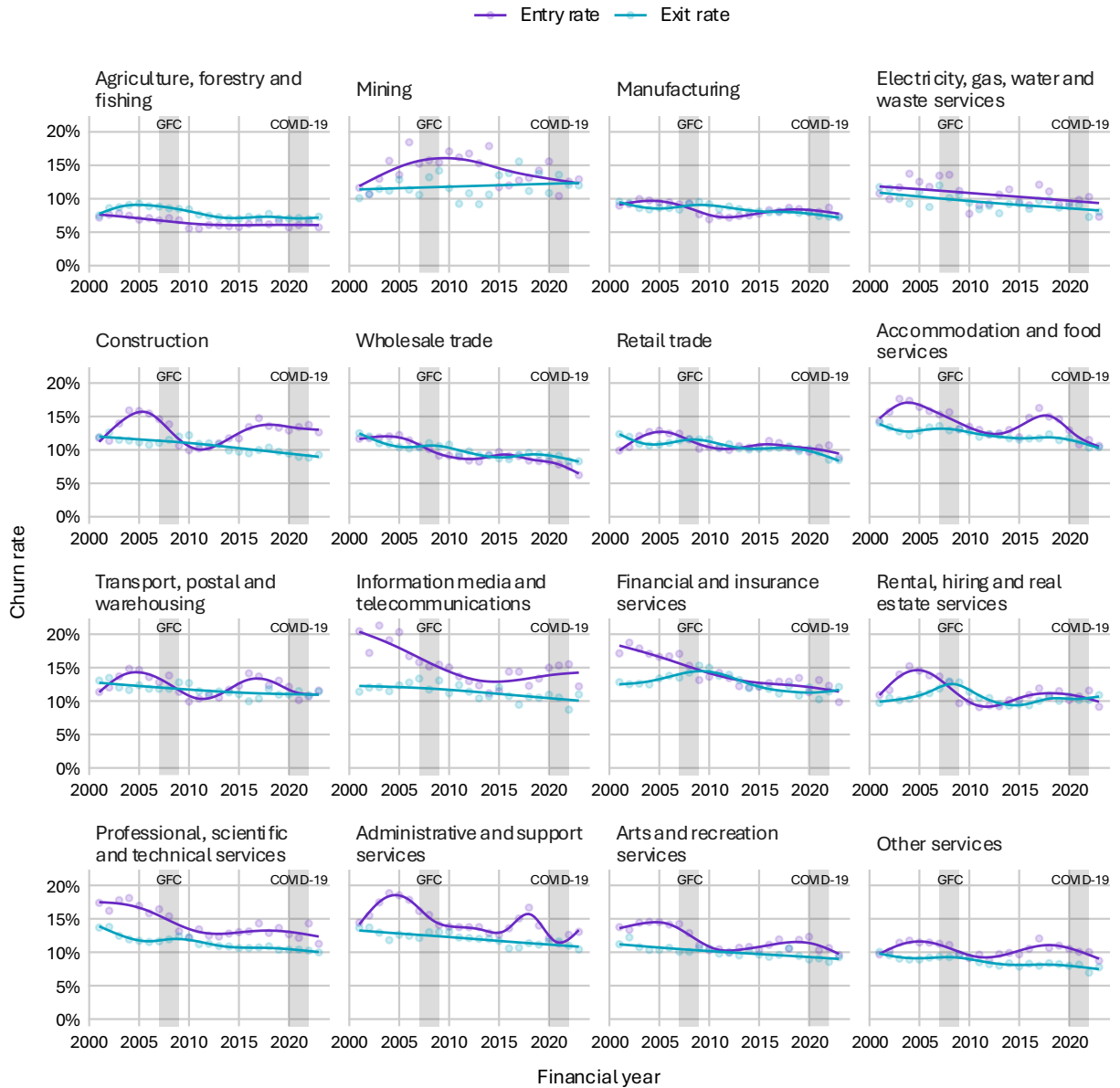
**Figure D1 Business dynamism measures (economy-wide, GDP-weighted averages)**



## Industry-level (Division) results

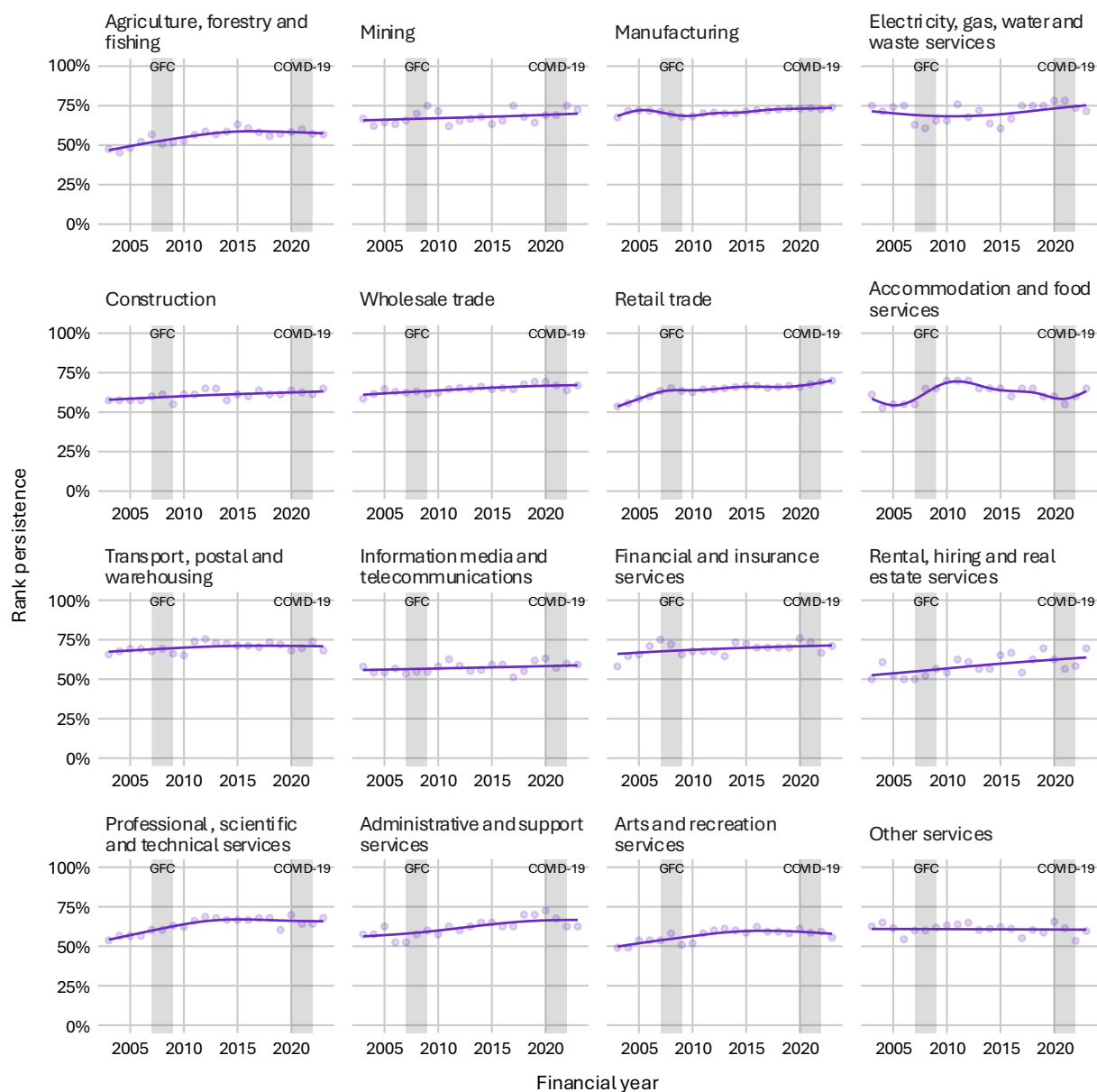
- D20 Business dynamism appears to be declining over the whole period but has improved since the GFC. We have set out the charts below showing each business dynamism measure for each Division.
- D21 Entry and exit churn rates (Figure D2) measure the rate that firms enter and exit the industry. An increase is associated with an increase in business dynamism.
- D21.1 Over the full period, entry and exit churn rates appear to be trending downwards, which is associated with a decrease in business dynamism. Many Divisions show a similar downward trend for entry and exit rates, although “Mining” appears to show a slight upward trend for entry rate. Entry rates seem to show a more volatile pattern than exit rates. “Information media and telecommunications” and “Financial and insurance services” show particularly strong decreases in entry rates, although the entry rate for “Information media and telecommunications” increased slightly after 2015.
- D21.2 The post-GFC period also shows many Divisions with a downward trend for entry or exit rates. Many Divisions show a similar downward trend for exit rates with “Mining” again showing a slight upward trend. Several Divisions show flat or improving entry rates in the post-GFC period prior to COVID-19, with “Construction” showing a noticeable increase.

**Figure D2 Weighted average entry and exit (dotted) churn – Industry level (Division)**



D22 Figure D3 shows rank persistence—the extent to which the ten largest firms by output in the industry maintain their position. A decrease in rank persistence is associated with an increase in business dynamism. Over the full period and post-GFC, the charts show that this measure has a slight upward trend for almost all Divisions.

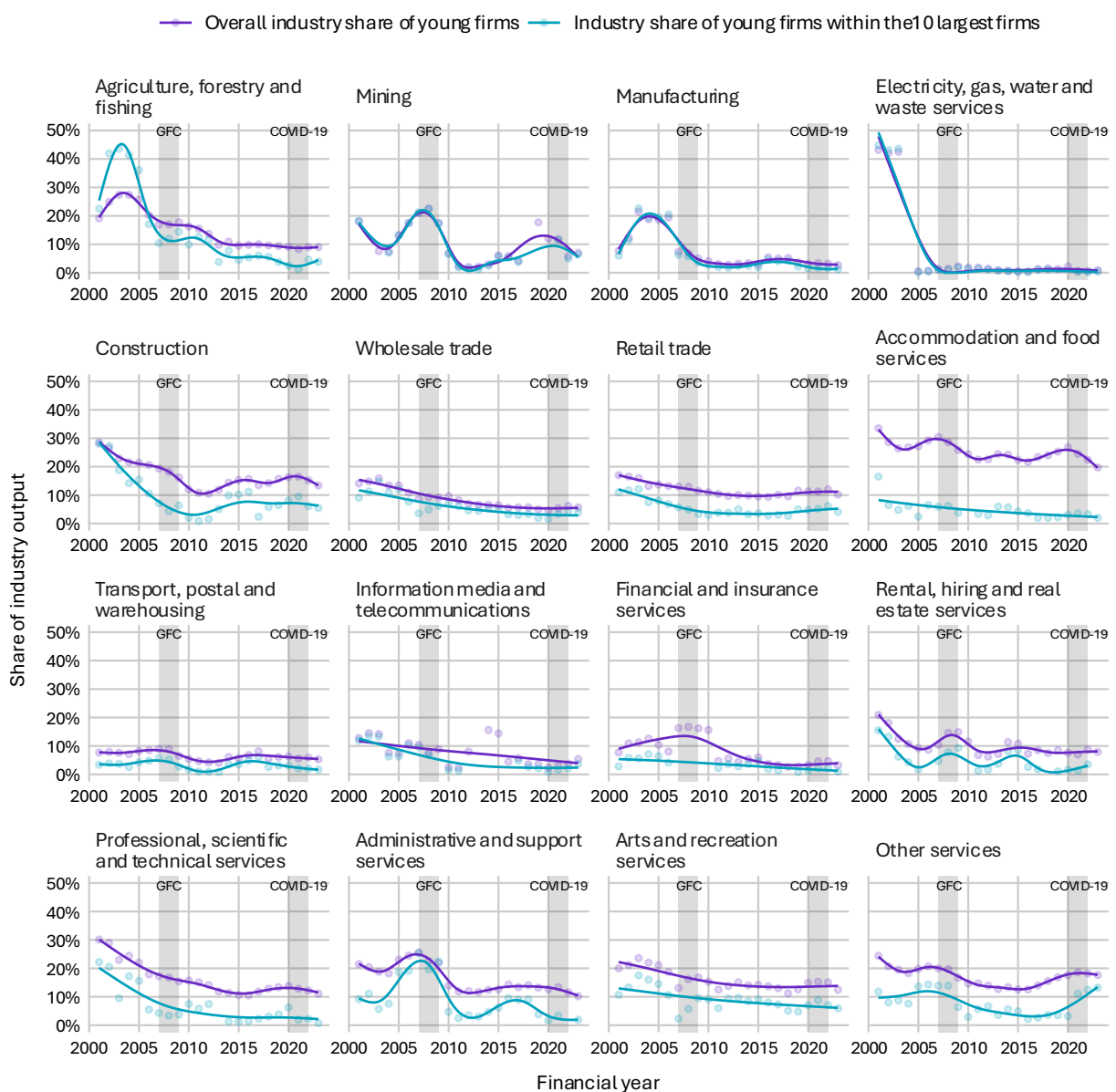
**Figure D3 Weighted average rank persistence of output – Industry level (Division)**



D23 Figure D4 shows the share of industry output that young firms (less than five years old) have obtained. The charts show the overall share of industry output for young firms and share of the top ten firms. An increase is associated with an increase in business dynamism, since it would suggest that young firms are more effective at entering and expanding in the markets.

- D23.1 Over the full period, share of output for young firms appears to show a downward trend for most Divisions. “Agriculture, forestry and fishing” and “Electricity, gas, water and waste services” are examples that show a particular strong decline.<sup>70</sup>
- D23.2 In the post-GFC period, the trend is flat or increasing for some Divisions. “Mining” and “Construction” seem to show a slight increase.
- D23.3 In 2023, young firms accounted for less than 20% of industry output in most cases, and a substantially smaller proportion of output within the top ten largest firms.

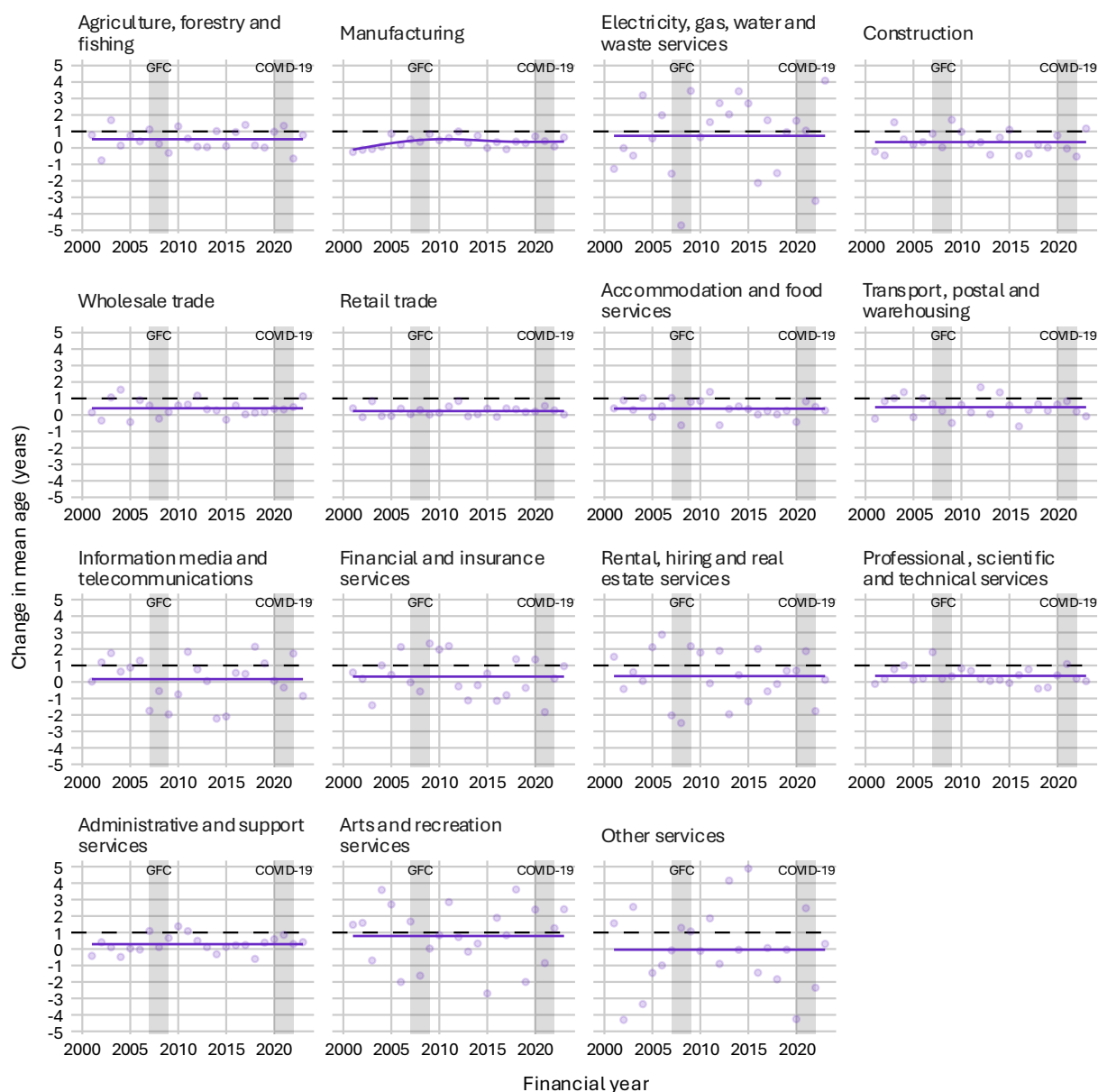
**Figure D4 Weighted-average share of industry output by young firms– Industry level (Divisions)**



<sup>70</sup> The substantial decline in the share of young firms for “Electricity, gas, water and waste services” in 2005 likely reflects restructuring of the electricity sector which led to the establishment of three new large businesses in 1999.

- D24 Figure D5 shows the annual change in mean age of large firms. A decrease is associated with an increase in business dynamism, since it would suggest that younger firms are displacing older ones. As all firms will get older by one year each year, a change in mean age below one would suggest more young firms are becoming large and/or that older large firms are exiting the market. Conversely, a change in mean age above one could reflect relatively young large firms exiting the market.
- D25 The results suggest that the mean age of large firms is falling in each industry, which may be consistent with improving business dynamism. However, this dynamic is less consistent over time for some industries including “Electricity, gas, water and waste services”, “Information media and telecommunications”, “Financial and insurance services”, “Rental, hiring and real estate services”, and “Arts and recreation services”.

**Figure D5 Weighted average annual change in large firm (over 50 FTE) mean age – Industry level (Division)**

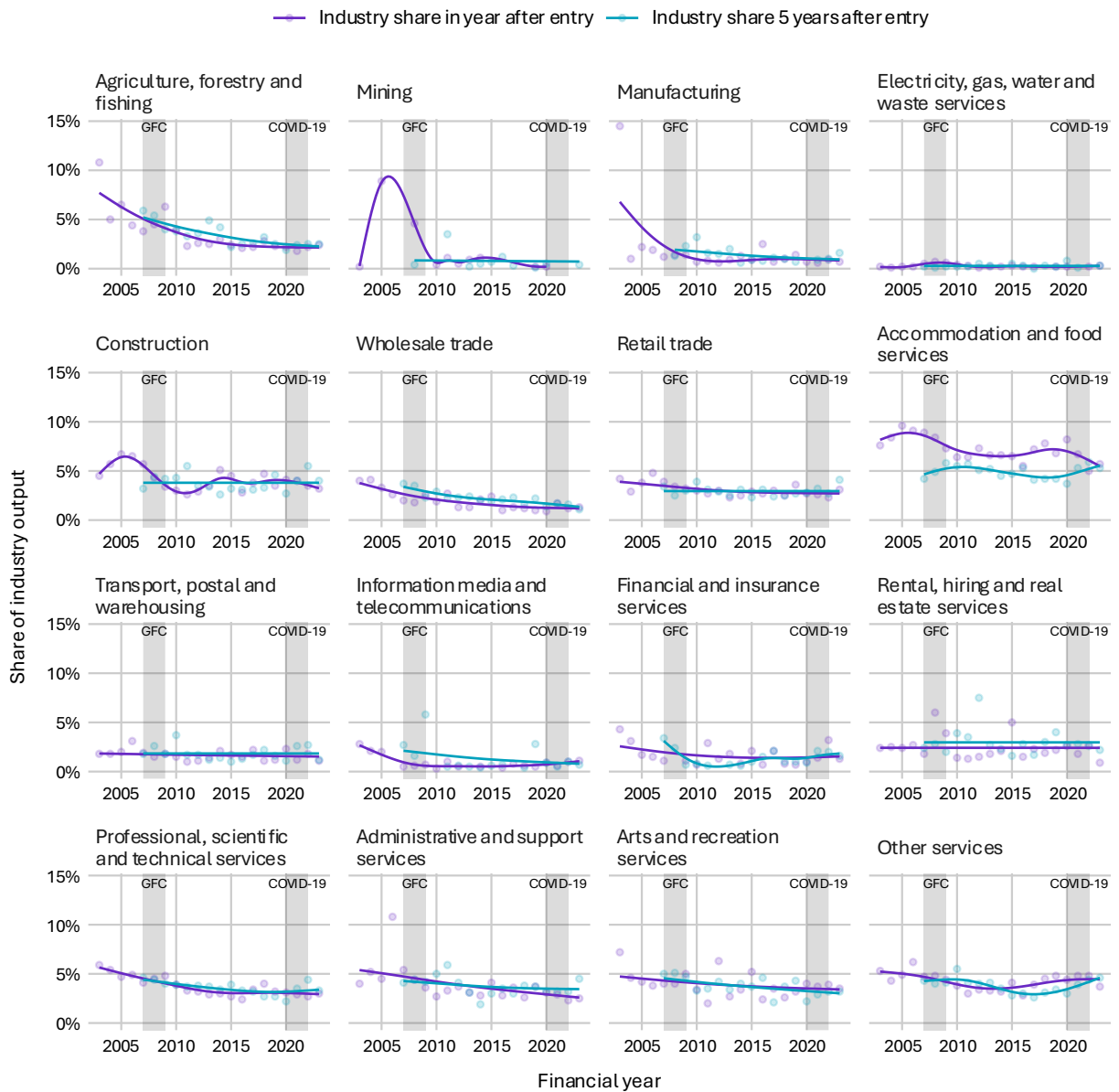


- D26 Figure D6 shows the share of output supplied by entrants. An increase is associated with an increase in business dynamism, since it would suggest entrants have been successful capturing share. The charts show the share of entrants a year after their entry and five years after entry.<sup>71</sup>
- D26.1 Over the full period, the share of output supplied by entrants has been trending down. “Agriculture, forestry and fishing” and “Manufacturing” show a particularly strong trend.
- D26.2 In the post-GFC period, the trend appears to flatten for many industries. “Agriculture, forestry and fishing” and “Administrative and support services” are examples of Divisions that retain a clear downward trend for share after one year. For share after five years, the trend appears to be mostly flat or a slight decline for most industries.
- D26.3 The share attained by entrants five years after entry is very similar to the share after one year. This suggests that entrants typically struggle to gain significant share over time.

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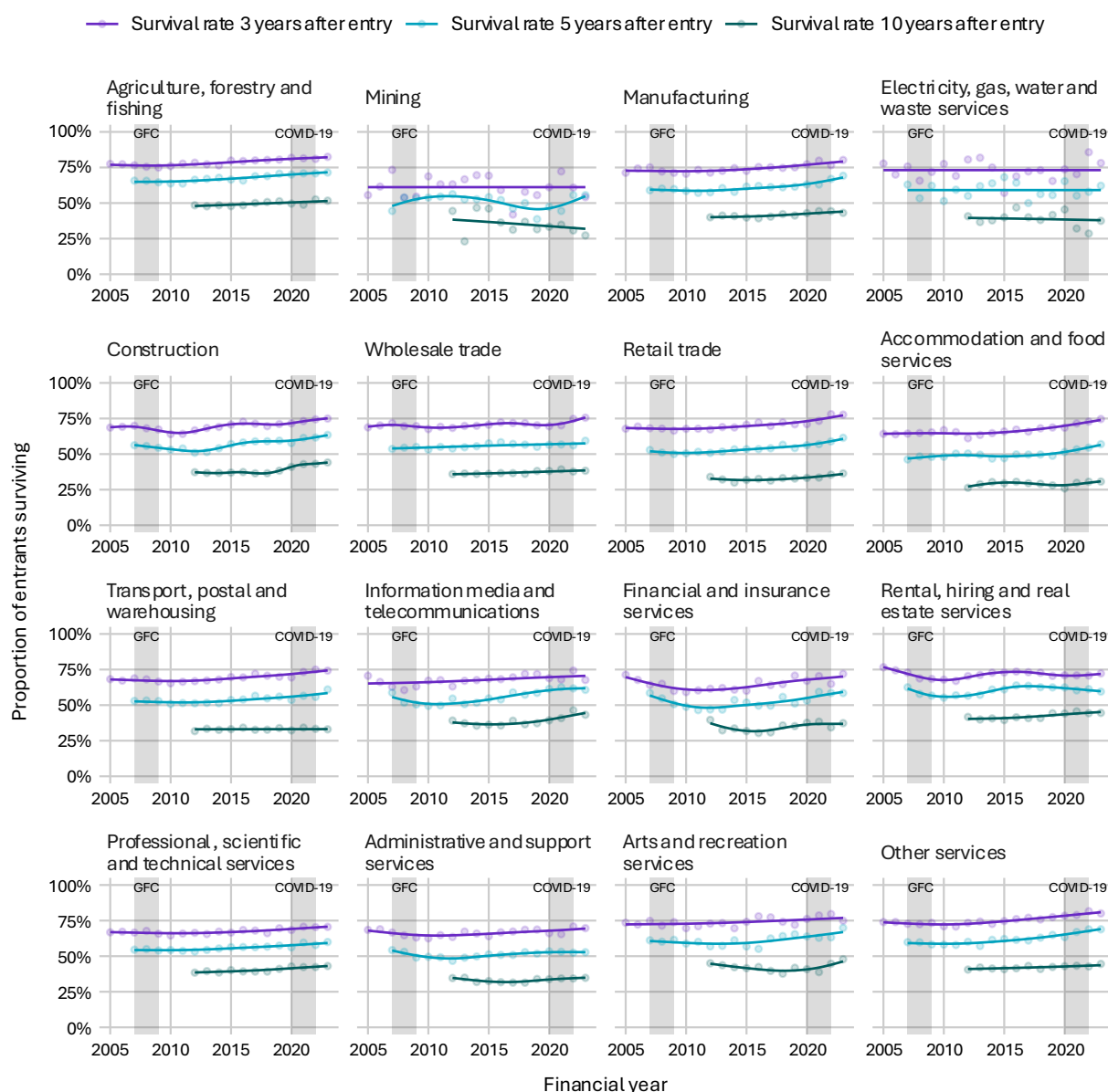
<sup>71</sup> These results are based on tracking the output shares of annual cohorts of new entrants to industry Classes in the years following entry.

**Figure D6 Weighted average share of entrants by output – Industry level (Division)**



- D27 Figure D7 shows the survival rates of entrants after three, five and ten years respectively.<sup>72</sup> An increase in survival rates would be associated with an increase in business dynamism, since it would suggest new firms are successfully expanding in the industry.
- D28 The results suggest survival rates appear to be flat or slightly increasing for most industries. Longer-term survival rates are substantially lower than short-term survival rates. In most industries, around 75% of entrants survive for three years, but only 25-50% survive for ten years.

**Figure D7 Weighted average survival rates of entrants – Industry level (Division)**



<sup>72</sup> Survival rates are based on tracking the activity of annual cohorts of entrants in each Class over time. Since some firms temporarily exit and re-enter industries, survival rates are based only on the first observed entry of each firm.

## **Industry-level (Class) results**

- D29 Due to the confidentiality requirements for reporting LBD data, business dynamism indicators are unable to be reported at the industry Class level. This is because these indicators are based on small groups of firms in each industry such as entrants, young firms, and large firms.
- D30 Counts of the numbers of firms in such groups must be rounded to the nearest multiple of three, and this rounding introduces heavy distortion to many of the business dynamism indicators. Other dynamism indicators such as industry shares of entrants typically need to be suppressed to protect the confidentiality of the firms.

## Attachment E Performance measures

- E1 A firm will face strong competition when there are many competitors in a market or new entrants could easily enter a market. A firm that faces strong competition will be more likely to offer its products at lower prices and with better service.<sup>73</sup> If it did not, customers would buy the goods and services from other firms.
- E2 The economic literature has developed measures to help directly assess the extent of competition that firms face. We consider two measures in this section.
- E2.1 **Price-cost margins (or ‘the Lerner Index’)**, which measures the extent to which firms can sustain prices above (and output below) competitive levels.<sup>74</sup>
- E2.2 **Profit elasticity (or ‘the Boone indicator’)**, which measures how sensitive profits are to changes in costs.

### Price-cost margins (the Lerner Index)

- E3 Price-cost margins are a measure of ‘market power’—the ability to act without concern of losing customers to rivals.
- E3.1 When competition is at its strongest, a firm’s prices will be forced all the way down to the point it only just covers its costs. If the price went any lower, the firm would be unprofitable, and it would be forced out of business. In such a highly competitive market, the firm does not have market power. The most extreme case of a competitive market where there are many competitors and it is costless to enter and exit the market is known as ‘perfect competition’.
- E3.2 A firm that has few competitors and does not face the threat of new firms entering the market can charge high prices above its costs. The firm can raise its price by restricting the volume of goods or services (output) supplied to the market. Such a firm has market power. The most extreme case is where there is only one firm in a market (that is, a ‘monopoly’), which does not face the threat of new firms entering the market.
- E4 In practice, firms will face competition at some level between those extremes. Price-cost margins can help assess the degree of competition that firms face and how that has changed over time.

### How we have calculated the price-cost margin

- E5 The price-cost margin is calculated as the difference between the price and the cost of supplying a unit of good or service. To calculate the price-cost margin we need information about prices and costs. The relevant cost to use is referred to as the ‘marginal cost’, which is the additional cost of producing the last unit of output. However, marginal costs are not directly observed so instead must be estimated.

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<sup>73</sup> Competition can occur on different dimensions. Firms often compete by trying to offer the lowest price, but they may also compete by offering a better service, quality or through creating new innovative products (or a combination of these). For ease, when describing the impact on competition we refer to ‘higher’ or ‘lower’ prices. However, this should be taken to also include the equivalent change in service, quality and innovation (and any other dimension of competition).

<sup>74</sup> Named after Abba Lerner who formalised the link between price-cost margins and market power.

- E6 For this study, we have calculated price-cost margins using the “permanent enterprises” (PENT) productivity datasets created by Fabling & Maré from LBD data. The price-cost margins in the database are calculated based on the difference between output and variable costs.
- E6.1 Gross nominal output data was obtained from the PENT productivity data table created by Fabling & Maré (2019). Output is based on Annual Enterprise Survey and company tax data.
- E6.2 Population weights at the ANZSIC06 industry Class level were calculated using strata on industry, year and firm size and applying the inverse of the within-cell coverage rate. These weights were applied in all calculations of price-cost margins, to ensure the calculations account for any coverage issues in the productivity dataset.
- E6.3 Firm-level price-cost margins were calculated as the ratio of profit to output. Profit is calculated as output less total variable cost. Total variable cost is calculated as the sum of nominal labour gross earnings (including earnings of working proprietors) and intermediate consumption.
- E6.4 Two types of weighted mean price-cost margins were calculated to aggregate the firm-level margins at the Class level. First, a weighted mean price-cost margin was computed using population weights only. Second, after applying the population weights to the variables used in the calculations, a weighted mean for price-cost margin for the industry was computed using each firm’s output as the weights. We report the output-weighted mean price-cost margins throughout this report, as this approach reduces the impact of smaller firms with large margins on the calculation of aggregate values.
- E6.5 We aggregate the price-cost margin estimates to the Division level using industry output weighted means of the Class data.

### **How we interpret the price-cost margins**

- E7 There are some limits to using price-cost margins to assess competition.
- E8 First, the analysis uses variable costs rather than marginal costs which means the price-cost margin may be overstated. It is difficult to calculate marginal cost and it is common to use variable cost as a proxy (as we have done). However, there are differences between variable costs and marginal costs. In general, a firm’s marginal costs will include the cost of using up capital resources to produce an extra unit of output.<sup>75</sup> Even if capital costs are fixed in the short run, firms using capital more intensively will incur higher costs for items such as maintenance, depreciation and reduced availability for other uses (also known as an ‘opportunity cost’). Firms must be able to recoup that cost to justify continuing in the long run. Variable costs do not include a value for the return on fixed assets, meaning they will underestimate marginal costs.

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<sup>75</sup> See for example Pittman (2009, p. 2).

- E9 Second, price-cost margins are not necessarily comparable across markets. Firms that operate in markets that are capital intensive may have high price-cost margins even if competition is intense. The differences in price-cost margins between different markets could be related to the level of fixed costs in the respective markets rather than the degree of competition. Price-cost margins are therefore better compared over time within the same industry, rather than comparing levels between industries. That said, price-cost margins might rise over time in a market if it becomes more capital intensive. This may be the case where the technology changes increase the investment required to compete in a market.
- E10 Third, price-cost margins measure market power rather than competition, so might not always reflect the competition that has occurred to lead to the observed outcomes.<sup>76</sup> There are circumstances in which an increase in observed market power in an industry (based on price-cost margin) can occur due to an increase in competition. For example, efficient firms will be able to outcompete less efficient rivals. If the more efficient firms (with higher margins) increase their share of the market, then the weighted margin for the industry would increase.<sup>77</sup>
- E11 An increase in price-cost margins could also be caused by ‘differentiation’. Differentiation refers to where firms alter their products slightly from rivals to cater to different customer preferences. Differentiation makes customers less price sensitive, which enables the firm to increase price. But differentiation can increase consumer welfare if the products available better match their preferences.<sup>78</sup>
- E12 Fourth, the performance of firms can be driven by non-competition factors such as macroeconomic cycles. When the economy is bad, firms may accept relatively low margins that do not recover their full cost of capital with the expectation of earning higher returns when the economy returns to growth. Relatedly, high margins can also be driven by frictions in the market that inhibit the ability to expand production. For example, supply disruptions during the 2020 pandemic may have limited some firms from increasing production even as prices rose.
- E13 For these reasons, price-cost margins should be viewed as one piece of evidence along with the other metrics we have analysed.

## Profit elasticity

- E14 Profit elasticity (Boone 2007) is a measure of how dynamic competition is.<sup>79</sup> Profit elasticity is defined as the percentage fall in profits due to a percentage increase in costs. That is, how quickly profits change as costs change. Since profits fall (or at best remain constant) when costs increase, profit elasticity has a negative value. We would expect markets that are more competitive to have a stronger profit elasticity (i.e. more negative), since firms are forced to react more to changes in costs.

### How we calculated profit elasticity

- E15 Boone argues that profit elasticity is a better measure of competition than measures such as the HHI and price-cost margins.

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<sup>76</sup> OECD (2021, p. 21).

<sup>77</sup> Boone, van Ours, & van der Wiel (2007).

<sup>78</sup> OECD (2021, p. 22).

<sup>79</sup> Boone, van Ours, & van der Wiel (2007).

- E15.1 More aggressive behaviour could result in a firm increasing its market share. In this case there could be an increase in HHI despite an increase in competition.
- E15.2 More efficient (high margin) firms could displace less efficient firms. In this case there could be an increase in price-cost margins despite an increase in competition.
- E16 For this study, we estimated profit elasticity using the productivity dataset within the LBD that was initially produced by Fabling and Maré (2019).
- E17 Our profit elasticity estimation methodology closely follows Maré and Fabling (2019), using information on output and variable costs. We regress the natural logarithm of annual firm-level profit on the cost-output ratio for each ANZSIC06 Class between 2000 and 2023. We estimate ordinary least squares and firm fixed effects models, and have chosen to report the results from the fixed effects specification because controlling for permanent differences between firms can better mitigate bias due to industry classifications that do not align with the markets firms compete in. The main difference in our approach is that we run the regressions at the Class level and report these where possible within the confidentiality rules. We aggregate the profit elasticity estimates at the Class level to the Division level using industry output as weights.

### Limits to using profit elasticity

- E18 First, as with price-cost margins, marginal costs are difficult to estimate, and variable costs have been used instead. This creates the potential for errors to the extent that variable costs differ from marginal costs. These differences could be driven by industry specific factors. Accordingly, profit elasticity is best assessed within the same industry over time, rather than between industries.
- E19 Second, analysis of profit elasticity is based on the principle that more efficient firms will enjoy increased profits or market share. However, firms that enjoy efficiency gains may not necessarily increase profits or lower price in the short term.<sup>80</sup> Firms may instead choose to invest those gains to respond to future competition. Profit elasticity is grounded in models where competition operates through the reallocation of profits and market share toward more efficient firms, rather than solely through changes in market structure.<sup>81</sup> This issue is more likely to affect calculations when profit elasticity is done year by year, rather than over a longer period.
- E20 Third, as with price-cost margins, profit elasticity does not consider differentiation that could result in benefits to consumers. For example, in response to competition, a firm could invest in a new product targeted at some customers rather than reduce prices.<sup>82</sup> The firm could increase profits despite an increase in costs. This strategy may increase consumer welfare, even though the profit elasticity measure would suggest a fall in competition.

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<sup>80</sup> Leon (2014, p. 31).

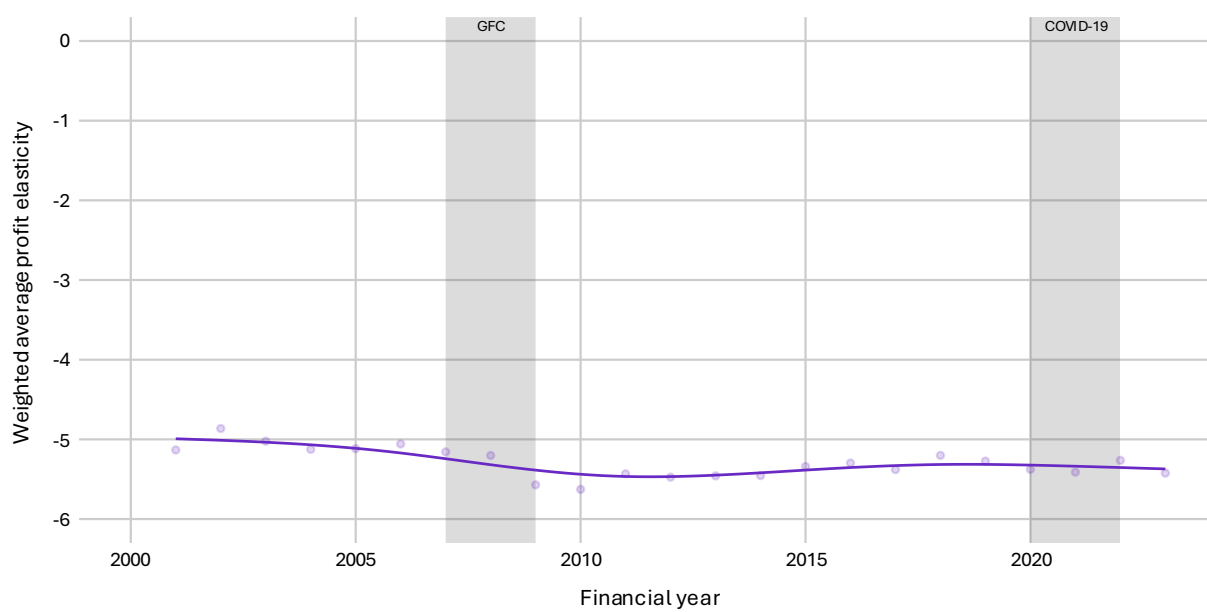
<sup>81</sup> Boone, van Ours, & van der Wiel (2007) introduces competition as a process in which efficiency differences translate into profitability. Boone (2008) formalises profit elasticity as a measure of competition, capturing how stronger competitive pressure shifts profits and market share toward more efficient firms.

<sup>82</sup> Leon (2014, p. 32).

## Economy-wide results

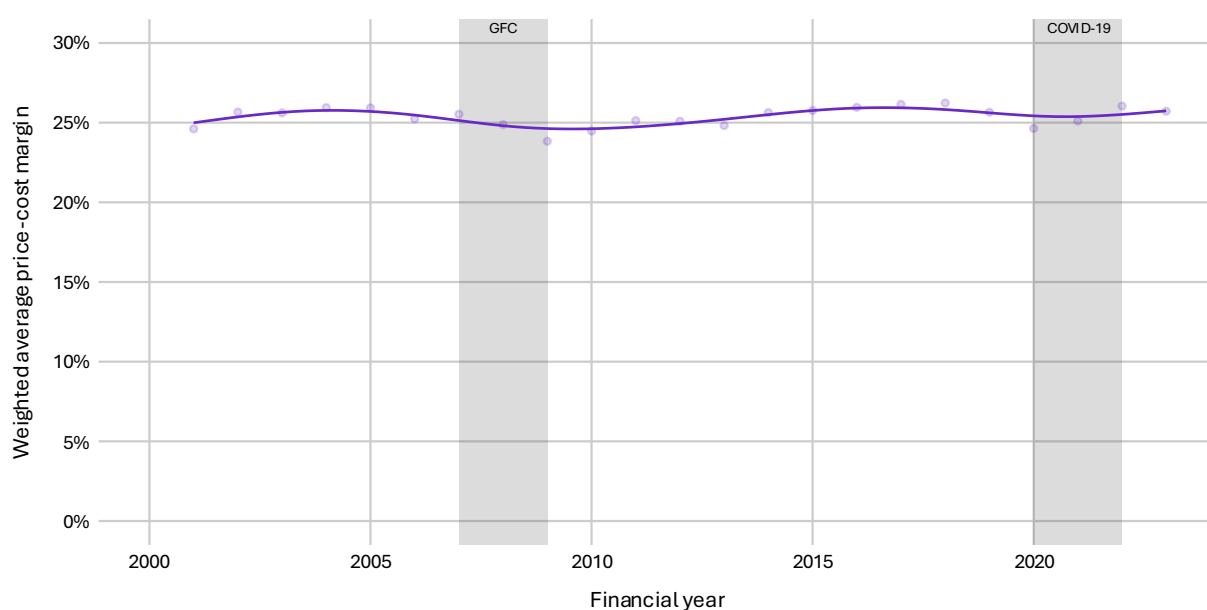
E21 We find that average profit elasticity changed over the period assessed. When considered across the whole period (2000-2023) there is a downward trend, suggesting firms are more responsive to changes in costs (Figure E1). This indicates greater competition. However, there is an upwards trend in profit elasticity over the post-GFC period, suggesting weaker competition over that period.

**Figure E1 Profit elasticity (economy-wide, GDP-weighted averages)**



E22 Price-cost margins (Figure E2) will normally fall in response to stronger competition as firms lower prices towards their costs. Average price-cost margins have been relatively stable over the past two decades, without showing a clear trend. Margins have risen slightly in the post-GFC period, which suggests weaker competition.

**Figure E2 Price-cost margin (economy-wide, GDP-weighted averages)**



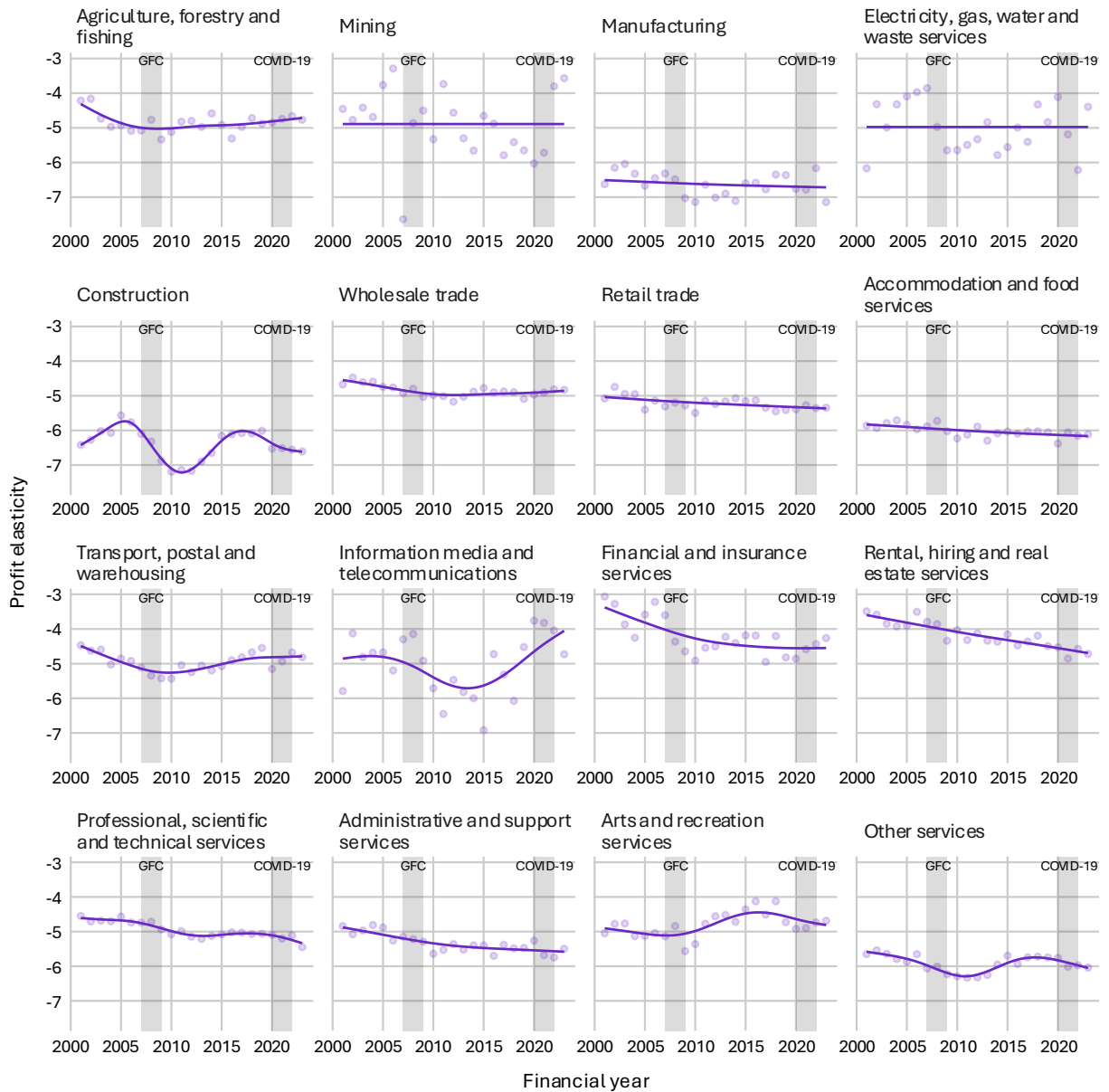
## Industry-level (Division) results

E23 Profit elasticity appears to have a flat or downward trend (i.e. becoming more negative) for most industries, indicating improving competitiveness.

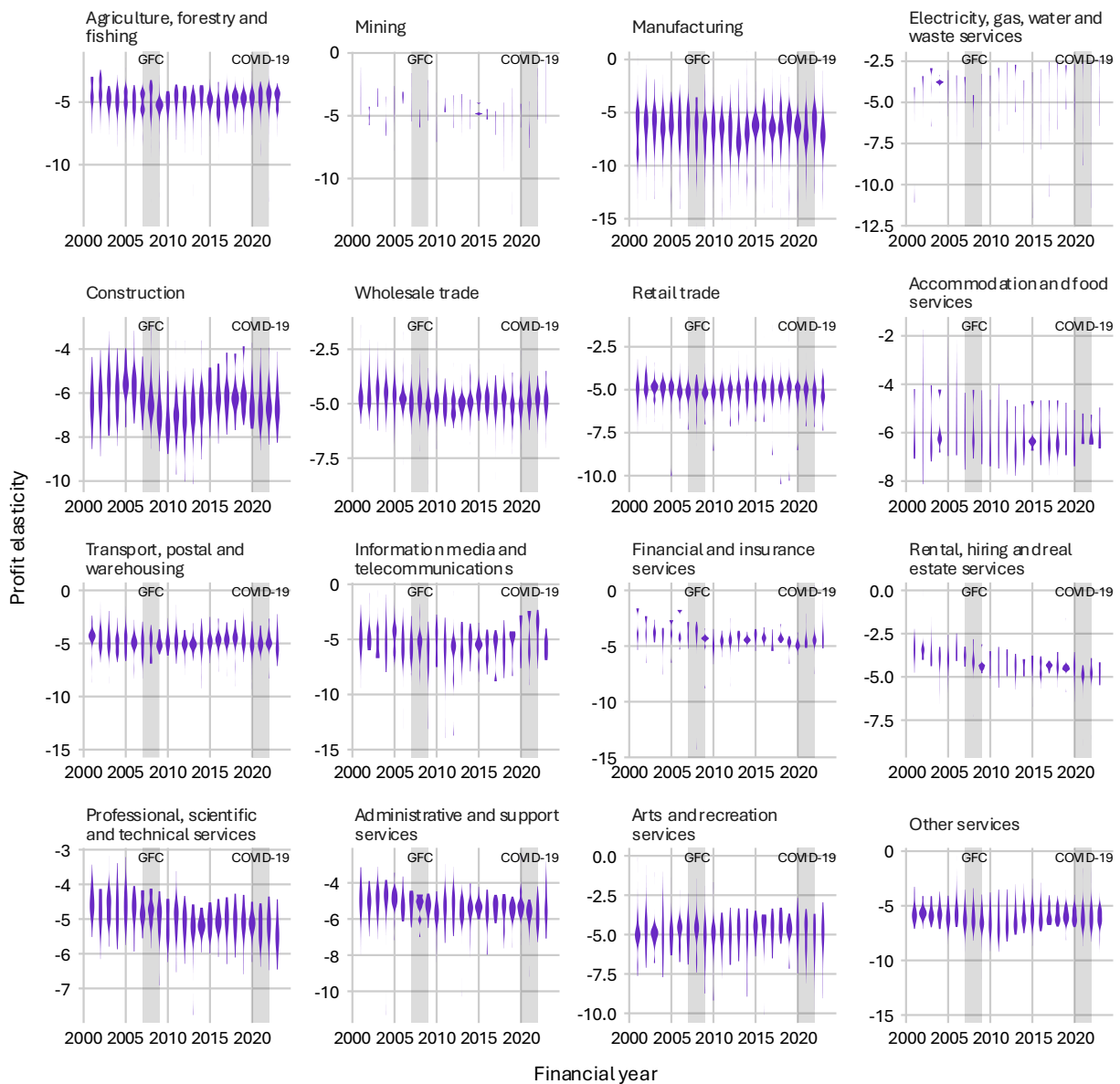
E23.1 Over the whole period most industries have a flat or downward trend (Figure E3). “Rental, hiring and real estate” and “Mining” are examples of industries which appear to have a strong improvement. “Wholesale trade” and “Financial and insurance services” are examples of Divisions that appear to have a slight upward trend. In the post-GFC period, there appear to be more firms with a slightly worsening in competition.

E23.2 The distribution information (Figure E4) shows that, within some industries, there is a broad range of outcomes. For example, the “Construction” distribution indicates a wide range of profit elasticities for the Classes.

**Figure E3 Weighted average profit elasticity - Industry-level (Division)**



**Figure E4 Distribution of profit elasticity (fixed effects) across Classes – Industry-level (Division)**



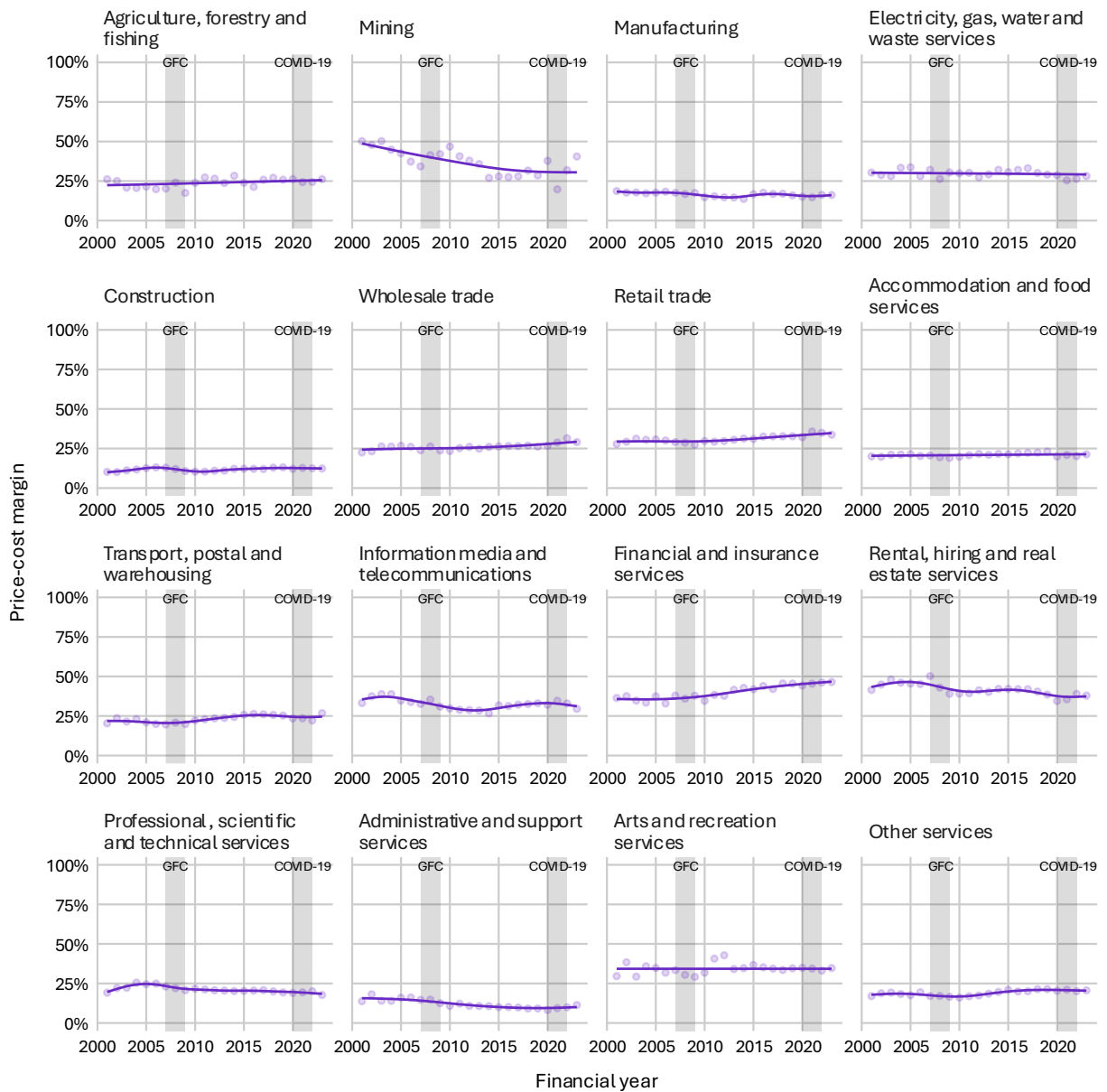
For readability, the Y-axis is restricted to -15 to 0, removing approx. 0.5% of observations.

**E24** There is a mix of improving and worsening price-cost margins over the full period and post-GFC.

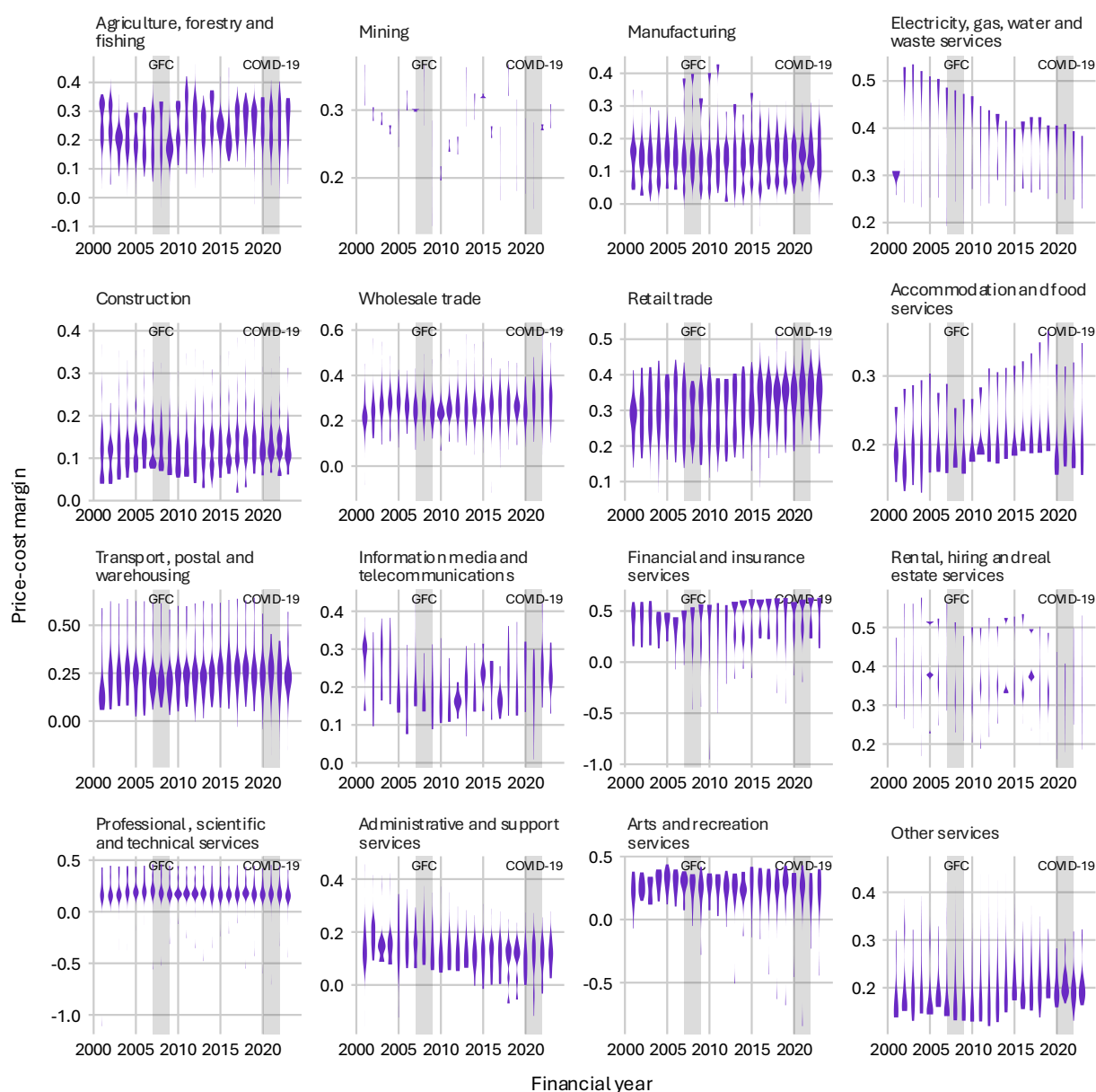
**E24.1** Over the full period, price-cost margins appear to be flat or have declined for many industries but rose for others (Figure E5). “Mining” and “Administrative and support services” are examples of industries that seem to have experienced a significant drop in average margins. “Financial and insurance services” has experienced a significant increase in average margins. The trends in the post-GFC period appear similar.

**E24.2** The distribution information (Figure E6) suggests that “Transport, postal and warehousing” and “Financial and insurance services” are examples of industries in which there is a broad range of price-cost margins for industry Classes.

**Figure E5 Weighted average price-cost margins - Industry-level (Division)**



**Figure E6 Distribution of price-cost margins – Industry-level (Division)**



### Industry-level (Class) results

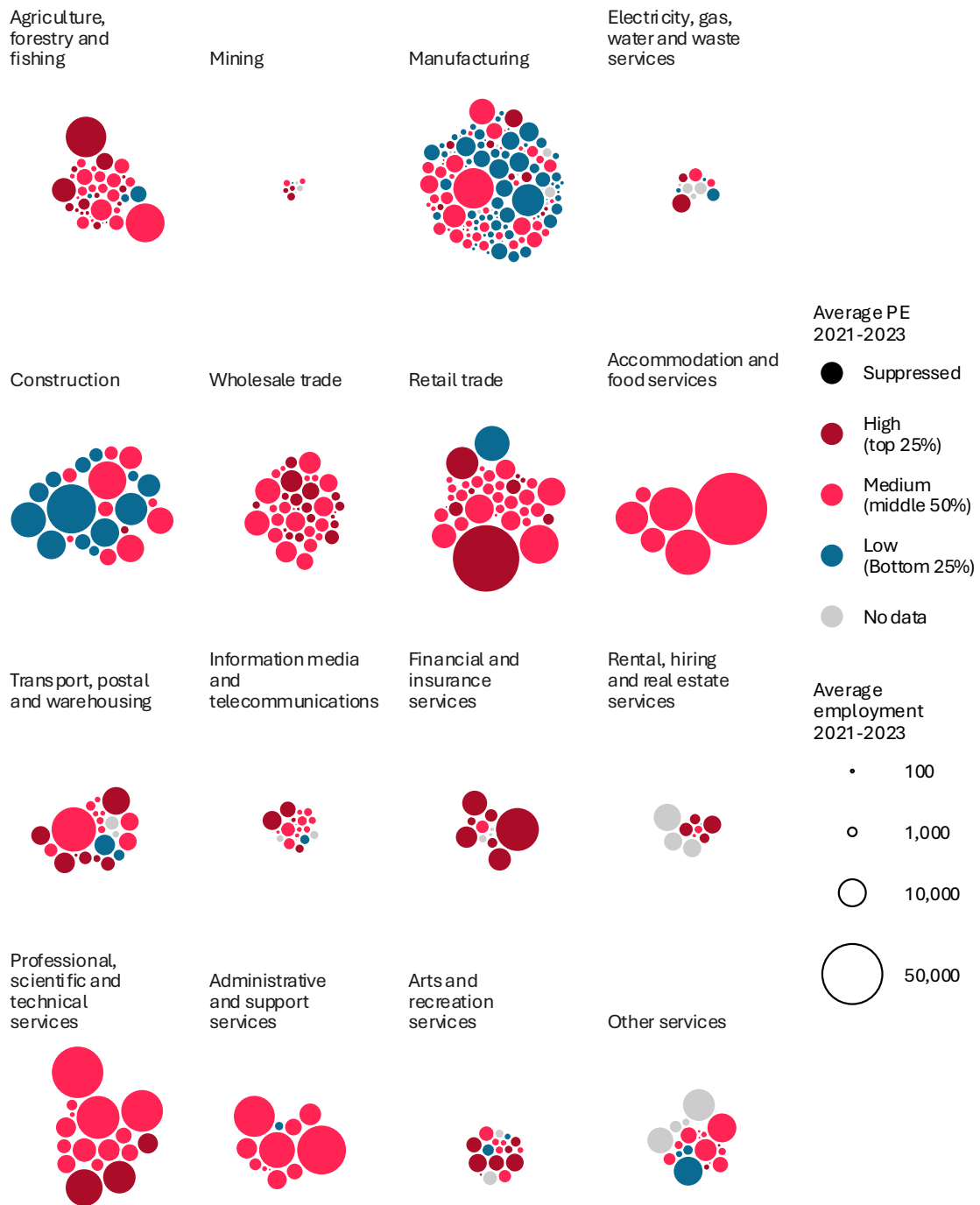
- E25 The charts below and show average profit elasticity and price-cost margins and the industry Class level. The results are averaged across 2021-2023.
- E26 Each industry Class is represented by a bubble. Bigger bubbles indicate larger industries, as measured by average employment.
- E27 For both profit elasticity (Figure E7) and price-cost margins (Figure E8) a lower value indicates stronger competition.
  - E27.1 The bottom 25% of industry Classes (the most competitive) are shown in Blue.
  - E27.2 The middle 50% of industry Classes are shown in pink.

- E27.3 The top 25% of industry Classes (least competitive) are shown in red.
- E28 The approach to suppression differs between the two charts.
- E28.1 There is no suppression for profit elasticities because regression estimates are not generally required to be suppressed under Stats NZ's confidentiality requirements.
- E28.2 For price-cost margins, on the other hand, very highly concentrated industries tend to be suppressed due to confidentiality requirements. Suppressed industries are shown in black in Figure E8.<sup>83</sup>

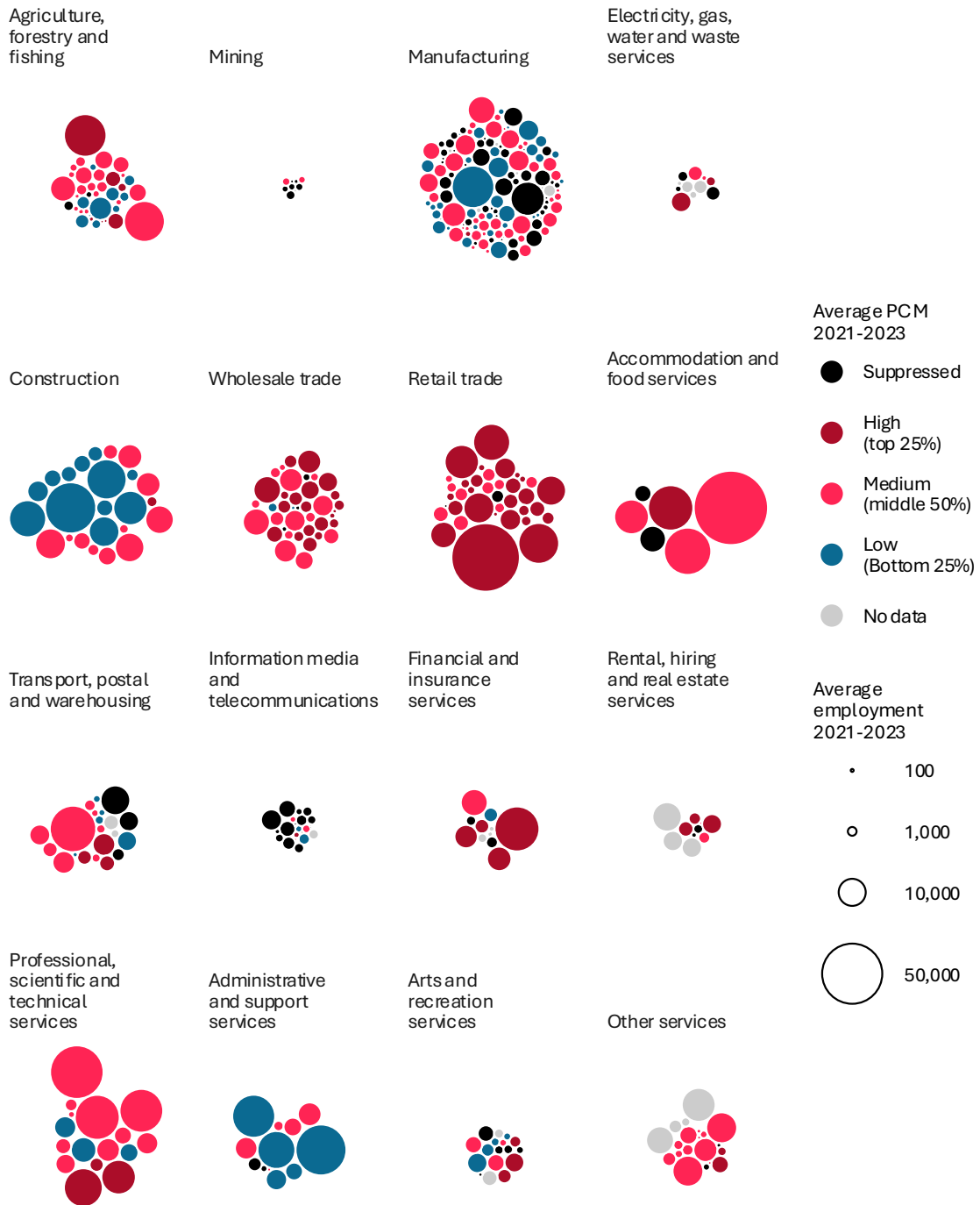
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<sup>83</sup> While we cannot show these individual industrial results, these firms are included in the aggregated economy-wide and Division level indicators.

**Figure E7 Average profit elasticity (2021-2023) for industry Classes**



**Figure E8 Average price-cost margins (2021-2023) for industry Classes**



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## Attachment G Glossary

Term/abbreviation	Definition
<b>ANZSIC</b>	Australian and New Zealand Standard Industrial Classification. This report uses the current 2006 edition (ANZSIC06).
<b>Change in mean age of large firms</b>	Change in the average age of large firms (defined as firms with more than 50 FTEs). A value less than 1 implies new firms are becoming large and/or old large firms are exiting. This indicates greater business dynamism, which may suggest more effective competitive process.
<b>Classes</b>	The narrowest (most granular) industry classification in ANZSIC. Also referred to as 4-digit industries.
<b>CMA</b>	The UK Competition and Markets Authority.
<b>Composite competition indicator</b>	Summary measure that combines indicators of concentration, business dynamism, and market performance. Individual indicators within each category are first standardised and then averaged to form category-level scores. These category scores are then averaged to produce a single composite score for each industry.
<b>Concentration ratio, CR5</b>	Concentration ratios sum the shares of the largest firms in the industry. CR5 sums shares for the five largest firms. A higher value indicates that an industry is more concentrated.
<b>Divisions</b>	The broadest (most aggregated) industry classification in ANZSIC. Also referred to as 1-digit industries.
<b>Entry and exit rates</b>	Entry rates are calculated as the number of new firms in a market divided by the number of existing firms in a market (also referred to as the 'churn rate'). Exit rates are the number of firms that exited the market. Higher exit/entry churn indicates greater business dynamism, which may suggest a more effective competitive process.
<b>Firm longevity</b>	The mean and median age of firms in an industry.
<b>GFC</b>	The global financial crisis of 2007-08.
<b>HHI</b>	Herfindahl–Hirschman Index, a measure of concentration calculated by summing the squared shares of all firms in an industry. HHI captures how evenly firms are spaced in a market or industry, so squaring the industry shares prevents positive and negative differences cancelling out and amplifies larger imbalances to emphasise dominance. Values range from 0 (perfect competition) to 10,000 (monopoly). For example, consider a market where there are three firms with market shares of 40%, 40% and 20%. The HHI would be $40^2 + 40^2 + 20^2 = 3,600$ .

<b>Term/abbreviation</b>	<b>Definition</b>
<b>LBD</b>	Stats NZ's longitudinal business database. The primary data source for the analysis of competition indicators presented in this report.
<b>Market</b>	A market includes all those goods or services that consumers would view as good substitutes. If the price of one product in a market increased then consumers would switch to other goods or services within the market. In general, the more firms that supply goods and services that are in the market (or could enter the market), the stronger the competition.
<b>Industry share of new entrants</b>	Industry shares of new entrants in year after entry, and five years after entry. Higher shares of new entrants may indicate greater business dynamism, which may suggest more effective competitive process.
<b>Industry shares of firms less than 5 years old</b>	Industry shares of firms less than five years old, based on birth dates recorded in the LBD. Higher shares indicate greater business dynamism, which may suggest more effective competitive process.
<b>OECD</b>	Organisation for Economic Co-operation and Development.
<b>Post-GFC period</b>	The period following the global financial crisis: 2010-2023. We have separately reported results for this period in some cases, to avoid the period affected by the significant economic shock from the GFC.
<b>Price-cost margins (Lerner index)</b>	The difference between the price and the cost of supplying a good or service. Also known as price-cost margin. A lower price-cost margin suggests an industry is more competitive.
<b>Profit elasticity (Boone indicator)</b>	Measures how sensitive profits are to changes in costs. Also known as profit elasticity. Stronger competition is normally associated with lower (i.e. more negative) profit elasticity.
<b>Rank persistence (of the ten largest firms)</b>	Measures the extent to which incumbent firms maintain their shares. Calculated as the proportion of the top ten largest firms that had remained in the top ten for three consecutive years. Lower rank persistence indicates greater business dynamism, which may suggest more effective competitive process.
<b>Survival rates for new entrants</b>	This is the proportion of all firms that entered the market in a given year that remain in the market after three years, five years and ten years. A higher share indicates greater business dynamism, which may suggest more effective competitive process
<b>Upstreamness</b>	Measures an industry's position in the supply chain relative to final consumers. Industries are more <i>upstream</i> when their output passes through several other intermediate industries before reaching its final use. Industries are more <i>downstream</i> when most of their output is used directly for its final use.
<b>Whole period</b>	The full period for which LBD data is available at the time our analysis was undertaken (2001-2023).