

AUDIT MARKET STRUCTURE AND COMPETITION IN AUSTRALIA 2019-2022



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Introduction

- This study extends and updates Carson's (2019) study using more recent data from **2019-2022** of Australian Stock Exchange (ASX) listed companies.
- There are concerns from regulators around the world (e.g., UK Brydon Review, CMA Market Study 2019) regarding the **market dominance, concentration, and fear of merging options** of the largest Big 4 audit firms in the provision of audit services.
- Big 4 audit firms are dominating the audit market share worldwide where they audited more than **44.7% (82% of audit fees) of public companies in the USA in 2022**, whereas **54.9% (92% of audit fees) of all main markets in UK during 2022**.

Introduction

- To measure **audit market concentration**, we adopt the method used by Carson (2019) following prior studies (e.g., Walker and Johnson 1996; Tshabalala et al. 2002). The concentration ratio (CR) is **a percentage of total activity in a market that is accounted for by the n most active audit firms** (Walker and Johnson 1996; Avialan et al. 2002). The formula for CR-N is expressed as follows:

$$CR - N = \frac{\textit{Total active activities of } N \textit{ target frims}}{\textit{Total audit activities of all firms}}$$

- We use **audit fees** and **the number of audit clients** in measuring activities

Introduction

Consistent with Carson (2019), we classify audit firms into four categories:

- **Big 4 firms** (Deloitte, EY, KPMG, and PWC),
- **Large non-Big 4 firms** (Grant Thornton and BDO),
- **Medium non-Big 4 firms** (the next 20 largest audit firms), and
- **Small non-Big 4 firms**

Sample period – 2019 to 2022 (changes discussed later refer to changes over this time period)

Our sample includes all ASX listed companies. We excluded companies with **overseas HQs** and also **auditors' HQs** outside of Australia and clients' reported currency is **other than AUD**. The final sample includes around 90.74% to 93.80% of ASX listed audit clients **from 2019 to 2022**.

Market share: Based on Number of Listed Clients

- **Big 4 auditors:** Market share **decreased** from 42.49% in 2019 to 37.85% in 2022.
 - Carson 2019, reported an average of 39.85% during 2012-2018.
- **Large non-Big 4 auditors:** (Grant Thornton and BDO): Market share was 18.96% in 2019 and then **increased** from 18.11% in 2020 to 19.47% in 2022.
 - Carson 2019, reported an average of 21.80% during 2012-2018.
- **Medium non-Big 4 auditors:** Market share **increased** from 31.29% in 2019 to 36.21% in 2022.
 - Carson 2019, reported an average of 31.82% during 2012-2018.
- **Small non-Big 4 auditors:** Market share **decreased** from 7.26% in 2019 to 6.47% in 2022.
 - Carson 2019, reported an average of 6.53% during 2012-2018.

The market share for the Big 4 and Small auditors decreased and the large and medium non-Big 4 are taking those clients

Market share: For 6 Largest Auditors Based on Number of Listed Clients

- **Big 4 auditors:** EY (11.42% to 12.01%) has the highest number of clients, followed by KPMG (10.79% to 11.27%), DTT (7.46% to 9.50%) and PwC (7.60% to 10.20%).
 - Carson 2019, reported an average of: EY (12.60%); KPMG (9.08%); DTT (9.12%), and PWC (9.04%) during 2012-2018.
- **Large non-Big 4 auditors:** The market share of BDO remains **steady** over time between 11.61% to 12.90%, and Grant Thornton also remains steady between 6.50% to 6.87%.
 - Carson 2019, reported an average of BDO: 13.10% and Thornton: 8.70% during 2012-2018.
- **Number of Small Non-Big 4 auditors:** The number of small non-Big 4 firms remains 46 (52 in 2021) during the period of study.
 - Carson 2019, reported an average of 49 during 2012-2018.

Market Share Based on Number of Listed Clients: Categorised by Client Size

- **Very Large Clients (Top 200 by Assets):** The market share of Big 4 for the largest 200 clients remained steady and they audited between 94.50% to 96.50% of Top 200 clients.
 - Carson 2019, reported 90% to 92% during 2012-2018.
- **Large Clients (201-500 by Assets):** The market share of Big 4 for the next 300 clients remained steady and they audited between 76.00% to 78.67%.
 - Carson 2019, reported 64.67% to 70.67% during 2012-2018.
- **Medium Clients (Others) by Asset:** The market share of Big 4 for medium clients **decreased** from 37.33% to 31.36%. Notably, the market share of Medium non-Big 4 auditors **increased** and they audited around one-third (31.58% to 38.07%) of these clients.
 - Carson 2019, reported 30.08% to 33.68% during 2012-2018.
- **Small Clients (Bottom 500 by Assets):** The market share of Big 4 for small clients **decreased** from 10.00% to 6.20%. Market share of medium non-Big 4 auditors **increased** and they audited more than half of the clients (53.00% to 59.60%).
 - Carson 2019, reported 9.90% to 18.80% during 2012-2018.

Big 4 are gaining more clients in the Top 500 and getting rid of clients from the medium and small groups

Market Share Based on Number of Listed Clients: Categorised by Industry

Mining Industry (GICS Code 1510):

- **Big 4 auditors:** Market share **decreased** from 22.57% to 17.91%. (Carson 2019, reported an average of 26.94% during 2012-2018).
- **Large non-Big 4 auditors:** Slight **decrease** in market share from 23.23% to 21.98%. (Carson 2019, reported an average of 26.31% during 2012-2018).
- **Medium non-Big 4 auditors:** The majority of the mining industry is audited by medium non-Big4 auditors, and the market share **increased** from 43.49% to 51.15%. (Carson 2019, reported an average of 40.27% during 2012-2018).
- **Small non-Big 4 auditors:** Audited less than 10% of the mining industry during the sample period (10.71% to 8.41%). (Carson 2019, reported an average of 6.47% during 2012-2018).

Both Big 4 and Large non-Big 4 losing their market share in the mining industry and Medium non-Big 4 gaining those clients

Market Share Based on Number of Listed Clients: Categorised by Industry

Other Industries:

- **Big 4 auditors:** Big 4 audited about 50% of non-mining companies and their market share **decreased** over time (51.10% to 48.39%). (Carson 2019, reported an average of 47.34% during 2012-2018).
- **Large non-Big 4 auditors:** Slight **increase** in market share from 17.11% to 18.14%. (Carson 2019, reported an average of 19.31% during 2012-2018).
- **Medium non-Big 4 auditors:** Market share **increased** over time from 26.02% in 2019 to 28.32% in 2022. (Carson 2019, reported an average of 26.86% during 2012-2018).
- **Small non-Big 4 auditors:** Market share **remains steady** between 5.77% in 2019 to 5.16% in 2022. (Carson 2019, reported an average of 6.64% during 2012-2018).

Big 4 losing their market share in the non-mining industry and both Large and Medium non-Big 4 gaining those clients

Trends in Audit Fees

Market Share Based on Total Audit Fees of Listed Companies

- Total audit fees increased from \$603.515 million in 2019 to \$717.599 million in 2022 (Carson reported \$488M in 2012 to \$546M in 2018).
- **Big 4 auditors:** Market share based on audit fees **increased** from \$519.950M to 596.105M, however, the percentage of total audit fees **decreased** from 86.15% in 2019 to 83.07% in 2022 (Carson reported \$425M in 2012 to \$473M in 2018).
- **Large non-Big 4 auditors:** Market share both in amount (\$32.927M to 49.957M) and the percentage **increased** (5.46% to 6.96%) (Carson reported from \$27M to \$28M).
- **Medium non-Big 4 auditors:** Market share both in amount (\$342.631M to 62.274M) and the percentage **increased** (7.06% to 8.68%) (Carson reported from \$29M to \$40M).
- **Small non-Big4 auditors:** Earned between \$7.206M to \$9.262M (1.13% to 1.33%) of audit fees (Carson reported from \$7M to \$5M).

The market share of Big 4 decreased and those clients are going to Large and Medium non-Big 4

Trends in Audit Fees

Market Share Based on Total Audit Fees of Listed Companies

- **Very Large Clients (Top 200 by Asset):** **Big 4** earning more than 99% of audit fees from top 200 companies (99.04% to 99.30%) (**Carson reported from 98% to 98.67%**).
- **Large Clients (201-500 by Asset):** The market share of **Big 4** decreased from 85.66% to 82.77%). Large (6.24% to 10.34% and Medium (6.05% to 7.59%) non-Big 4 auditors (**Carson reported from 84% to 80%**).
- **Medium Clients (Others) by Asset:** **Big 4** share of audit fees **decreased** from 46.58% to 39.82%, while the market share increased for the **Large non-Big 4** (23.32% to 26.54% and **Medium non-Big 4** (24.33% to 29.42%) auditors.
- **Small Clients (Bottom 500 by Asset):** The majority of this group is audited by **Medium non-Big 4 auditors** (49.98% to 52.52%) and their market share **increased** during the sample period. **Big 4** audited (9.83% to 13.65%) and **Large non-Big 4** audited (28.31% to 27.07%).

Big 4 are sharing most of the audit fees from the top 500 plus medium clients and small clients are audited by Medium and Large non-Big 4 auditors

Trends in Audit Fees

Mean and Median Audit Fees for Australian Listed Company

- **Big 4 auditors:** Average audit fee for the Big 4 is the **highest** and **increased** from \$608,841 to \$738,668 during our sample period (**an increase of 21.32%**).
- **Large non-Big 4 auditors:** Average audit fees for the Large non-Big 4 **increased** from \$86,422 to \$ during our sample period (**an increase of 39.29%**).
- **Medium non-Big 4 auditors:** Average audit fees for Medium non-Big 4 **increased** from \$67,775 to 80,666 during our sample period (**an increase of 19.02%**).
- **Small non-Big4 auditors:** Average audit fees for Small non-Big 4 **increased** from \$54,840 to \$67,270 during our sample period (**an increase of 22.67%**).

Large non-Big 4 have highest increase of audit fees as they may have gained some big clients!

Trends in Audit Fees

Mean and Median Audit Fees for Big 6 auditors

- The average audit fees for each of the Big 4 and Large non-Big 4 **increased** during our sample period.
- PwC charges the **highest** audit fee per client, and it **increased** during our sample period (\$843,939 to \$1,268,643), followed by EY (\$663,610 to 798,352); KPMG (\$570,337 to 619,809); and DTT (332,615 to 494,002).
- The average audit fee charged by Grant Thornton (\$89,368 to \$123,232) is **higher** than the BDO (\$84,749 to 118,927) and **increased** during our sample period for both auditors.

Market concentration

The Australian Competition and Consumer Commission's (ACCC 2008) Merger Guidelines provide guidance on the three-concentration metrics to consider in any future merger or consolidation in the audit industry. These are (i) **market share**, (ii) **concentration ratios**, and (iii) the **Herfindahl-Hirschman Index (HHI)**. The HHI is calculated using the following:

$$HHI = 1 + \frac{\sum_{i=1}^n (S)^2}{(\sum_{i=1}^n S)^2}$$

Where the sum of the squares of the audit activities (e.g., audit fees or the number of clients) of each firm in the market is divided by the squares of the sum of the audit activities of each firm.

A market with an HHI of less than 1,500 is considered a competitive marketplace, an HHI of 1,500 to 2,500 is moderately concentrated, and an HHI of 2,500 or greater is highly concentrated.

Concentration Ratios (CR-N) and Herfindahl-Hirschman Indices (HHI)

- **Big 4** audited around 40% of our sample companies and earned between 86.15% in 2019 to 83.07% in 2022 of audit fees.
- When we added BDO and Grant Thornton, **Big 6**, audited around 60% of companies and earned between 91.61% in 2019 to 90.03% in 2022.
- The **largest 26 auditors** audited around 93% of listed companies and earned between 98.67% to 98.87% of audit fees.
- **Market Concentration:** In terms of **audit fees**, ASX market is **moderately concentrated** (HHI decreased from 2072 in 2019 to 1928 in 2022)
- However, based on **clients**, the market is **less concentrated** and declining over time (HHI **decreased** from 763 in 2019 to 738 in 2022).

Concentration Ratios (CR-N) and Herfindahl-Hirschman Indices (HHI)

Audit fees Categorized by Client Size

- **Very Large Clients (Top 200 by Assets):** Audit market for the top 200 listed companies is **highly concentrated in terms of audit fees** (99.04% to 99.30% of audit fees and HHI between 2848 to 2976) with Big 4 auditors.
- **Large Clients (201–500 by Asset):** Big 4 earning more than 83% of audit fees (85.66% to 82.77%) **but market share is moderately concentrated and decreasing over time among Big4 auditors** (HHI 1914 in 2019 to 1774 in 2022).
- **Medium Clients (Others) Asset:** Audit fee market share decreased over time (46.58% to 40.83%) and **the market is not concentrated** as HHI are between 561 to 404.
- **Small Clients (Bottom 500 by Asset):** Market share is very low (9.83% to 13.65%) and **not concentrated** (HHI 46 to 30).

Concentration Ratios (CR-N) and Herfindahl-Hirschman Indices (HHI)

Number of Clients Categorized by Client Size

- **Very Large Clients (Top 200 by Asset): Audit market** for the top 200 listed companies **is highly concentrated in terms of audit clients** (94.50% to 96.50% of audit clients and HHI between 2422 to 2438) with Big 4 auditors.
- **Large Clients (201–500 by Asset):** Big 4 has more than 79% of audit clients (78.67% to 76.00%) but **market share is moderately concentrated and Big 4 market share is decreasing** (HHI 1569 in 2019 to 1463 in 2022).
- **Medium Clients (Others) Asset: Big 4 market share decreased** (37.33% to 31.36%) and is **not concentrated** as HHI are between 359 to 273.
- **Small Clients (Bottom 500 by Asset): Big 4 market share is very low** (10.00% to 6.20%) **and not concentrated** (HHI 30 to 13).

Take away: Market share

- Overall, the market share based on the **number of clients** of **Big 4 and small non-Big auditors decreased** during the period of the study. Alternatively, the same for the **Large and Medium non-Big 4 increased** in the same period.
- Among the Big 4 auditors, **EY has the highest** and **PwC has the lowest** market shares. However, **PwC charges the highest** and **DTT charges the lowest** audit fee per client.
- Big 4 auditors audit most of the **top 500 companies** and their market share also **increased** in this group of clients. Alternatively, their market share **decreased** among the **medium and smaller clients**.

Take away: Market concentration

- In terms of **audit fees**, ASX market is **moderately concentrated**, However, based on the number of **clients**, the market is **less concentrated** and declining over time.
- **Based on audit fees**, the audit market for the top 200 listed companies is **highly concentrated** with Big 4 auditors **but the market share is moderately concentrated and decreasing over time among Big 4 auditors for the next 300 companies**. Alternatively, the market **is not concentrated** with Big 4 auditors for the **medium and smaller clients**.
- **Based on the number of clients**, the audit market for the top 200 listed companies **is highly concentrated, and** for the next 300 companies, it is **moderately concentrated** with Big 4 auditors.

Take away: Overall

This report provides important input into any decision-making process to **limit or regulate the behavior of audit market participants** and a current understanding of the Australian listed company audit market in recent years.