

## STATUTORY AUDIT SERVICES MARKET INVESTIGATION

### Engagement level profitability analysis

#### Introduction

1. This paper reports our analysis of the data supplied by audit firms on their audit engagements (fees, hours of staff employed by grade, the cost per hour of each grade of staff's time).
  
2. It considers the average profitability of statutory audit engagements in respect of a number of characteristics to understand how any features of the market may indicate that competition and competitive pressures vary. The measures of profitability included here only include direct costs associated with the UK element of an engagement. The analysis does not intend to conclude on the relative profitability of the audit business of different firms. We consider the following characteristics:
  - (a) market segment of the client company (eg FTSE 100/250 or other);
  - (b) the firm undertaking the audit;
  - (c) the industry sector of the client company;
  - (d) the length of firm tenure and effect of switching on engagement profitability; and
  - (e) effect of reporting month on engagement profitability.
  
3. We review potential drivers of the average engagement profitability of different firms in [Appendix 1](#). We comment on the nature of the data and the data cleaning that was required in [Appendix 2](#).

## **Initial views**

4. The analyses include a measure of time recorded by partners on the engagement, with their cost included at twice the cost per hour as a director in the respective firm.<sup>1</sup> This was because we could not identify any consistent and reliable estimate of the 'salary' element (that is, the cost of a partner's labour) of partner remuneration. We believe that this may understate partner costs for some firms and thus overstate profitability.
5. The analysis should not be considered to be an assessment of the profitability of the individual audit practices of the different firms, rather it assesses the direct costs of performing the UK element of an audit relative to the fee received. Firms may be able to achieve a greater gross margin on audit engagements on average than other firms as the result of investment in IT, methodology or training and these costs are not considered.
6. The results of the analysis of the five characteristics above lead to the following observations.

## ***Profitability of engagements by market segment***

7. With regard to market segment:
  - (a) FTSE 100 audits are on average more profitable than FTSE 250 audits by between 2 and 6 percentage points.
  - (b) The profitability of engagements within the FTSE 100 and the FTSE 250 has remained broadly consistent over the period 2006 to 2011.

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<sup>1</sup> We considered the possibility of using the relative difference in scale rates between directors and partners to uplift the calculated cost of an hour of director time. However, as this would not control for different levels of capital or utilization on fee-paying work (as well as the structure of building in a profit margin for each grade of staff), this would be likely to cause greater issues.

- (c) The average engagement profitability of non-FTSE-350 audit engagements is on average greater than for FTSE 250 engagements but lower than for FTSE 100 audit engagements.

### ***Profitability of engagements by firm***

8. With regard to firms' profitability:
- (a) There is greater year-on-year variation and change over the period 2006 to 2011 in engagement profitability when analysing individual firms' performance compared with looking at the average profitability of engagements from all firms.
- (b) The firms do not demonstrate any consistent trends in performance (ie the firms do not individually or collectively show any consistent year-on-year increase or decrease in profitability over the period 2006 to 2011).
- (c) The individual firms have achieved a relatively wide range of average engagement profitability (the average engagement profitability achieved by the largest six firms for the period 2006 to 2011 ranges by 20 percentage points).<sup>2</sup>
- (d) The profitability of the firms does not appear to show any pattern in respect of size of firm (positive or negative). X is the least profitable firm on a gross margin basis, achieving margins approximately X percentage points lower than the next lowest firm.<sup>3</sup> X performance relative to the other firms is stronger when aggregate rather than average engagement profits are considered, suggesting that its smaller clients achieve lower margins.

### ***Profitability of engagements by industry***

9. The average profitability of FTSE 350 engagements when grouped by industry for the period 2006 to 2011 varied by some 12 percentage points (the average profitability of

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<sup>2</sup> Some caution should be observed as the cost per hour has been calculated by each firm and may be subject to differences in methodology. However, we do not believe that this difference should be significant.

<sup>3</sup> This is gross profit, and may not reflect the overall profitability of the assurance service line, as the overall profitability of the service line will depend on the utilization of staff on fee-earning engagements.

engagements for each of the ten industry groupings was between 53.0 and 64.6 per cent).

10. 'Industrials' industry engagements consistently achieved the lowest average audit margins, whilst 'Financials' industry audits achieved the highest average engagement profitability.<sup>4</sup> However, when margins were calculated on an aggregate basis, 'Oil and Gas' achieved the highest margins (whereas on an average basis they were low to medium), suggesting that oil and gas companies pay a greater audit fee (and are presumably larger companies) offer a greater margin than oil and gas companies with a relatively small audit fee.<sup>5</sup>

### ***Average profitability of engagements by tenure and the effect of switching auditors***

11. With regard to the effects of tenure and switching, the narrow time frame (we have at most six data points for each firm/company relationship) and the level of switching makes reaching definite conclusions difficult. The data indicates that:
  - (a) Profitability broadly increases over the first five years of an engagement and auditors with tenures of over five years achieve greater profitability.
  - (b) Profitability of engagements does not continue to rise with tenure indefinitely, but appears to level off after five years.
  - (c) There is a slight indication that profitability may be cyclical over a longer period, with mean engagement profitability falling in the seventh year of an engagement, possibly as a result of partner rotation, before increasing again and levelling off, with periodic blips in profitability.<sup>6</sup>

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<sup>4</sup> These industry classifications are per the Industry Classification Benchmark, developed by Dow Jones and FTSE. There are further sub-classifications, which the engagements have not been analysed by due to the potentially large number of categories and low number of corresponding data points.

<sup>5</sup> Average profitability is calculated by taking the average level of profit for each individual engagement, whilst aggregate profitability is calculated by summing revenues and costs of all engagements and then calculating a single profit figure.

<sup>6</sup> The number of data points begins to decrease for engagements which are in the 11<sup>th</sup> (or greater) year of the relationship and thus the data may be subject to the impact of 'noise'.

(d) There is no indication that firms consistently 'low-ball' to reduce engagement profitability to zero (ie only covering direct costs) or a loss in the first years of an engagement before increasing fees significantly in subsequent years.

12. However, these findings may be influenced by a number of factors (such as whether certain types of engagement tend to have a certain length of tenure and also a certain level of profitability).
13. From our case studies and various submissions by parties, we have some evidence that it is not uncommon for companies and their auditors to agree for audit fees to be fixed for the first three years. In taking on a new engagement, a firm must spend time (and thus incur costs) understanding the business of its new clients (herein referred to as familiarization costs). Part of these familiarization costs can be seen as a sunk cost (although this initial understanding will need to be reviewed and updated as necessary each year). As such, in modelling profitability, we would expect annual profitability to increase from the first year of an engagement in subsequent years of an engagement.<sup>7</sup>
14. In the case studies, audit engagement partners stated that the firms did not directly consider the effect of these familiarization costs on long-term profitability of the engagement. However, we would expect the cost of familiarization to be budgeted, even if it was not a factor in setting fees. If the familiarization costs were very large compared with the audit fee, firms would need to consider the ongoing profitability of the audit at the expected audit fee.
15. The longer the lifetime of the engagement, the lower the effect of initial familiarization costs on underlying (ie average) profitability. If a firm has a steady client base,

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<sup>7</sup> Familiarization may take place over the first few years, but we would expect the effect of this to reduce over the length of an auditor/company relationship.

familiarization costs would presumably remain steady as a proportion of firm income and form part of a firm's cost structure (in that there will be a certain proportion of staff time each year devoted to such activities as new firm staff joining the engagement team and engagement partners rotating).

16. For firms that attempt to increase the size of their client base (either by number of clients or by the size of the average client<sup>8</sup>), the relative proportion of engagement costs of all clients incurred as a result of familiarization will be greater than for a firm that has a stable client base, all things remaining equal. This may act as a potential barrier to entry or expansion if the profitability of the firm is affected in the short term, and the firm perceives a risk that the lifetime of the new engagements may be short. However, there is no indication from the data that new engagements are not profitable.
17. Audit fees may be fixed for a certain period, but this does not exclude changes in the fee relating to changes in the scope or scale of the audit that may result from changes in the size/complexity of the client. An audit firm could potentially tender with a relatively low price to win a tender, with the intention of increasing profitability over time by increasing fees to an extent greater than the relative cost of increasing the level of audit testing. However whilst we observe that profitability increases, over the first five years, we believe this to be a function of cost, rather than revenue.
18. The familiarization costs associated with each new client (of a given size) will require a smaller proportion of the resources available to a large firm compared with a smaller firm. For this reason, it is reasonable to assume that a large firm would be in a better position to be able to absorb such costs in the long run.

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<sup>8</sup> As may be the case for entrants to the FTSE 350 audit market.

19. Due to the relatively low level of auditor switching in the FTSE 350, robust conclusions on this are difficult.

### ***Effect of reporting month on profitability***

20. Parties provided information on their competitive strategies, and some firms stated that in certain circumstances they would price audits according to seasonal demand.<sup>9</sup> To establish if such strategies were prevalent, we looked at the profitability of engagements by the reporting month of the client. We identified some variation in the profitability of engagements dependent on the reporting month of clients, but there is no evidence to indicate widespread price discrimination based on the timing of work in the large company market.<sup>10</sup>
21. As our engagement database relates only to large companies, we do not know if such pricing strategies may be more prevalent for the audit of small companies, where audit testing may be undertaken over a shorter period, during or after the year end compared to the largest companies.
22. The remainder of this paper is structured on a number of assessments of engagement profitability as follows:
- (a) market segment (FTSE 100, FTSE 250 and other clients);
  - (b) firm (BDO LLP (BDO), Deloitte LLP (Deloitte), Ernst & Young LLP (EY), Grant Thornton UK LLP (GT), KPMG UK (KPMG) and PricewaterhouseCoopers LLP (PwC);
  - (c) industry (the ten top-level Industry Classification Benchmark categories);
  - (d) the length of tenure including:
    - (i) the number of years into the audit engagement; and

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<sup>9</sup> 'Strategies of individual firms', [appendix to 'Firms' stated competitive strategies'](#).

<sup>10</sup> If firms have excess capacity outside peak demand for larger firms, we might expect this to manifest itself on the pricing of smaller company audits.

- (ii) year of most recent switch in auditors;<sup>11</sup> and
- (e) the reporting month of the client.

### **Assessment of engagement profitability**

23. We used two methods of calculating engagement profitability for the purpose of this analysis:
- (a) The first is the average profitability of engagements. This is calculated by calculating the gross profit margin for each individual audit engagement and then finding the arithmetic mean of individual engagement profitabilities (ie we calculate mean of the gross profit margins for engagements in a particular firm/sector etc). This has the benefit that all engagements are weighted equally.
  - (b) The second method is an assessment of aggregate profitability, which compares the total revenues and total costs from all engagements (in a firm/sector/index etc) together and calculating the profit margin. This is less susceptible to the figure being skewed by small audits, and reflects the overall value of profit generated by the firms from engagements of that type, but not 'the average audit'. The financial performance of large audits (as measured by audit fee or costs) will have the greatest impact on the profitability measure and thus one large audit that generates a high or low margin might skew the measure compared with the margin achieved by most audits. However, it should be noted that this should not be used to reflect the overall profitability of a firm's audit business.

### ***Average profitability of engagements by market segment***

24. Table 1 displays the average profitability of audit engagements for all firms within the cleaned data set,<sup>12</sup> using cost data calculated on a number of bases but excluding

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<sup>11</sup> These two analyses differ, as the first considers the profitability by the n<sup>th</sup> year post-appointment, whilst the second groups clients into three bands based on when the auditor was appointed.

<sup>12</sup> See appendix 'Understanding the data'



partner time. In all instances, profitability of audit engagements in the FTSE 100 is greater than those for FTSE 250 companies. The profitability of other audit engagements is similar to the FTSE 250. However, because the firms auditing clients in each market segment differ, any differences in their underlying profitability will also impact on profitability of a segment in a given year, as will movements of companies between segments.

25. The average engagement profitability of all engagements remained broadly steady for the entire period. FTSE 100 average profitability (using the total hours basis) ranged from 68.7 to 72.3 per cent (3.6 percentage points), FTSE 250 average profitability ranged from 66.3 to 67.3 per cent (1.0 percentage points), with average non-FTSE-350 engagement profitability ranging from 66.3 to 68.5 per cent (2.2 percentage points). This steady level of profitability is noteworthy, but masks a much greater level of variation in the average engagement profitability for each firm and the profitability of individual engagements overtime.

TABLE 1 **Average engagement profitability (excludes partner hours)**

							<i>per cent</i>
	2006	2007	2008	2009	2010	2011	<i>Period average</i>
<i>Total hours</i>							
FTSE 100	69.8	69.1	69.7	71.2	72.3	68.7	70.2
FTSE 250	66.3	66.9	67.0	67.3	67.0	66.8	66.9
Other	67.0	67.3	66.7	66.3	68.5	68.2	67.3
Combined	67.2	67.4	67.3	67.6	68.5	67.7	67.6
<i>Standard hours</i>							
FTSE 100	55.7	53.6	54.3	56.8	58.4	52.8	55.3
FTSE 250	50.1	50.0	49.7	49.9	49.9	49.5	49.8
Other	52.2	51.2	50.1	49.5	52.5	51.4	51.1
Combined	51.9	51.1	50.7	51.0	52.4	50.8	51.3
<i>Chargeable hours</i>							
FTSE 100	68.1	67.4	68.0	69.2	70.0	66.2	68.2
FTSE 250	64.6	65.3	65.3	65.3	64.4	64.4	64.9
Other	65.6	65.8	65.0	64.3	66.0	65.9	65.4
Combined	65.6	65.8	65.6	65.6	66.1	65.3	65.7

Source: CC analysis.

26. Table 2 shows the average profitability of audit engagements for all firms within the data set, but differs from Table 1 in that partner time is included as a cost, at either the same or at twice the rate per hour as directors. Whilst this cannot accurately

reflect the salary element of a partner's remuneration, it attempts to capture the resource requirement of audits more fully.<sup>13</sup> Regardless of the impact of including some measure of partner costs, a similar pattern is observable.

27. For the remainder of this paper all profitability measures are net of partner costs, charged at twice director cost rates on the basis of total hours.<sup>14</sup>

TABLE 2 **Average engagement profitability (including partner hours)**

	2006	2007	2008	2009	2010	2011	<i>per cent</i> <i>Period average</i>
<i>Total hours 1 x partners</i>							
FTSE 100	65.4	64.5	65.6	67.1	67.8	64.3	65.8
FTSE 250	61.7	62.6	63.0	63.0	62.5	62.2	62.5
Other	63.2	63.4	63.0	62.8	64.8	64.7	63.7
Combined	65.4	64.5	65.6	67.1	67.8	64.3	65.8
<i>Total hours partners 2 x directors</i>							
FTSE 100	61.1	59.9	61.4	63.0	63.4	59.9	61.5
FTSE 250	57.1	58.2	59.0	58.8	57.9	57.5	58.1
Other	59.3	59.6	59.3	59.3	61.1	61.2	60.0
Combined	61.1	59.9	61.4	63.0	63.4	59.9	61.5
<i>Standard hours 1 x directors</i>							
FTSE 100	65.0	64.1	65.1	66.6	67.3	63.8	65.3
FTSE 250	61.2	62.2	62.6	62.6	62.0	61.7	62.0
Other	62.8	63.1	62.7	62.4	64.4	64.4	63.3
Combined	65.0	64.1	65.1	66.6	67.3	63.8	65.3
<i>Chargeable hours 1 x directors</i>							
FTSE 100	60.6	59.3	60.4	62.2	62.4	59.0	60.7
FTSE 250	56.6	57.6	58.0	57.8	57.0	56.5	57.2
Other	58.8	58.9	58.5	58.6	60.3	60.4	59.2
Combined	60.6	59.3	60.4	62.2	62.4	59.0	60.7

Source: CC analysis.

### **Aggregate profitability of engagements by market segment**

28. Table 3 is based on the same revenue and cost data as Table 2 ('total hours' with partners at twice the cost of directors) but calculated on an aggregate basis. The aggregate profit margins achieved for each segment are similar but greater than the equivalent figures in Table 2. The periods differ by two to three percentage points

<sup>13</sup> We have not identified a suitable benchmark for partner salary, and are similarly unable to quantify the difference in salary caused by differing levels of responsibility. As not all firms have non-equity partners, we cannot use this as a benchmark for the firms as a whole.

<sup>14</sup> We have chosen to use total hours, as this reflects the cost of employing a member of staff for one hour, regardless of the relative proportion of hours devoted to fee paying engagements, corporate projects or other activities such as training.

compared with the average engagement profitability for each segment. The relative profitability of FTSE 100 engagements compared with FTSE 250 engagements compared with other engagements is similar to that exhibited in Table 2.

TABLE 3 **Aggregate engagement profitability (total hours—includes partners at twice directors cost)**

	<i>per cent</i>						
	2006	2007	2008	2009	2010	2011	Average
FTSE 100	62.9	63.6	64.1	65.0	67.4	65.8	64.8
FTSE 250	59.9	60.6	61.0	60.9	59.2	58.9	60.1
Other	60.6	61.3	62.0	60.7	64.1	62.0	61.8
Combined	61.8	62.5	62.9	63.2	65.0	63.5	63.2

Source: CC analysis.

### **Average profitability of engagements by firm**

29. Table 4 shows that despite the overall consistent levels of profitability achieved above, there is significant variation achieved by individual firms and by each firm each year. Due to the small number of clients held by other firms, this analysis focuses on the six largest firms (and thus the combined averages will differ from those above).
  
30. ✂ achieved the greatest average level of engagement profitability. ✂ achieved the highest average margins of ✂. ✂ showed a very high level of variability over the period with a range of around ✂ percentage points, though much of this is due to a significant increase in average engagement profitability from ✂, which lasted until ✂.
  
31. Due to the relatively low number of clients that BDO and GT have in the data set, it is unclear if their relative performance is due to the firms' operational model or the nature of the specific clients.

32. ✂ was notable for its lower average engagement profitability figures of between ✂ and ✂ per cent and has a lower average profitability for the period at ✂ per cent than the other firms.<sup>15</sup>

33. In respect of trends over time, there is little within the data to indicate an overall improvement or worsening of profitability for the firms. Figure 1 shows this data graphically. ✂ and ✂ show a slight improvement over the period; ✂ shows a very flat level of profitability; and ✂ shows an overall decline in profitability. However, all of these trends show year-on-year fluctuation and are not fully conclusive of any ongoing improvement or worsening in financial performance.

TABLE 4 Average engagement profitability by firm (all clients, total hours, including partner)

	2006	2007	2008	2009	2010	2011	Period average	per cent Range
BDO	✂	✂	✂	✂	✂	✂	✂	✂
Deloitte	✂	✂	✂	✂	✂	✂	✂	✂
EY	✂	✂	✂	✂	✂	✂	✂	✂
GT	✂	✂	✂	✂	✂	✂	✂	✂
KPMG	✂	✂	✂	✂	✂	✂	✂	✂
PwC	✂	✂	✂	✂	✂	✂	✂	✂
Combined	✂	✂	✂	✂	✂	✂	✂	✂

Source: CC analysis.

FIGURE 1

**Average engagement profitability of the six largest firms over time (truncated vertical axis)**



Source: CC analysis.

34. Table 5 examines the same six firms by market segment. Because BDO and GT have only a small number of clients (that relate to between one and seven data points each per year for the FTSE 250), we treat their average figures with care.

<sup>15</sup> See [Appendix 1](#) for consideration of some factors affecting relative financial performance of the firms

35. Each firm's engagements for each market segment show similar relative performance as shown in Table 4. ✂ achieved a greater margin than the other Big 4 firms with ✂ showing a much lower margin than the other Big 4 firms.

TABLE 5 Average engagement profitability by firm and segment (six firms, total hours, including partner)

	<i>per cent</i>								
	2006	2007	2008	2009	2010	2011	Period average	Range	
<i>FTSE 100</i>									
BDO	✂	✂	✂	✂	✂	✂	✂	✂	
Deloitte	✂	✂	✂	✂	✂	✂	✂	✂	
EY	✂	✂	✂	✂	✂	✂	✂	✂	
KPMG	✂	✂	✂	✂	✂	✂	✂	✂	
PWC	✂	✂	✂	✂	✂	✂	✂	✂	
Combined	61.1	59.9	61.4	63.0	63.4	59.9	61.5	3.5	
<i>FTSE 250</i>									
BDO	✂	✂	✂	✂	✂	✂	✂	✂	
Deloitte	✂	✂	✂	✂	✂	✂	✂	✂	
EY	✂	✂	✂	✂	✂	✂	✂	✂	
GT	✂	✂	✂	✂	✂	✂	✂	✂	
KPMG	✂	✂	✂	✂	✂	✂	✂	✂	
PWC	✂	✂	✂	✂	✂	✂	✂	✂	
Combined	57.0	58.2	58.9	58.7	57.9	57.5	58.0	1.9	
<i>Other</i>									
BDO	✂	✂	✂	✂	✂	✂	✂	✂	
Deloitte	✂	✂	✂	✂	✂	✂	✂	✂	
EY	✂	✂	✂	✂	✂	✂	✂	✂	
GT	✂	✂	✂	✂	✂	✂	✂	✂	
KPMG	✂	✂	✂	✂	✂	✂	✂	✂	
PWC	✂	✂	✂	✂	✂	✂	✂	✂	
Combined	58.6	59.0	58.7	58.7	60.6	60.9	59.4	2.3	

Source: CC analysis.

### Aggregate profitability of engagements by firm

36. Table 6 repeats the analysis in Table 4 on an aggregate basis which shows a similar pattern of performance to those figures above.

TABLE 6 Aggregate engagement profitability by firm (all clients, total hours, including partner time)

	<i>per cent</i>								
	2006	2007	2008	2009	2010	2011	Period average	Range	
BDO	✂	✂	✂	✂	✂	✂	✂	✂	
Deloitte	✂	✂	✂	✂	✂	✂	✂	✂	
EY	✂	✂	✂	✂	✂	✂	✂	✂	
GT	✂	✂	✂	✂	✂	✂	✂	✂	
KPMG	✂	✂	✂	✂	✂	✂	✂	✂	
PWC	✂	✂	✂	✂	✂	✂	✂	✂	
Total	61.7	62.4	62.9	63.2	64.9	63.5	63.1	3.2	

Source: CC analysis.

37. Table 7 is based on the same categorization of data as Table 5 and shows similar patterns.

TABLE 7 **Aggregate engagement profitability by firm by segment (total hours, including partner time)**

	<i>per cent</i>							
	2006	2007	2008	2009	2010	2011	Grand total	Range
<i>FTSE 100</i>								
BDO	✂	✂	✂	✂	✂	✂	✂	✂
DEL	✂	✂	✂	✂	✂	✂	✂	✂
EY	✂	✂	✂	✂	✂	✂	✂	✂
KPMG	✂	✂	✂	✂	✂	✂	✂	✂
PWC	✂	✂	✂	✂	✂	✂	✂	✂
Combined	62.9	63.6	64.1	65.0	67.4	65.8	64.8	4.4
<i>FTSE 250</i>								
BDO	✂	✂	✂	✂	✂	✂	✂	✂
DEL	✂	✂	✂	✂	✂	✂	✂	✂
EY	✂	✂	✂	✂	✂	✂	✂	✂
GT	✂	✂	✂	✂	✂	✂	✂	✂
KPMG	✂	✂	✂	✂	✂	✂	✂	✂
PWC	✂	✂	✂	✂	✂	✂	✂	✂
Combined	59.9	60.6	60.9	60.9	59.2	58.9	60.1	2.1
<i>Other</i>								
BDO	✂	✂	✂	✂	✂	✂	✂	✂
DEL	✂	✂	✂	✂	✂	✂	✂	✂
EY	✂	✂	✂	✂	✂	✂	✂	✂
GT	✂	✂	✂	✂	✂	✂	✂	✂
KPMG	✂	✂	✂	✂	✂	✂	✂	✂
PWC	✂	✂	✂	✂	✂	✂	✂	✂
Combined	60.4	61.1	61.8	60.4	63.9	61.9	61.6	3.5

Source: CC analysis.

### **Average profitability of engagements by industry**

38. Table 8 examines the average profitability of engagements of companies in different industries for all firms and all clients, with Table 9 showing the same data but for only the six largest firms and only for their FTSE 350 clients. Analysis by firm by industry has not been performed due to the increasingly small number of data points.

39. The tables indicate a degree of variation in individual industries with the period average for all firms ranging from 54.5 to 64.1 per cent (9.6 percentage points), and for the six largest firms and FTSE 350 companies ranging from 52.8 to 64.6 per cent

(11.8 percentage points), though this greater range for the FTSE 350 may be due to a reduction in the number of data points. In both analyses, the industry with the lowest margin was industrials, and the industry with the highest margin was financials. The causes of these differences are not evident.

TABLE 8 **Average engagement profitability by industry (all clients in database, all firms, all segments, total hours, including partner)**

	<i>per cent</i>						
	2006	2007	2008	2009	2010	2011	<i>Period average</i>
Oil and gas	60.4	61.2	59.9	62.8	61.5	60.0	61.0
Basic materials	58.2	59.0	60.3	60.2	63.1	58.7	59.9
Industrials	54.7	53.8	55.6	53.6	54.9	54.4	54.5
Consumer goods	55.8	57.0	58.7	58.2	58.6	57.0	57.5
Health care	53.1	55.1	55.8	52.6	61.6	58.3	56.0
Consumer services	58.4	58.9	60.3	60.7	60.5	61.0	60.0
Telecommunications	62.2	51.6	59.6	63.6	64.8	62.1	60.7
Utilities	58.8	61.9	62.1	56.6	58.1	58.6	59.4
Financials	64.0	64.6	63.0	65.4	64.7	62.9	64.1
Technology	59.7	60.7	57.6	57.9	56.1	59.9	58.7

Source: CC analysis.

TABLE 9 **Average engagement profitability by industry (FTSE 350, six firms, total hours, including partner)**

	<i>per cent</i>						
	2006	2007	2008	2009	2010	2011	<i>Period average</i>
Oil and gas	62.1	60.5	58.3	63.0	58.8	54.2	59.5
Basic materials	59.0	63.0	65.1	63.4	62.6	58.9	61.9
Industrials	53.6	52.7	54.5	51.9	51.9	52.2	52.8
Consumer goods	55.6	54.7	57.6	54.1	57.6	52.4	55.3
Health care	52.6	59.6	57.8	50.8	61.1	60.5	56.9
Consumer services	56.1	56.1	59.2	60.7	57.9	60.0	58.3
Telecommunications	62.4	49.0	58.0	61.7	62.9	60.2	59.1
Utilities	55.7	60.1	61.6	59.7	62.5	59.7	59.7
Financials	63.9	65.3	63.6	66.3	66.2	62.3	64.6
Technology	60.7	60.8	58.3	61.4	54.3	59.4	59.0

Source: CC analysis.

### **Aggregate profitability of engagements by industry**

40. When considering profitability by industry on an aggregate basis, we note that oil and gas clients are more profitable than any other industry (Table 10) but, when considered on an average engagement basis as above, show low or average financial performance. This suggests that higher margins are achieved from larger oil and gas clients (using audit fee as a proxy for size). Similarly healthcare, which is on an average profitability basis a relatively poor performing sector, is, when considered on

an aggregate basis, is relatively profitable. In all industries, aggregate margins were greater than average margins.

TABLE 10 **Aggregate engagement profitability by industry**

	<i>per cent</i>						
	2006	2007	2008	2009	2010	2011	Period
Oil and gas	72.8	69.6	68.1	65.9	69.9	66.5	68.9
Basic materials	60.1	62.1	65.4	64.0	65.4	62.3	63.2
Industrials	57.6	57.4	58.7	56.8	57.5	56.9	57.5
Consumer goods	58.0	57.5	61.1	60.9	63.7	61.3	60.5
Health care	60.9	62.6	62.7	54.7	67.2	66.5	62.2
Consumer services	61.1	60.7	61.0	63.0	63.2	62.6	61.9
Telecommunications	55.1	53.3	60.5	64.9	65.8	63.5	60.6
Utilities	61.5	60.9	62.7	59.9	60.9	60.6	61.1
Financials	63.0	66.2	65.4	67.4	68.5	66.9	66.4
Technology	64.0	65.2	61.3	60.6	62.2	62.9	62.8

Source: CC analysis.

TABLE 11 **Aggregate engagement profitability by industry (FTSE 350, six firms, total hours, including partner)**

	<i>per cent</i>						
	2006	2007	2008	2009	2010	2011	Total
Oil and gas	73.4	70.1	68.6	66.1	70.0	66.2	69.2
Basic materials	60.8	61.8	67.1	64.5	65.7	62.0	63.6
Industrials	57.4	56.9	57.9	56.5	57.0	57.0	57.1
Consumer goods	58.2	56.4	59.9	59.8	63.8	61.1	59.8
Health care	61.6	63.7	64.1	55.0	67.4	68.0	62.9
Consumer services	60.8	60.6	61.0	64.3	62.6	62.7	62.0
Telecommunications	57.8	52.7	61.1	64.5	65.6	63.4	61.1
Utilities	60.1	60.1	63.0	60.9	61.9	61.7	61.2
Financials	62.7	66.1	65.4	68.0	68.4	66.8	66.4
Technology	64.0	67.6	62.3	62.5	62.5	63.6	63.9

Source: CC analysis.

### **Average profitability of engagements by year of engagement**

41. Table 12 (paragraph 47) shows the average profitability of audit engagements by each year of an engagement. Year zero relates to the first year of an engagement. Because of the low level of switching, and the limited time frame of the data set (2006 to 2011), there are relatively few data points.<sup>16</sup>
42. The large drop in engagement profitability in engagements one year after appointment in FTSE 100 engagements is due to a single loss-making engagement.

<sup>16</sup> Because of issues caused by companies and their auditors having different year ends, there may be some audit clients where the year of engagement (that is, the n<sup>th</sup> year that the same auditor has performed the audit) may be mis-stated by +/- one year, and may be further complicated where a company has changed its financial year during the period examined. However, we would expect a long-term trend to emerge.



Excluding this engagement increases average FTSE 100 engagement profitability by five percentage points and FTSE 350 by one percentage point (with minimal impact on other years).

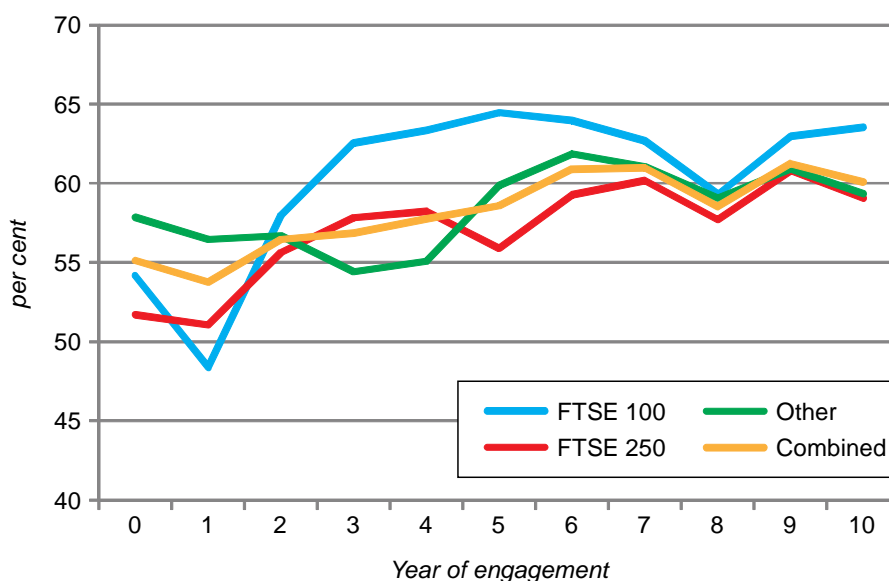
43. Comparing average engagement profitability at years 0, 3, 5 and 10 indicates a general upward trend, which is shown graphically in Figure 2. In FTSE 100 and FTSE 250 engagements there is evidence to indicate that profitability does increase over time. Engagement profitability in the second year of engagement (year 1 in the table and chart) appears to fall compared with the first year of the engagement, which is against expectation, but this may be an issue in the data over whether the first year of an engagement has been coded as year 0 or year 1.
44. It should be noted that although 11 years of engagement profitability is shown in Table 12 and Figure 2, these figures relate to different engagements over the period 2006 to 2011. There may be additional factors such as the overall state of the economy that affect the relative profitability in different years, though this impact is likely to be distributed across the 11 years (years 0 to 10).<sup>17</sup>
45. There are no clear consistent trends in respect of tenure when comparing different market segments, other than a general upward trend and a noticeable dip in profitability in year 8 of engagements, which may correspond to partner rotation. However, there is sporadic fluctuation in the data, making conclusions difficult to draw. Figure 3 (paragraph 47) extends this trend, which indicates that profits appear to remain constant in the long term, though this is not conclusive.

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<sup>17</sup> For example, in any of the years 2006 to 2011, there will be a number of engagements in a given year of the relationship.

FIGURE 2

**Average engagement profitability over length of engagement  
(total hours, includes partners, truncated scale)**



Source: CC analysis.

46. However, because this assessment of profitability is based on how many years' experience an auditor has with a client, it does not adequately consider the impact of underlying average profitability in a given year. Furthermore, our engagement database only includes data for a maximum of six years for a given auditor/company relationship (assuming no switching), so the data presented in Figure 2 and Table 12 for each year of an audit engagement is based a number of different clients and different years (for instance, data relating to the tenth year of an engagement will relate to company–auditor relationships that began between 1996 and 2001, whereas those in year 0 will relate to company–audit relationships formed between 2006 and 2011).

47. Examining the year-on-year trends in average engagement revenue and direct engagement costs does not indicate any consistent trend and thus the changing level of profitability appears to be a combination of both revenue and cost effects.

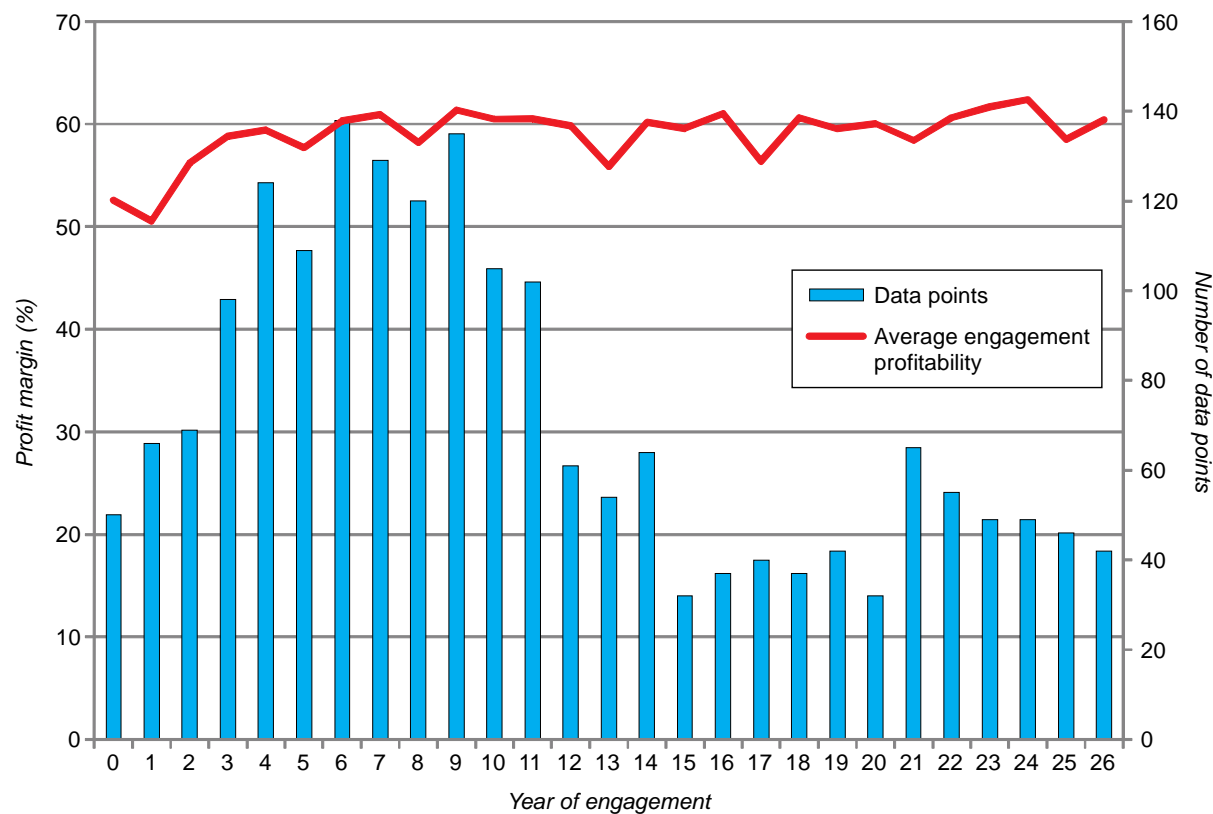
TABLE 12 Engagement profitability by year of engagement (total hours, includes partners)

	0	1	2	3	4	5	6	7	8	9	10	per cent Period
<i>Average engagement profitability</i>												
FTSE 100	54.2	48.4	58.0	62.6	63.3	64.5	63.9	62.7	59.3	63.0	63.6	61.3
FTSE 250	51.7	51.1	55.6	57.8	58.2	55.9	59.3	60.2	57.7	60.8	59.0	57.8
FTSE 350	52.6	50.5	56.2	58.8	59.4	57.7	60.3	60.9	58.2	61.4	60.5	58.7
Other	57.8	56.5	56.7	54.4	55.1	59.8	61.9	61.1	59.1	60.9	59.3	58.4
Combined	55.1	53.8	56.5	56.8	57.8	58.6	60.9	61.0	58.5	61.2	60.1	58.6
<i>Number of data points</i>												
FTSE 100	18	13	17	21	29	23	31	38	36	37	34	297
FTSE 250	32	53	52	77	95	86	107	91	84	98	71	846
FTSE 350	50	66	69	98	124	109	138	129	120	135	105	1,143
Other	47	78	76	80	77	77	83	84	73	60	62	797
Combined	97	144	145	178	201	186	221	213	193	195	167	1940

Source: CC analysis.

FIGURE 3

Long-term FTSE engagement profitability



Source: CC analysis.

48. Table 13 sub-analyses the data in Table 12 by identifying profitability by both the year of the engagement and the first year of the engagement, with Table 14 showing

the same for FTSE 350 clients [each 'cohort'<sup>18</sup> can be followed left to right on each line]. This analysis has the benefit of allowing comparisons to be made over time between different 'cohorts' of clients. However, as each figure is based on a smaller number of data points, there is a greater volatility and no clear trend is evident.

TABLE 13 Engagement profitability by year of appointment (all companies, total hours, including partner time)

	Year of relationship							Average
	0	1	2	3	4	5	6	
<i>Engagement profitability (%)</i>								
2000							✂	✂
2001						✂	✂	✂
2002				✂	✂	✂	✂	✂
2003				✂	✂	✂	✂	✂
2004			✂	✂	✂	✂	✂	✂
2005		✂	✂	✂	✂	✂	✂	✂
2006	✂	✂	✂	✂	✂	✂		✂
2007	✂	✂	✂	✂	✂			✂
2008	✂	✂	✂	✂				✂
2009	✂	✂	✂					✂
2010	✂	✂						✂
2011	✂							✂
Average	✂	✂	✂	✂	✂	✂	✂	✂
<i>Data points</i>								<i>Total</i>
2000							77	77
2001						24	25	49
2002					40	38	35	113
2003				47	47	46	44	184
2004			25	23	24	23	21	116
2005		19	19	20	22	21	19	120
2006	15	39	35	37	34	34		194
2007	22	32	33	34	34			155
2008	17	17	17	17				68
2009	10	15	16					41
2010	23	22						45
2011	10							10
Total	97	144	145	178	201	186	221	1,172

Source: CC analysis.

<sup>18</sup> That is, those companies which all switched in a given year.

TABLE 14 Engagement profitability by year of appointment (FTSE 350, total hours, including partner time)

Year of appointment	Year of relationship							Average
	0	1	2	3	4	5	6	
<i>Engagement profitability (%)</i>								
2000							✂	✂
2001						✂	✂	✂
2002					✂	✂	✂	✂
2003				✂	✂	✂	✂	✂
2004			✂	✂	✂	✂	✂	✂
2005		✂	✂	✂	✂	✂	✂	✂
2006	✂	✂	✂	✂	✂	✂		✂
2007	✂	✂	✂	✂	✂			✂
2008	✂	✂	✂	✂				✂
2009	✂	✂	✂					✂
2010	✂	✂						✂
2011	✂							✂
Average	✂	✂	✂	✂	✂	✂	✂	✂
<i>Data points</i>								
2000							52	52
2001							12	22
2002					28	10	26	80
2003				25	29	26	26	80
2004			11	12	12	28	23	105
2005		10	11	14	15	14	12	61
2006	9	13	14	20	17	13	13	76
2007	9	17	19	21	23	18		91
2008	4	5	7	6				89
2009	2	5	7					22
2010	20	16						14
2011	6							36
Total	50	66	69	98	124	109	138	654

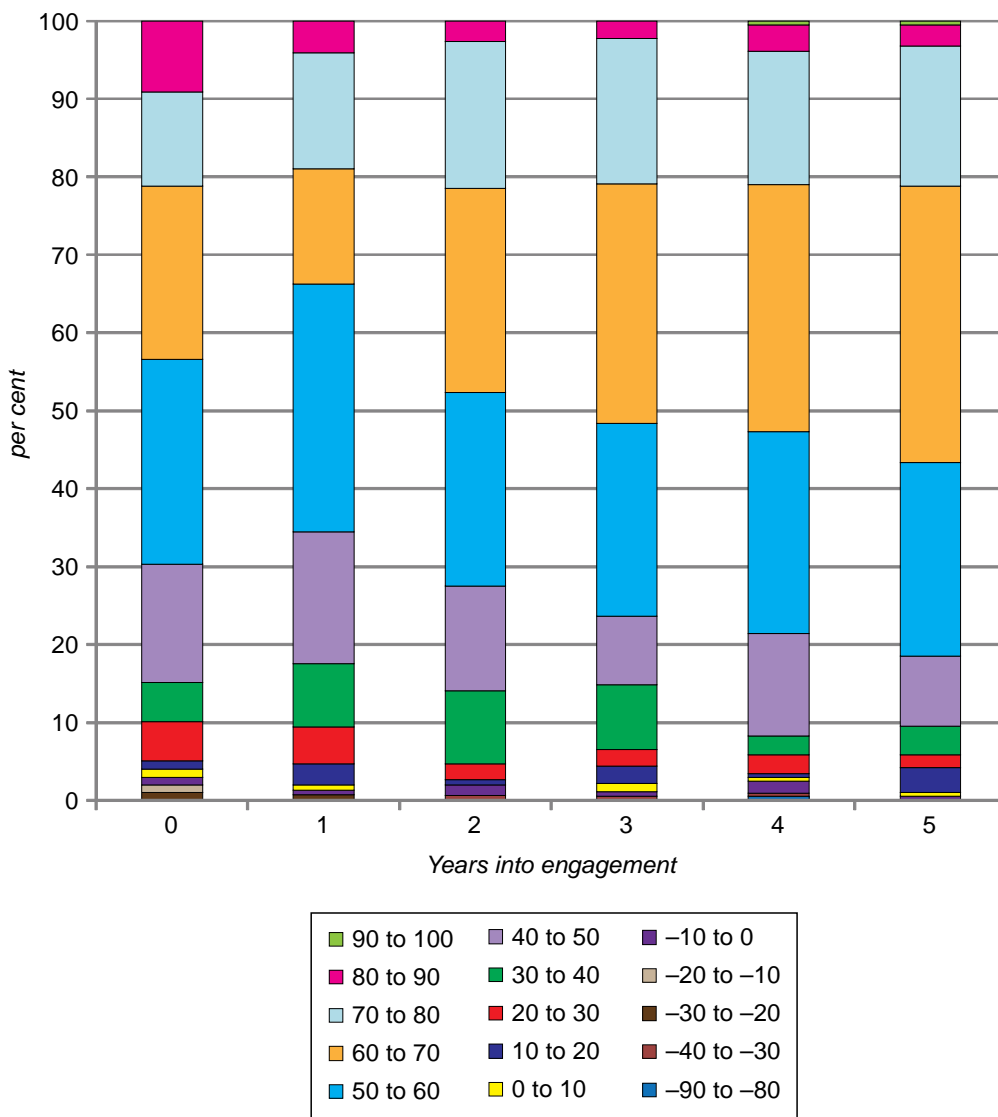
Source: CC analysis.

49. Figure 4 shows the proportion of engagements for each ‘year of engagement’ that achieved different levels of profitability. The chart shows that the distribution of engagement profitability changes with the length of the relationship.
50. The principal change in the distribution is the proportion of audits achieving profit margins of 20 to 60 per cent and 60 per cent and above. In year 0, 45.1 per cent of engagements achieved average engagement profitability of 30 to 60 per cent, and this proportion increased by 16.4 percentage points in year 1 to 61.5 per cent of engagements before falling by 22.3 percentage points to 39.2 per cent. The proportion of engagements achieving 60 to 100 per cent margins was 51 per cent in year 0, decreasing to 33.8 per cent before increasing to 56.6 per cent by year 5.

51. The proportion of audits achieving margins of less than 30 per cent (including losses) remained between 4.7 and 9.5 per cent for each of years 0 to 5 of an engagement relationship with no clear trend, year-on-year.

FIGURE 4

**Distribution of engagements by level of profitability in different years of engagement (all clients)**

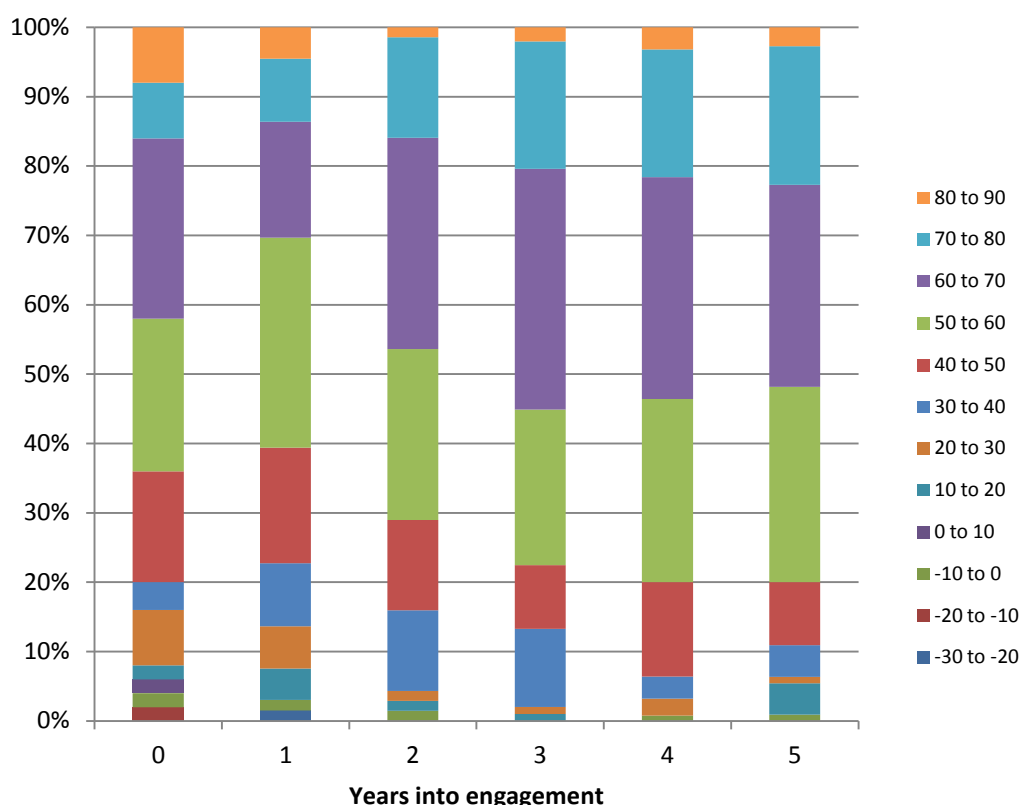


Source: CC analysis.

52. Figure 5 shows a similar trend in profitability FTSE 350 clients, with the majority of engagement profit margins for these clients from year 1 shifting from under 60 per cent to over 60 per cent.<sup>19</sup>

FIGURE 5

**Distribution of engagements by level of profitability in different years of engagement (FTSE 350)**



Source: CC analysis.

*Effect of date of last switch in auditors on engagement profitability*

53. To establish further whether there was an underlying financial benefit to firms in having long-term audit relationships, we subdivided the population into whether or not a client had switched auditor since 2001. We found that average audit profitability for companies which had switched post-2001 was 56.9 per cent over the period 2006

<sup>19</sup> FTSE 350 engagement data accounts for just over half of the data points for all clients and is potentially more susceptible to variation due each data point being a larger proportion of the sub-population.

to 2011. In contrast, the average engagement profitability for other engagements (ie switched in 2000 or earlier) was 60.4 per cent for the same period. We then examined those engagements where the switch had occurred in 2000 or earlier in greater detail, and subdivided the population into two groups, those companies which switched in 1994 or earlier and those which switched between 1995 and 2000 inclusive.<sup>20</sup>

54. Engagements where the relationship had been founded in 1994 or earlier had over the period a slightly lower (2.4 percentage points) profit margin than those with switches between 1995 and 2000. In five out of the six years, the average engagement profitability for relationships founded before 1994 was greater than those switching in 2001 or later.

TABLE 15 Average engagement profitability by date of last switch (FTSE 350)

	2006	2007	2008	2009	2010	2011	Period average
<i>Companies switching in 2001 or later</i>							
Average engagement profitability (%)	56.3	56.3	57.2	58.2	57.4	55.7	56.9
Number of data points	96	113	122	142	147	155	775
<i>Switches occurring in 1995–2000</i>							
Average engagement profitability (%)	61.8	62.2	62.0	61.9	61.4	60.6	61.6
Number of data points	114	109	107	105	101	101	637
<i>Switches occurring in 1994 or earlier</i>							
Average engagement profitability (%)	56.8	57.9	60.3	60.4	60.7	59.5	59.2
Number of data points	129	126	120	117	112	106	710
<i>Companies switching in 2000 or earlier</i>							
Average engagement profitability (%)	59.1	59.9	61.1	61.1	61.0	60.1	60.4
Number of data points	243	235	227	222	213	207	1,347
FTSE 350 average engagement profitability (%)	58.3	58.7	59.7	60.0	59.5	58.2	59.1
Total number of data points	339	348	349	364	360	362	2,122

Source: CC analysis.

55. The analysis was repeated, with the subdivision being based on the length of the audit relationship each year (2006 to 2011). Whilst the analysis in Table 15 grouped data by the year of first engagement and thus kept the same engagements in each category, the data in Table 16 groups data by the length of relationship each year.

<sup>20</sup> The dates were chosen to create three broadly similar sized groups.



This analysis has the benefit of considering whether the overall length of experience affects profitability, whilst by also subdividing data into a small number of categories maintaining sufficient data points to make pertinent observations.

56. The relative profitability of engagements in years 0 to 5 is lower than for all other engagements. However, the relative profitability of the other three categories is broadly similar, but fluctuates over the period 2006 to 2011, due to a decline in average profitability in category 6–10 years over the period, compared with overall improvements in the categories 11–20 and over 20 years.
57. Part of this change in margins is likely to be the differing nature of the clients, and thus as we move through the period 2006 to 2011, the data points for certain engagements will transfer between the categories. If a client is particularly profitable (or not), and is in year 5 of the relationship, its results will transfer to category 6–10 years for the remainder of the period. For this reason, the results of Table 16 need to be considered with those in Table 15.

TABLE 16 Average FTSE 350 engagement profitability by year of audit relationship

	2006	2007	2008	2009	2010	2011	<i>Period average</i>
<i>0-5</i>							
Average engagement profitability (%)	56.3	55.7	57.4	58.2	59.7	53.5	56.8
Number of data points	96	101	87	81	78	75	518
<i>6-10</i>							
Average engagement profitability (%)	61.9	62.4	61.0	60.8	57.8	57.8	60.4
Number of data points	107	112	100	120	113	80	632
<i>11-20</i>							
Average engagement profitability (%)	56.8	56.6	59.4	60.4	61.4	60.4	59.5
Number of data points	62	61	83	87	89	122	504
<i>Over 20</i>							
Average engagement profitability (%)	57.1	59.0	60.9	60.1	59.8	59.6	59.4
Number of data points	74	74	79	76	80	85	468
FTSE 350 average engagement							
profitability (%)	58.3	58.7	59.7	60.0	59.5	58.2	59.1
Total number of data points	339	348	349	364	360	362	2,122

Source: CC analysis.

### ***Average profitability of engagements by reporting month***

58. In the 'Firms' stated competitive strategies' working paper, we noted that some parties believed that the largest audit firms tendered for certain audits at very low prices to utilize staff in off-peak periods. Seasonal pricing of a good or service is an interaction of supply and demand. The 'seasonal' demand for audit is a product of two factors: the first is the distribution of company financial years across a calendar year, and the second is the statutory requirement to submit filed accounts.
59. For private companies, there is a deadline of nine months, and for FTSE 350 companies, preliminary results must be published within four months and audited results within six months. As such, there is greater flexibility in scheduling audit work with a private company of a given size and complexity.
60. Table 17 shows an analysis of our engagement database and the last month of the reporting year (eg a company with a March financial year end would be included as '3'). The table does not show the distribution of all the firms' clients (it includes only large companies (companies which were in the FTSE 350 during the period and large private companies) included in the engagement database), but we believe these to be the clients which consume a significant level of the firms' resources. Approximately half of clients have a December year end, whilst approximately a further fifth have a March year end. The combined concentration of company year ends in March and December is greatest in the FTSE 100 (79.9 per cent of FTSE 100 audit engagements, 68.5 per cent of FTSE 250 and 67.3 per cent of other companies).

TABLE 17 Distribution of last month of reporting year for audit engagements by segment

Month	<i>per cent</i>			
	FTSE 100	FTSE 250	Other	All clients
1	2.78	2.28	4.48	3.21
2	2.45	1.21	2.89	2.07
3	21.57	19.49	17.39	19.05
4	0.65	5.56	5.39	4.62
5	0.33	1.88	1.14	1.32
6	3.59	5.69	6.61	5.67
7	1.80	2.08	1.82	1.93
8	0.33	2.34	1.59	1.69
9	7.19	7.50	5.16	6.55
10	0.00	2.14	3.11	2.13
11	0.98	0.94	0.68	0.85
12	58.33	48.89	49.73	50.91

Source: CC analysis.

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61. Because FTSE clients must publish audited results relatively soon after the year end, there is less ability for audit firms to flex their workloads. Whilst a large proportion of substantive testing could be performed before the year end, there will still be a significant element of testing of disclosures, balances and the consolidation that will need testing and reviewing. However, if interim results are also audited, this may require certain testing to be phased across the year.
62. We can use profitability of engagements as an indicator of seasonal pricing, as, all things remaining equal, it would suggest that the audit fee is greater. Table 18 shows that there is some variation. However, the actual range of profitability remains in a tight band of broadly 55 to 65 per cent and there is not a consistent pattern in the FTSE 100 and 250. There are some outliers but these are caused by a small number of data points (see Table 17). Figure 6 shows some peaks in March, June, July, September, and November to January relative to months immediately either side, but the month-on-month variation is not significant. If there is seasonal pricing, it is not evident from within the FTSE 250, or large private companies, or may be masked by other factors which we are unable to control here.

TABLE 18 Average engagement profitability by last month of reporting period

*per cent*

'Month'	FTSE 100	FTSE 250	Other	All
1	✂	✂	✂	✂
2	✂	✂	✂	✂
3	✂	✂	✂	✂
4	✂	✂	✂	✂
5	✂	✂	✂	✂
6	✂	✂	✂	✂
7	✂	✂	✂	✂
8	✂	✂	✂	✂
9	✂	✂	✂	✂
10		✂	✂	✂
11	✂	✂	✂	✂
12	✂	✂	✂	✂

Source: CC analysis.

FIGURE 6

**Engagement profitability by last month of reporting year**



Source: CC analysis.

### Factors affecting profitability

1. In considering profitability of audit engagements, there are a number of factors that need to be considered that may be an underlying driver of financial performance.

These include:

- (a) the grade mix of staff resource;
- (b) the relative cost of staff for each firm and each year;
- (c) the level of revenue relative to the level of audit work; and
- (d) the level of other direct costs incurred.

### Grade mix of engagement teams

2. Table 1 shows the proportion of hours recorded by firms' staff that relate to partners. For all firms, there is an increase in the proportion of the number of hours that relates to partner involvement in the FTSE 100 compared with the FTSE 250, and the FTSE 250 when compared with other firms.<sup>21</sup> Table 2, which includes the number of hours recorded by partners and directors, shows the same trend.
3. It is not possible to infer with certainty why this relationship between type of company and the relative level of senior staff engagement exists. However, there are a number of plausible causes:
  - (a) FTSE 350, and specifically FTSE 100, companies are inherently more complex due to their size and range of operations and by extension the technical accounting issues experienced will be more complex, and as a result more senior staff time is required to review appropriately the audit work.

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<sup>21</sup> ✂

(b) An extension of the first is the greater potential financial repercussion of audit failure, either through litigation or loss of a client due to a perceived lack of quality leading to more partner and director involvement.

(c) Larger clients expect greater levels of partner and director engagement, both in reviewing the audit and in face-to-face meetings with client staff.

4. As we have not captured the nature of the hours recorded (such as whether they are review time or client liaison), we cannot draw a firm conclusion.

TABLE 1 Proportion of total engagement hours recorded by partners

							<i>per cent</i>
	2006	2007	2008	2009	2010	2011	<i>Period average</i>
<i>BDO</i>							
FTSE 100	✂			✂	✂	✂	✂
FTSE 250	✂	✂	✂	✂	✂	✂	✂
Other	✂	✂	✂	✂	✂	✂	✂
<i>Deloitte</i>							
FTSE 100	✂	✂	✂	✂	✂	✂	✂
FTSE 250	✂	✂	✂	✂	✂	✂	✂
Other	✂	✂	✂	✂	✂	✂	✂
<i>EY</i>							
FTSE 100	✂	✂	✂	✂	✂	✂	✂
FTSE 250	✂	✂	✂	✂	✂	✂	✂
Other	✂	✂	✂	✂	✂	✂	✂
<i>GT</i>							
FTSE 250	✂	✂	✂	✂	✂	✂	✂
Other	✂	✂	✂	✂	✂	✂	✂
<i>KPMG</i>							
FTSE 100	✂	✂	✂	✂	✂	✂	✂
FTSE 250	✂	✂	✂	✂	✂	✂	✂
Other	✂	✂	✂	✂	✂	✂	✂
<i>PwC</i>							
FTSE 100	✂	✂	✂	✂	✂	✂	✂
FTSE 250	✂	✂	✂	✂	✂	✂	✂
Other	✂	✂	✂	✂	✂	✂	✂

Source: CC analysis.

TABLE 2 Proportion of total engagement hours recorded by partners and directors

							per cent
	2006	2007	2008	2009	2010	2011	Period average
<i>BDO</i>							
FTSE 100	✂			✂	✂	✂	✂
FTSE 250	✂	✂	✂	✂	✂	✂	✂
Other	✂	✂	✂	✂	✂	✂	✂
<i>Deloitte</i>							
FTSE 100	✂	✂	✂	✂	✂	✂	✂
FTSE 250	✂	✂	✂	✂	✂	✂	✂
Other	✂	✂	✂	✂	✂	✂	✂
<i>EY</i>							
FTSE 100	✂	✂	✂	✂	✂	✂	✂
FTSE 250	✂	✂	✂	✂	✂	✂	✂
Other	✂	✂	✂	✂	✂	✂	✂
<i>GT</i>							
FTSE 250	✂	✂	✂	✂	✂	✂	✂
Other	✂	✂	✂	✂	✂	✂	✂
<i>KPMG</i>							
FTSE 100	✂	✂	✂	✂	✂	✂	✂
FTSE 250	✂	✂	✂	✂	✂	✂	✂
Other	✂	✂	✂	✂	✂	✂	✂
<i>PwC</i>							
FTSE 100	✂	✂	✂	✂	✂	✂	✂
FTSE 250	✂	✂	✂	✂	✂	✂	✂
Other	✂	✂	✂	✂	✂	✂	✂

Source: CC analysis.

## Staff costs

- Table 3 shows the 2011 staff cost rates used for the analysis above. It is not clear if differences in pay rates are due to the overall number of hours that the firms are able to extract from their staff (such as through unpaid overtime) or underlying pay rates.
- Of note is the cost of a director's time, with ✂ estimating this cost to be £✂ per hour, which is higher than other firms. Given the scale of variation between firms (for example ✂ cost is ✂ per cent greater than ✂ director rate), it seems unlikely that this is driven by the total number of hours worked, rather that ✂ pays relatively well, or, that director at ✂ is a relatively senior role.

7. The role of director may vary by firm and if the firms have mapped multiple grades to each of the standard grades requested for CC analysis (or vice versa), there may be some distortion in the average cost per hour  $\times$ . Although director time does not account for a large proportion of engagement hours, the significantly greater cost per hour compared with junior staff means that any variation will have a disproportionate affect on overall profitability.
8. Growth rates on costs per hour over the period have also been considered, and the only firm showing an increase in costs in all grades is  $\times$ . There are no notable significant ongoing increases in costs per hour; however, changes in the total cost of employing staff may be offset by changes in productivity.

TABLE 3 Staff cost per hour in 2011 (total hours) and CAGR, 2006 to 2011

	£				
	<i>Trainees</i>	<i>Other qualified</i>	<i>Manager</i>	<i>Senior manager</i>	<i>Director</i>
<i>Cost per hour</i>					
BDO	$\times$	$\times$	$\times$	$\times$	$\times$
Deloitte	$\times$	$\times$	$\times$	$\times$	$\times$
EY	$\times$	$\times$	$\times$	$\times$	$\times$
GT	$\times$	$\times$	$\times$	$\times$	$\times$
KPMG	$\times$	$\times$	$\times$	$\times$	$\times$
PWC	$\times$	$\times$	$\times$	$\times$	$\times$
					<i>per cent</i>
<i>CAGR</i>					
BDO	$\times$	$\times$	$\times$	$\times$	$\times$
Deloitte	$\times$	$\times$	$\times$	$\times$	$\times$
EY	$\times$	$\times$	$\times$	$\times$	$\times$
GT	$\times$	$\times$	$\times$	$\times$	$\times$
KPMG	$\times$	$\times$	$\times$	$\times$	$\times$
PWC	$\times$	$\times$	$\times$	$\times$	$\times$

Source: CC analysis.

Note: Staff rates were requested for audit or assurance staff. Staff in the same grade but based in other service lines may have a different pay range.

## Revenue per hour

9. Table 4 (in paragraph 13) sets out the average level of revenue per hour generated from each audit engagement. Over the period 2006 to 2011, FTSE 100 audits attracted on average between £5 and £25 an hour more than FTSE 250 audits, with



an average difference over the period of £15 per hour. Non-FTSE-350 audits generated a broadly similar level of revenue per hour to FTSE 250 audits.

10. Revenue per hour generated by individual firms varied to a greater extent than the average for each market segment, though as there are fewer data points for each individual firm (compared with the market as a whole), averages are more susceptible to the impact of a single data point, either as a result of changes in the efficiency of individual audits, or of companies moving between market segments, or switching between firms. When revenue per hour is considered for the FTSE 350 as a whole, there is less variation.
11. Average revenue per hour from FTSE 100 engagements has remained between £104 and £119 per hour each year with an average of all FTSE 100 engagements over the period generating £112 per hour. The range for the FTSE 250 is £90 to £104 with an average of £97. The range for the FTSE 350 was £98 to £106, with an average of £102.
12. ✂ generated substantially less revenue per hour than the other three largest firms, with its average for the period for the FTSE 100 being £✂ per hour and for FTSE 250 engagements at £✂ per hour, which appears to be the cause of its lower profitability ✂ generated the greatest level of revenues per hour at ✂ per hour more than ✂.
13. As is discussed above, the level of partner and director engagement is greater in FTSE 100 (and then FTSE 250) engagements, in which one would require a greater level of revenue per hour to achieve the same revenues. However, as all the firms demonstrate a broadly similar level of partner and director engagement, other factors may drive these differences.

TABLE 4 Average revenue per hour per engagement, 2006 to 2011

£

	2006	2007	2008	2009	2010	2011	Period average
<i>FTSE 100</i>							
BDO	⌘			⌘	⌘	⌘	⌘
Deloitte	⌘	⌘	⌘	⌘	⌘	⌘	⌘
EY	⌘	⌘	⌘	⌘	⌘	⌘	⌘
KPMG	⌘	⌘	⌘	⌘	⌘	⌘	⌘
PWC	⌘	⌘	⌘	⌘	⌘	⌘	⌘
All firms	111	112	112	119	115	104	112
<i>FTSE 250</i>							
BDO	⌘	⌘	⌘	⌘	⌘	⌘	⌘
Deloitte	⌘	⌘	⌘	⌘	⌘	⌘	⌘
EY	⌘	⌘	⌘	⌘	⌘	⌘	⌘
GT	⌘	⌘	⌘	⌘	⌘	⌘	⌘
KPMG	⌘	⌘	⌘	⌘	⌘	⌘	⌘
PWC	⌘	⌘	⌘	⌘	⌘	⌘	⌘
All firms	94	98	96	97	91	99	96
<i>FTSE 350</i>							
BDO	⌘	⌘	⌘	⌘	⌘	⌘	⌘
Deloitte	⌘	⌘	⌘	⌘	⌘	⌘	⌘
EY	⌘	⌘	⌘	⌘	⌘	⌘	⌘
GT	⌘	⌘	⌘	⌘	⌘	⌘	⌘
KPMG	⌘	⌘	⌘	⌘	⌘	⌘	⌘
PWC	⌘	⌘	⌘	⌘	⌘	⌘	⌘
All firms	99	102	101	103	98	100	101
<i>Other</i>							
BDO	⌘	⌘	⌘	⌘	⌘	⌘	⌘
Deloitte	⌘	⌘	⌘	⌘	⌘	⌘	⌘
EY	⌘	⌘	⌘	⌘	⌘	⌘	⌘
GT	⌘	⌘	⌘	⌘	⌘	⌘	⌘
KPMG	⌘	⌘	⌘	⌘	⌘	⌘	⌘
PWC	⌘	⌘	⌘	⌘	⌘	⌘	⌘
All firms	95	100	128	98	100	97	103
<i>All clients</i>							
BDO	⌘	⌘	⌘	⌘	⌘	⌘	⌘
Deloitte	⌘	⌘	⌘	⌘	⌘	⌘	⌘
EY	⌘	⌘	⌘	⌘	⌘	⌘	⌘
GT	⌘	⌘	⌘	⌘	⌘	⌘	⌘
KPMG	⌘	⌘	⌘	⌘	⌘	⌘	⌘
PWC	⌘	⌘	⌘	⌘	⌘	⌘	⌘
All firms	98	101	111	101	99	99	101

Source: CC analysis.

## Other direct costs

14. Other direct costs incurred by the firms on engagements formed a small but significant element of total cost of an engagement. Over the period 2006 to 2011, non-staff direct costs on average accounted for 7 per cent of the UK audit fee. However, the average level varied significantly by firm, with ⌘ on average incurring non-staff direct

costs of 8 per cent of UK audit fees, which is 1 percentage point more than the other firms, and may be a contributing factor of its relatively low engagement profitability. The other firms on average incurred direct non-staff costs of between 4 and 7 per cent of UK audit fees.

TABLE 5 Average direct non-staff costs as a proportion of revenue

	<i>per cent</i>						
	2006	2007	2008	2009	2010	2011	Period
BDO	8	7	7	7	6	6	7
Deloitte	8	7	7	7	6	6	7
EY	8	7	7	7	6	6	7
GT	8	7	7	7	6	6	7
KPMG	8	7	7	7	6	6	7
PWC	8	7	7	7	6	6	7
Average	8	7	7	7	6	6	7

Source: CC analysis.

## Understanding the data

1. The calculation of engagement profitability is based on hourly cost rates for each 'grade' of staff, which were provided by the parties.<sup>22</sup>

2. Gross profit is calculated as:

$$\text{Gross profit} = \text{UK audit fee} - \text{Direct non staff costs} - \text{staff costs}$$

where staff costs are calculated as:

$$\sum_{i=\text{Unqualified to Director (+Partner)}} \text{Usage of grade}_i \text{ in hours} \\ \times \text{average hourly cost of grade}_i$$

3. UK audit fee is calculated for all parties other than PwC and Deloitte as reported UK audit fee minus international direct costs.<sup>23</sup> This adjustment is necessary as in some instances overseas subsidiary audits are invoiced to the UK parent company by the UK auditor on behalf of other overseas firms.
4. Partners' profit shares will include an element relating to remuneration for their labour and a return on their capital but in practice these are not readily identifiable. To counter this issue, we have included partner costs at twice that of directors for all firms. We believe the actual ratio may vary, but we do not have adequate information to calculate this equally accurately for all firms, so have made a blanket assumption to ensure that some representation of partner time is included. From the information some parties have been able to provide, we believe that this estimate is conservative and will overstate the level of profitability of the engagements, and thus, the

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<sup>22</sup> The 'grades' were partner, director, senior manager, manager, other qualified and unqualified.

<sup>23</sup> PwC and Deloitte had excluded this element from their supplied fee data.

measures of profitability should be treated as relative rather than absolute measures of profitability.

5. The hourly cost of labour is dependent on the assumption made about the number of hours to distribute annual staff costs over. We requested three measures, which were 'total hours' (the average annual number of hours recorded on timesheets by employees in each grade), 'chargeable hours' (the average annual number of hours recorded on timesheets for client engagements) and 'standard hours' (the number of hours an employee is contracted to work). The ratio of the respective cost rates varies by grade and by firm.
6. The hourly cost rates do not factor in any potential pay differences of staff working on different clients. If there is an assumed premium paid to staff on larger, more complex audits (particularly at senior level), either as a result of greater experience or relative performance (recognized financially through different positions in pay bands or consolidated performance-related pay), the calculated profit margin will not be accurate for the specific individuals on that engagement. However, in the responses to parties on their pricing of audit engagements, the need to recover any such premium has not been raised. Similarly, the typical measure of engagement level profitability used in the firms, revenue recovery rate, is based entirely on scale rates and not the relative pay of individuals on an engagement team.
7. The number of data points for the FTSE 100 and 250 in some instances are greater than would be expected (ie 100 and 250 data points respectively) due to issues around switching and different reporting years for the firms. Lines of data showing only a relatively small number of hours or no audit fee charged have been excluded (see below).

8. These gross profit margins do not factor in any non-direct costs and they are not intended to represent the overall profitability of the firms, or their audit or assurance business; instead they are intended to reflect the relative level of staff resources employed for their respective audit engagements. The proportion of staff time spent on fee-paying audits will vary across firms and this will affect overall profitability of the firm, as will any engagements not included in this data set. Given the limitations in estimating a salary for partners for all firms, the data presented here should be approached with caution.

### **Data cleaning**

9. Our initial review of the data indicated that there were a number of outliers in respect of both revenue and profitability. We filtered data points on the following areas:
  - (a) where market segment was blank (FTSE 100/250/Other)—735 data points;
  - (b) negative revenue—43 data points;
  - (c) profit margin of more than 100 per cent—716 data points;
  - (d) profit margin of less than 100 per cent—12 data points;
  - (e) manual exclusions—12 data points (Camden Motor Group as it does not have a parent company and L'Oreal as it is a French company);
  - (f) any audit fee less than £5,000—685 data points (excludes negative audit fees);
  - (g) any engagement data which pre-dates that auditor's appointment in the public data set by more than one year—159 data points; and
  - (h) any engagement where the relationship between the company and the auditor is not present in the public data set—173 data points.
10. In total, 1,150 out of 4,614 data points were excluded from the engagement data set.

11. Of the 2,273 data points in the raw data set labelled as FTSE 100/250, 151 were excluded on the above criteria, of which 119 were excluded for a low or negative audit fee, with 98 of these reporting no audit fee.