

## AUDIT MARKET INVESTIGATION

### Characteristics of long audit tenure companies

#### Introduction and key findings

1. In this paper we consider the evidence on the characteristics of companies that have long engagements with their existing audit firm provided by the CC survey, the public data set and the main party hearings.
2. The CC survey found that among FTSE 350 companies that had not tendered in the last five years, 51 per cent gave as the reason for this that they received a good quality of service and 25 per cent because the audit fee was competitive.<sup>1</sup> This leaves a set of companies which may not have tendered due to reasons other than the quality of the audit, for example high switching costs.
3. During the main party hearings, parties were generally reluctant to categorize those companies with long audit tenures and maintained that audit tenure was driven by the quality of service a company received, although PricewaterhouseCoopers LLP (PwC) and KPMG UK (KPMG) suggested that larger companies with a wider geographic spread may switch less often.
4. The evidence we collected suggests that certain observable characteristics of a company may be associated with not having switched audit firm for a long time, for example the size of a company and the complexity of the audit. We also have evidence that suggests that companies that had an existing long relationship with their audit firm and/or companies that were audited by a Big 4 firm were less likely to switch audit firm. It is not immediately clear how this result should be interpreted.

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<sup>1</sup> [Working paper on Competition Commission survey results](#), paragraph 48.

5. However, there are also other important unobserved factors which we do not capture in the data, such as differences in the quality of different engagement teams, which are also likely to affect the decision of companies to switch audit firm.
6. We calculated that 25 per cent (of 419) surveyed companies had not switched auditor and had not tendered in the last ten years. We refer to these as 'long-tenure companies'. Considering all companies, we observed that a higher proportion of long-tenure companies had an annual turnover greater than £1 billion compared with shorter-tenure companies, but there was no significant difference between long- and shorter-tenure FTSE 350 companies. We did not observe any significant differences in the proportion of the audit fee earned outside the UK between long- and short-tenure companies.
7. Using the public data set we looked at the characteristics of companies that have used the same audit firm for at least ten years and whether these characteristics differed from companies that did switch audit firm in this period. We collected data for 712 companies that were part of the FTSE 350 in the period 2001 to 2011 or part of the Top Track 100 in the period 2006 to 2011. We analysed the sample of 520 companies for which we had data for ten years. Of these companies, 347 (67 per cent) did not switch auditor during the ten-year period.<sup>2</sup>
8. We observed that the largest 20 per cent of companies, as measured by turnover, were less likely to have switched audit firm during the last ten years (83 per cent had not switched). We also observed that companies requiring an audit in 51 or more countries were less likely to have switched audit firm (88 per cent had not switched). We observed that companies that were in the FTSE 350 throughout the ten-year period were less likely to have switched audit firm.

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<sup>2</sup> Unlike in the survey we were unable to distinguish cases where a company had tendered and stayed with the audit firm.

9. We observed that having a Big 4 audit firm at the start of the period and an existing long relationship with the audit firm were associated with a higher likelihood of not having switched audit firm. 71 per cent of companies that started the period with a Big 4 audit firm did not switch audit firm compared with 32 per cent of companies that had a non-Big-4 auditor.
  
10. Using data for the 520 companies described above, we consider all characteristics simultaneously using a probit model to estimate the association between observed company characteristics and the probability that a company has not switched audit firm in the last ten years. Overall, we estimated a model that displays some predictive power but the extent of this power does appear limited. We observed approximately 70 per cent of companies that do not switch audit firm in the model sample (which can be treated as the 'base' rate for the correct prediction of whether a company has switched audit firm). Using information on observed company characteristics, we correctly predict whether a company has switched audit firm or not for approximately 76 per cent of companies. We note that the purpose of the probit model was not necessarily about predicting those companies which have not switched audit firm, but about quantifying the associations between company characteristics and the observed decisions on whether a company has switched audit firm.
  
11. The observed characteristics associated with a higher probability of a company not switching audit firm were the turnover of a company, the audit firm that was auditing the company at the start of the period and the tenure of the audit firm at the beginning of the period. We also estimated that companies that moved from private to listed status were more likely to have not switched audit firm.

## **Main party hearings**

12. Parties were asked whether companies with long tenure engagements had certain characteristics. PwC told us that they would typically be quite large organizations that were often constantly changing and in complex areas. It also added that these companies were big international businesses and that it was challenging to get a new auditor familiar with the operations and audit judgements. KPMG told us that it had not analysed companies based on the length of audit tenure, but that a more complex business with a wider geographic spread might find it more difficult to switch.
  
13. Ernst & Young LLP (EY) and Deloitte LLP (Deloitte) told us that rather than there being certain types of company, the length of tenure was dependent on the service provided by the audit firm and that tenders would happen when companies were not happy with the service they received.

## **CC survey**

14. As part of the survey, we asked companies the length of tenure with their existing auditor and when the company last went out to tender. From a base of 419 companies, we estimated that 25 per cent had not switched auditor and had not tendered in the last ten years. This increased to 36 per cent of FTSE 350 companies. A further 11 per cent of companies (10 per cent of FTSE 350 companies) had not switched auditor, but had tendered (and retained the incumbent) in the last ten years. We estimated that 57 per cent of companies had switched audit firm and held a tender in the last ten years, with an additional 7 per cent of companies switching audit firm but not holding a tender.
  
15. In subsequent paragraphs we refer to companies that did not switch auditor and did not tender in the last ten years as long-tenure companies. We compare the

characteristics of these companies with those of shorter-tenure companies, defined to include companies that both tendered and switched in the last ten years. The details of the analysis are set out in Appendix C.

16. In summary, we observed that long-tenure companies were more likely to have higher annual turnover: 24 per cent of long-tenure companies had annual turnover less than £250 million compared with 41 per cent of shorter tenure companies. 43 per cent of long-tenure companies had annual turnover greater than £1 billion, compared with 24 per cent of shorter-tenure companies. However, we did not observe this difference when looking at FTSE 350 companies only: approximately 15 per cent of long- and shorter-tenure companies had annual turnover less than £250 million and approximately 50 per cent of long- and shorter-tenure companies had annual turnover greater than £1 billion.
17. We also did not observe any significant differences in the proportion of the audit fee earned outside the UK between long- and shorter-tenure companies: 31 per cent of long-tenure companies had 41 to 100 per cent of the audit fee earned outside the UK compared with 25 per cent of shorter-tenure companies (for FTSE 350 companies only these figures were 50 per cent and 43 per cent for long- and shorter-tenure companies respectively).
18. We observed a lower proportion of long-tenure companies in the technology sectors compared with other sectors. We also observed that among financial companies there was a larger proportion of long-tenure companies among FTSE 350 companies compared with other companies (35 per cent versus 19 per cent).
19. There was no real difference in benchmarking activity between long- and shorter-tenure companies.

## Public data set

20. In the first section below we present descriptive statistics drawn from the public data set. We then estimate a probit model to assess the effect of certain company characteristics on the probability that a company has not switched audit firm in the last ten years.

## *Descriptive statistics*

21. In the public data set there are 520 companies for which there are ten years of data (see paragraph 7). Among these companies, 347 (67 per cent) have not switched audit firm during the ten-year period. We calculated a number of contingency tables between company characteristics and an indicator of a company not switching in the last ten years and calculated the Pearson's chi-squared statistic<sup>3</sup> to test for an association between the variables. We report key results below. The contingency tables are reported in full in [Appendix A](#).
22. We note that a company that held a tender and retained the incumbent firm is treated as not having switched auditor as we are unable to distinguish these companies from those that have not tendered. This is in contrast to the results from the survey where we can identify those companies which have tendered but not switched audit firm (see paragraph 14).
23. We also note that with a switching event it is important to consider the treatment of companies which changed audit firm from Arthur Andersen. We do not consider changes from Arthur Andersen to Deloitte to be a switching event. There are 11 changes from Arthur Andersen to other audit firms (not Deloitte) which we also do not consider switching events. We do not consider changes from Arthur Andersen as

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<sup>3</sup> The Pearson's chi-squared test compares the *observed* distribution of companies that have and have not switched across the company characteristic to what we would *expect* to observe if the company characteristic was independent of whether a company had switched audit firm or not.

switching events given the exceptional circumstances that drove the changes.

Including the 11 changes from Arthur Andersen to other audit firms (not Deloitte) as switches results in 339 (65 per cent) companies not switching audit firm during the ten-year period. Where relevant, this is discussed below.

24. Considering the status of companies at the beginning of the ten-year period: 84 per cent of FTSE 100, 68 per cent of FTSE 250, 62 per cent of other listed, and 60 per cent of private companies had not switched auditor in the last ten years. We find that there is an association between the status of a company at the beginning of the ten-year period and whether a company has switched audit firm in the last ten years.
25. We considered the 'life-cycle' of companies in their movement between index designations over the period. We considered both movements from private to listed and into and out of the FTSE 350 index. 82 per cent of companies that have been FTSE 350 for the entire ten-year period have not switched audit firm, compared with 56 per cent of companies which were private for the ten-year period. Only 40 per cent of companies that moved from listed to private status did not switch audit firm. The proportion of companies that moved from private to listed status or moved into the FTSE 350 and did not switch audit firm was not substantially higher than the total proportion of companies that did not switch audit firm.
26. We found no clear association between industry and the likelihood of a company having switched audit firm. We observe that a slightly higher proportion of Financials companies have not switched and a slightly lower proportion of Health Care companies have not switched compared with the total sample.
27. We divided companies into five equal groups based on the median real total turnover of the company over the ten-year period. Among the largest 20 per cent of

companies, a higher proportion of companies had not switched audit firm compared with smaller companies: 83 per cent (compared with approximately 63 per cent across smaller companies). There were no differences among other sizes of company.

28. We attempted to measure the complexity of an audit by using the number of countries requiring an audit and the number of partners on the UK audit team. These variables are taken from the engagement data set and the median numbers during the period 2006 to 2011 are used. We had information on the number of countries requiring an audit for 434 companies. We categorize the number of countries into: 1 country, 2–5, 6–20, 21–50 and 51 or more countries. Overall, we did not observe an association between the number of countries requiring an audit and whether a company has switched auditor. We did observe that 88 per cent of companies that required an audit in 51 or more countries did not switch audit firm (compared with between 64 and 73 per cent for companies requiring an audit in fewer countries).
29. We had information on the number of partners on the UK audit team for 454 companies. We note that while the number of partners is only for the UK audit team, this number should be indicative of the global complexity of the audit. We categorize the number of partners into: 1–2, 3–5, 6–10 and 11 or more partners. Unlike the number of countries using an audit, we found an association between the number of partners on the UK audit team and whether a company has switched in the last ten years: 58 per cent of companies with only one or two partners on the audit team did not switch audit firm in the last ten years compared with 90 per cent of companies with 11 or more partners.
30. Using data provided by Dealogic on the annual total value of deals, we compared merger activity and whether companies had switched audit firm. The Dealogic data

applies only to listed firms, therefore the data is only available for companies in the public data set that have been part of the FTSE 350 during the last ten years. As such, we consider merger activity only for those companies where data was available (431 companies). A first approach split companies by whether they had conducted any merger activity at all: 70 per cent of companies that engaged in merger activity had not switched audit firm compared with 67 per cent of companies that had no merger activity.

31. A second approach categorized merger activity as the number of years in which there was deal activity: 0 years, 1–2, 3–5 and 6–10 years: 85 per cent of companies that had merger activity in 6–10 years did not switch audit firm. Approximately 67 per cent of companies with lower levels of activity or no activity did not switch audit firm. Overall the Pearson's chi-squared test suggested that the number of years of merger activity and whether a company has switched audit firm were not independent.<sup>4</sup>
  
32. We attempted to take into account any existing tenure effect by considering the tenure of the company's audit firm at the beginning of the ten-year period. Companies were categorized using the following tenure lengths: 0–5 years, 6–10 years, 11–20 years and 21+ years. We observed that companies with an existing long tenure were more likely not to switch auditor: 86 per cent of companies with an existing tenure of 11–20 years and 76 per cent of companies with an existing tenure of 21+ years did not switch during the following ten years (compared with an average of 60 per cent of companies with shorter tenures). Overall we conclude that there is an association between the tenure of the auditor at the start of the ten-year period and whether a company has switched audit firm in the last ten years.<sup>5</sup>

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<sup>4</sup> It is also noted that the result of this test is dependent on the categorization of the number of years in which there was merger activity. A different categorization may not lead to the same conclusion.

<sup>5</sup> As recognized in the previous footnote, the result of the test is in part dependent on the categorization of tenure.

33. We also considered the identity of the audit firm at the start of the period. The treatment of companies which were audited by Arthur Andersen is relevant here (see paragraph 23). Companies audited by Arthur Andersen are treated as having a 'Big 4' audit firm at the start of the period. A change of audit firm from Arthur Andersen to any other audit firm is not treated as a switch of audit firm. Approximately 89 per cent of companies had a Big 4 audit firm at the start of the period.
34. We observed that 71 per cent of companies that had a Big 4 audit firm at the start of the ten-year period did not switch auditor, compared with 32 per cent of companies that had a non-Big-4 auditor. Within the Big 4 firms, companies that started the period with KPMG or Deloitte as their auditor were more likely not to switch audit firm (79 and 74 per cent respectively).<sup>6</sup>

### ***Probit model of companies not switching audit firm***

#### *The model*

35. We look to identify the company characteristics that, all else equal, increase or decrease the observed probability that a company has not switched audit firm during the last ten years.
36. We define an event 'not switched' (where a company has not switched audit firm in the last ten years) which is assumed to occur when:
- (i)  $a + bX_i + \varepsilon_i > 0$
37. In expression (i),  $X_i$  is a vector of observable company characteristics and  $\varepsilon_i$ , representing unobservable factors, is assumed to follow a standard normal

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<sup>6</sup> We estimated that 78 per cent of companies with Arthur Andersen as auditor at the start of the period did not switch audit firm. The companies that did switch audit firm would have switched from the firm that took over the audit from Arthur Andersen. The 78 per cent of companies that did not switch audit firm is sensitive to the treatment of companies which changed from Arthur Andersen to an audit firm that was not Deloitte (see paragraph 23). Treating a change from Arthur Andersen to a firm that was not Deloitte (eg a change from Arthur Andersen to PwC), we estimated that 66 per cent of companies with Arthur Andersen as auditor at the start of the period did not switch audit firm.

distribution. The coefficients in  $b$  will tell us the relative strengths of the influences measured in  $X$ . This model is equivalent to assuming that the probability of 'not switched' occurring, given the observed company characteristics in  $X$ , is a particular increasing function of the index  $a + bX$ , where  $a$  and  $b$  are coefficients to be estimated, and where the form of the function is determined by the standard normal distribution.

38. The dependent variable is an indicator variable taking the value 1 if a company has not switched auditor during the ten-year period under consideration. An important consideration is those companies that were initially audited by Arthur Andersen and what happened to these companies after its collapse (see paragraph 23). Where a company changed from Arthur Andersen to Deloitte or another audit firm, we do not consider this a switch of audit firm.
39. The observed company characteristics considered for inclusion in  $X_i$  were:
- (a) The industry a company was part of.
  - (b) Company 'life-cycle': indicators of whether a company has been private for ten years, FTSE 350 for ten years, a combination of other listed and FTSE 350 only for ten years, moved from private to listed during the period and moved from listed to private during the period.
  - (c) Company turnover: median value of turnover over ten-year period, in logarithms.
  - (d) Company risk: measured as the median value of current assets/current liabilities (total level of assets and liabilities for financial companies) over the ten-year period, in logarithms.
  - (e) The number of years in which a company made a loss: an indicator for companies which made a loss in at least six out of ten years.
  - (f) The complexity of the company audit: from the engagement data set we consider the median number of countries requiring an audit during 2006 to 2011 and the

median number of partners on the UK audit during 2006 to 2011. (If a company has switched auditor, the median is taken across both company engagements.) The number of countries was included as a categorical variable (as defined in paragraph 28). The number of partners is included in logarithms. As noted above (see paragraph 29), the engagement data applies only to the UK part of the audit, but this should act as a good proxy for the complexity of the global audit. Also the engagement data set only covers the period 2006 to 2011, but the measures above should be indicative of the complexity of the company's audit between 2001 and 2011.

- (g) Merger activity: we consider different options to capture the merger activity of a company—an indicator of whether a company engaged in merger activity or not and the number of years in which there was merger activity (both as a categorical variable—see paragraph 31—and in logarithms). As noted above (see paragraph 30), Dealogic data is available only for listed companies.
- (h) Tenure: the length of the relationship with the audit firm at the beginning of the period, in logarithms.
- (i) Auditor: identity of audit firm at the beginning of the period—we consider a split between non-Big-4 and Big 4 companies and non-Big-4 and the individual Big 4 companies. For the purposes of this variable we treat companies audited by Arthur Andersen at the beginning of the period as having a Big 4 audit firm.

### *Effect of company characteristics*

40. The probit model was estimated using data for the 520 companies that had ten years of data. In Tables 1, 2 and 3 we report results for our preferred model (Model 6). Table 1 provides a model summary. Table 2 reports the regression coefficients and the predicted probability that a company has not switched audit firm given company characteristics which are continuous (eg turnover, tenure). Table 3 reports the regression coefficients and the predicted probability that a company has not switched

audit firm given company characteristics which are categorical (eg the auditor at the start of the ten-year period). We report results only for variables where the regression coefficient is statistically different from zero. Full regression output for this and other specifications is given in [Appendix B](#).

41. Table 1 below provides a summary of the model. The regression estimates were based on 430 companies. Of these companies, we observed that 70.5 per cent had not switched audit firm during the ten-year period. Using the estimated coefficients ('a' and 'b' in paragraph 37), we estimated the probability that a company did not switch audit firm based on its observable characteristics. If this probability was greater than or equal to 0.5, we assumed that a company was predicted to have not switched audit firm. Of companies observed to have not switched audit firm, the model correctly predicted that a company did not switch audit firm in 92.1 per cent of cases. However, of companies observed to have switched audit firm, the model correctly predicted that a company switched in only 38.6 per cent of cases. This resulted in a combined correct prediction rate of 76.3 per cent. Given that we observed that 70.5 per cent of companies had not switched audit firm, using the observed characteristics of the companies improves the prediction accuracy by 5.8 per cent.<sup>7</sup>
  
42. It is therefore likely that a large proportion of the probability of whether a company has switched audit firm is driven by unobserved factors, for example the specific relationship a lead partner has with a company, whether there were years the company was unhappy with the audit it received and how this was handled.

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<sup>7</sup> Even if we knew nothing about the characteristics of a company, if we always predicted that a company did not switch audit firm we would be correct in 70.5 per cent of cases.

TABLE 1 Probit model summary

N	430
Proportion not switching (observed) (%)	70.5
Proportion not switching (correctly predicted) (%)	92.1
Proportion switching (correctly predicted) (%)	38.6
Proportion (combined) correctly predicted (%)	76.3

Source: CC.

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43. As a result of the theoretical construct of the probit model, the effect of any company characteristic on the probability of a company not switching auditor varies depending on the assumed values of the company's characteristics. This, for example, is in contrast to a traditional linear regression model, where the effect of a characteristic on the dependent variable is constant for all values of the characteristic.<sup>8</sup>
44. In Tables 2 and 3, we report the estimated regression coefficients. The value of a regression coefficient does not give the effect of a characteristic on the probability that a company did not switch audit firm (the calculation of the effect of a characteristic is described in the footnote to paragraph 43). The sign of the coefficient does, however, show the direction of the effect. For continuous characteristics, a positive (negative) coefficient indicates that an increase in the value of the characteristic has a positive (negative) effect on the probability that a company did not switch audit firm. For categorical variables, a positive (negative) coefficient indicates that the probability that a company with that characteristic did not switch audit firm is higher (lower) than the base category (the category which other categories are compared with). We report the statistical significance of the coefficients using asterisks. A coefficient followed by \*\* is interpreted as being 95 per cent confident that the coefficient is statistically different from zero.

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<sup>8</sup> Consider that a regression model  $y = a + b_1X_1 + b_2X_2 + \varepsilon$  and  $X_1$  and  $X_2$  represent two different company characteristics. In a linear regression model, the effect of a one-unit change in characteristic  $X_2$  on  $y$  is  $b_2$  for all values of  $X_2$ . In a probit model, the effect of a one-unit change in  $X_2$  on  $y$  is dependent on  $a + b_1\bar{X}_1 + b_2\bar{X}_2$  as well as  $b_2$ , therefore the effect of a change in  $X_2$  on  $y$  depends on the value of  $X_2$  and also the value of the other characteristic  $X_1$ . The values  $\bar{X}_1$  and  $\bar{X}_2$  are the values we choose for characteristics  $X_1$  and  $X_2$  at which to evaluate the effect of  $X_2$  on  $y$ .

45. Table 2 reports the estimated regression coefficients and the average predicted probabilities for continuous characteristics (assets, turnover, risk, tenure and the number of partners on the audit team). In assessing the effect of a particular company characteristic, our approach is to estimate the average predicted probability (across companies) that a company did not switch audit firm for a given value of the characteristic. For each continuous characteristic, we report the difference in predicted probability for a representative 'large' company (the 75<sup>th</sup> percentile value for the characteristic) versus a representative 'small' company (the 25<sup>th</sup> percentile value for the characteristic).<sup>9</sup>

TABLE 2 Probit model continuous variable regression coefficients and predicted probabilities

Continuous characteristic	Coefficient	Average predicted probability		
		25th percentile %	75th percentile %	Difference %
Assets	-0.08	72.4	68.2	-4.2
Turnover	0.22**	63.8	76.3	12.5
Risk	0.33***	65.7	71.3	5.7
Tenure	0.38***	59.4	81.1	21.7
Number of partners	0.22	67.9	74.0	6.0

Source: CC.

\* 90%, \*\* 95%, \*\*\* 99%.

46. Table 2 tells us that the predicted probability of a company not switching audit firm is 76.3 per cent for companies with a turnover value equal to the 75<sup>th</sup> percentile (larger than 75 per cent of other companies) and 63.8 per cent for companies with a turnover value equal to the 25<sup>th</sup> percentile (smaller than 75 per cent of other companies), averaging across the other observed characteristics of companies. The increased predicted probability for larger companies is reflective of the significant positive coefficient (0.22) and the higher observed proportion of companies not switching audit firm among the largest 20 per cent of companies (see paragraph 27).

<sup>9</sup> Continuing the example of the previous footnote, assume that  $X_1$  represents turnover and  $X_2$  represents risk and these are the only two observed company characteristics. To calculate the predicted probability that a company with a turnover value equal to the 75<sup>th</sup> percentile did not switch audit firm, we set  $\bar{X}_1$  equal to the 75<sup>th</sup> percentile for turnover for all companies and set  $\bar{X}_2$  equal to each company's value for risk. This allows us to calculate a predicted probability of not switching for each company. The average of each company predicted probability is then calculated and reported.

47. The biggest difference is for the tenure of the audit firm at the start of the ten-year period. Based on the observed 25<sup>th</sup> and 75<sup>th</sup> percentile values for the natural logarithm of the tenure variable, the difference in predicted probability of not switching audit firm is approximately 22 per cent high for companies that already had a relationship of 14 years with their audit firm compared with companies with an existing two-year relationship at the start of the period.<sup>10</sup>
48. The characteristic ‘number of partners’ aims to capture the complexity of the audit, but there is no significant effect of this characteristic on the probability that a company did not switch audit firm on top of other company characteristics.
49. Table 3 reports the estimated regression coefficients and the average predicted probabilities for categorical characteristics (audit firm at beginning of period, index designation movement of company and number of years of merger activity). As in Table 2, we report the estimated average predicted probability (across companies) that a company did not switch audit firm for a given characteristic. For each category, the average predicted probability is the probability that a company with that characteristic (eg had PwC as audit firm at the start of the period) did not switch audit firm during the period, averaging across the other observed characteristics of companies.

TABLE 3 **Probit model categorical variable regression coefficients and predicted probabilities**

<i>Categorical variable</i>	<i>Coefficient</i>	<i>Average predicted probability %</i>
Non-Big-4 at start of period (base)	0	48.1
Big 4 (and AA) firm dummy variables		
[X]	0.6**	68.0
[X]	0.86***	75.7
[X]	1***	79.3
[X]	0.69**	71.0
[X]	1.39***	87.6

<sup>10</sup> As noted in the Descriptive Statistics Working Paper, paragraph 24, given the assumptions made for missing data, there is a possibility that the tenure variable may be underestimated for some companies.

Private for ten years (base)	0	64.6
FTSE 350 for ten years	0.3	73.2
FTSE 350 and Other listed	0.21	70.9
Moved from listed to private	-0.26	56.2
Moved from private to listed	0.6*	80.9
No merger activity (base)	0	75.1
Activity in 1–2 years	-0.25	68.4
Activity in 3–5 years	-0.5**	61.0
Activity in 6–10 years	-0.15	71.1

Source: CC.

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\* 90%, \*\* 95%, \*\*\* 99%.

50. Table 3 tells us that the predicted probability that a company with a non-Big-4 audit firm at the start of the period did not switch audit firm is 48.1 per cent. This is significantly lower than the predicted probabilities for other Big 4 (and Arthur Andersen) firms, with a minimum predicted probability of 68 per cent for [X]. This is reflective of the significant positive coefficients for the Big 4 firms and the observed differences in proportions of companies not switching audit firm for different initial audit firms (see paragraph 34).
51. It can be inferred from Table 3 that [X] had the highest 'retention rate' of clients during the ten-year period. The predicted probability that a company which had [X] as auditor did not switch audit firm is 79.3 per cent, more than 11 per cent higher than [X] and 8 per cent higher than [X]. [X] probability could be viewed as actually being [X].
52. Table 3 shows a slightly significant positive effect for companies which moved from private to listed status during the ten-year period: the predicted probability of a company that moved from private to listed and did not switch audit firm is 80.9 per cent (higher than companies that were in the FTSE 350 for ten years (73.2 per cent)).

This result is at odds with the hypothesis that a company switches audit firm in advance of becoming a listed company or when it becomes a listed company.<sup>11</sup>

53. There does not appear to be a systematic effect on the level of merger activity and the predicted probability that a company did not switch audit firm. The predicted probabilities for companies that engaged in merger activity are lower than for companies that engaged in no merger activity, but only the coefficient on merger activity in 3–5 years is statistically different from zero at any level.<sup>12</sup>

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<sup>11</sup> This model does not capture the effect of moving from other listed to FTSE 350 status. This is explored in the working paper 'The life cycle of FTSE 350 companies' (to be published), which considers the timing of companies switching audit firm and movement between index designations.

<sup>12</sup> The timing of observed switching of audit firm and merger activity is explored further in the working paper 'The life cycle of FTSE 350 companies' (to be published).

## Contingency tables

1. In this appendix, we report the contingency tables upon which the observations in the main text are based. We report the frequencies and the proportions of companies that did and did not switch in the last ten years within each company characteristic.
2. We test for an association between each company characteristic and whether a company has switched using Pearson's chi-squared test. This test compares the *observed* distribution of companies that have and have not switched across the company characteristic with the distribution we would *expect* to observe if the company characteristic was independent of whether a company had switched audit firm or not. We report the chi-square test statistic and the associated p-value. The p-value represents the probability of getting a chi-square test statistic at least as large as the statistic observed if the company characteristic and whether a company has switched audit firm or not are independent of each other. The lower the p-value obtained, the more likely it is that there is an association between the characteristics. We conclude there is an association if the p-value is smaller than 0.05.

TABLE 1 **Company index designation at the beginning of the ten-year period**

	<i>Number</i>		<i>Row proportion (%)</i>	
	<i>Switch</i>	<i>No switch</i>	<i>Switch</i>	<i>No switch</i>
FTSE 100	12	65	16	84
FTSE 250	56	119	32	68
Other listed	54	88	38	62
Private	51	75	40	60
Chi-sq statistic	15.4			
p-value	0.002			

Source: CC analysis of public data set.

TABLE 2 Private and listed status during the ten-year period

	Number		Row proportion (%)	
	Switch	No switch	Switch	No switch
Private only	38	48	44	56
FTSE 350 only	30	138	18	82
FTSE 350 and Other listed only	61	113	35	65
Listed to private	31	21	60	40
Private to listed	13	27	33	68
Chi-sq statistic	39.1			
p-value	0.000			

Source: CC analysis of public data set.

TABLE 3 FTSE 350 status during the ten-year period

	Number		Row proportion (%)	
	Switch	No switch	Switch	No switch
FTSE350 throughout period	30	138	18	82
Never a FTSE 350 company	60	67	47	53
Moved into FTSE 350 (and stayed)	21	57	27	73
Left FTSE 350 (and stayed)	32	32	50	50
Moved in and out of FTSE 350	30	53	36	64
Chi-sq statistic	38.9			
p-value	0.000			

Source: CC analysis of public data set.

TABLE 4 Company industry

	N		Row proportion (%)	
	Switch	No switch	Switch	No switch
Basic materials	3	15	17	83
Consumer goods	15	35	30	70
Consumer services	43	73	37	63
Financials	37	94	28	72
Health care	10	8	56	44
Industrials	39	73	35	65
Oil & gas	5	10	33	67
Technology	14	26	35	65
Telecommunications	5	7	42	58
Utilities	2	6	25	75
Chi-sq statistic	9.6			
p-value	0.388			

Source: CC analysis of public data set.

TABLE 5 Median company real total turnover during the ten-year period

	Number		Row proportion (%)	
	Switch	No switch	Switch	No switch
Smallest 20% of companies	36	68	35	65
2 <sup>nd</sup>	41	63	39	61
3 <sup>rd</sup>	38	66	37	63
4 <sup>th</sup>	39	65	38	63
Largest 20% of companies	18	85	17	83
Chi-sq statistic	14.8			
p-value	0.005			

Source: CC analysis of public data set.

TABLE 6 **Number of countries requiring an audit**

	<i>Number</i>		<i>Row proportion (%)</i>	
	<i>Switch</i>	<i>No switch</i>	<i>Switch</i>	<i>No switch</i>
1	39	84	32	68
1–5	37	66	36	64
6–20	31	78	28	72
21–50	20	54	27	73
51+	3	22	12	88
Chi-sq statistic	6.2			
p-value	0.185			

Source: CC analysis of engagement and public data sets.

TABLE 7 **Median number of partners on UK part of audit**

	<i>Number</i>		<i>Row proportion (%)</i>	
	<i>Switch</i>	<i>No switch</i>	<i>Switch</i>	<i>No switch</i>
1–2	25	34	42	58
3–5	53	97	35	65
6–10	50	113	31	69
11+	8	74	10	90
Chi-sq statistic	22.4			
p-value	0.000			

Source: CC analysis of engagement and public data sets.

TABLE 8 **Any merger activity during the last ten years**

	<i>Number</i>		<i>Row proportion (%)</i>	
	<i>Switch</i>	<i>No switch</i>	<i>Switch</i>	<i>No switch</i>
No activity	49	101	33	67
Activity	83	198	30	70
Chi-sq statistic	0.45			
p-value	0.502			

Source: CC analysis of public data set and Dealogic data.

TABLE 9 **Number of years company engaged in merger activity**

	<i>Number</i>		<i>Row proportion (%)</i>	
	<i>Switch</i>	<i>No switch</i>	<i>Switch</i>	<i>No switch</i>
None	49	101	33	67
1–2 years	39	78	33	67
3–5 years	35	69	34	66
6–10 years	9	51	15	85
Chi-sq statistic	8.0			
p-value	0.045			

Source: CC analysis of public data set and Dealogic data.

TABLE 10 **Tenure of audit firm at the beginning of the ten-year period**

	<i>Number</i>		<i>Row proportion (%)</i>	
	<i>Switch</i>	<i>No switch</i>	<i>Switch</i>	<i>No switch</i>
0–5 yrs	123	167	42	58
6–10 years	26	56	32	68
11–20 years	16	98	14	86
21+ years	8	26	24	76
Chi-sq statistic	31.5			
p-value	0.000			

Source: CC analysis of public data set.

TABLE 11 **Big 4/Non-Big-4 audit firm at beginning of ten-year period**

#	Number		Row proportion (%)	
	Switch	No switch	Switch	No switch
Non-Big-4	40	19	68	32
Big 4	133	328	29	71
Chi-sq statistic	35.74			
p-value	0.000			

Source: CC analysis of public data set.

TABLE 12 **Audit firm at beginning of ten-year period**

	Number		Row proportion (%)	
	Switch	No switch	Switch	No switch
Non-Big-4	40	19	68	32
PWC	59	114	34	66
KPMG	22	84	21	79
Deloitte	18	52	26	74
EY	25	46	35	65
Arthur Andersen	9	32	22	78
Chi-sq statistic	43.5			
p-value	0.000			

Source: CC analysis of public data set.

### Full regression output for probit models

1. In Tables 1 to 4 below we show the full regression output for different specifications of the probit model. Table 1 reports the model summaries. Table 2 reports the estimated coefficients. Table 3 reports the average predicted probabilities of a company with a certain characteristic not switching audit firm during the ten-year period for continuous characteristics and Table 4 reports the average predicted probabilities for categorical characteristics.
2. In Table 1, the 'Model Chi2' value is the likelihood ratio test chi-square statistic, a test that at least one of the estimated coefficients is not equal to zero. The 'Prob > chi2' value is the probability of obtaining a 'Model Chi2' value at least as large as the observed test statistic if all of the estimated coefficients were zero. The 'Prob > chi2' values equal to zero (to at least three decimal places) indicates that the coefficients in the models are jointly significant, ie that at least one coefficient in each model is different from zero.

TABLE 1 **Model summaries**

	<i>Model number</i>						
	1	2	3	4	5	6	7
N	496	496	418	435	430	430	414
Log-likelihood	-262.2	-261.3	-210.3	-220.0	-216.9	-213.3	-202.7
Model Chi2	102.3	104.1	86.0	88.8	88.1	95.2	94.8
Prob > Chi2	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pseudo R2	0.163	0.166	0.170	0.168	0.169	0.182	0.189
						<i>per cent</i>	
Proportion not switching (observed)	67.3	67.3	70.6	70.3	70.5	70.5	70.8
Proportion not switching (correctly predicted)	89.2	89.5	91.9	92.2	91.4	92.1	91.8
Proportion switching (correctly predicted)	40.1	42.0	39.8	35.7	37.0	38.6	38.8
Proportion (combined) correctly predicted	73.2	74.0	76.6	75.4	75.3	76.3	76.3

Source: CC.

TABLE 2 Model coefficient estimates and levels of statistical significance

	Model number						
	1	2	3	4	5	6	7
Assets	0	0	-0.05	-0.11	-0.12	-0.08	-0.05
Turnover	0.18**	0.17**	0.25**	0.22**	0.22**	0.22**	0.24**
Risk	0.25***	0.25***	0.27**	0.35***	0.35***	0.33***	0.25**
Tenure	0.34***	0.34***	0.37***	0.37***	0.37***	0.38***	0.39***
Company loss in fewer than six years (base)					0	0	0
Company loss in six or more years					0.29	0.32	0.38
Basic materials (base)	0	0	0	0	0	0	0
Consumer goods	-0.57	-0.56	-0.51	-0.57	-0.56	-0.53	-0.48
Consumer services	-0.53	-0.54	-0.51	-0.41	-0.45	-0.48	-0.56
Financials	-0.67	-0.69	-0.55	-0.51	-0.51	-0.52	-0.56
Health care	-0.79	-0.83	-0.61	-0.49	-0.37	-0.42	-0.49
Industrials	-0.62	-0.61	-0.48	-0.5	-0.48	-0.49	-0.49
Oil & gas	-0.51	-0.51	-0.46	-0.39	-0.38	-0.37	-0.41
Technology	-0.43	-0.45	-0.34	-0.35	-0.39	-0.44	-0.37
Telecommunications	-0.51	-0.59	-0.12	-0.09	-0.09	-0.12	-0.18
Utilities	-0.72	-0.78	-0.76	-0.63	-0.67	-0.65	-0.75
Non-Big-4 audit firm at start of period (base)	0	0	0	0	0		
Big 4 audit firm at start of period	0.79***	0.8***	0.77***	0.81***	0.79***		
Non-Big-4 audit firm at start of period (base)						0	0
Big 4 (and AA) firm dummy variables							
[X]						0.6**	0.59**
[X]						0.86***	0.8***
[X]						1***	1.11***
[X]						0.69**	0.56*
[X]						1.39***	1.38***
Private for ten years (base)	0	0	0	0	0	0	0
FTSE 350 for ten years	0.37	0.34	0.39	0.15	0.2	0.3	0.5*
FTSE 350 and Other listed only	0.36	0.37	0.44	0.16	0.18	0.21	0.42
Moved from listed to private	-0.34	-0.34	-0.13	-0.32	-0.33	-0.26	-0.07
Moved from private to listed	0.63**	0.65**	0.77**	0.5	0.51	0.6*	0.81**
No merger activity (base)	0						
Merger activity in at least 1 year	-0.31						
Number of years with merger activity (logarithm)	0.04						
No merger activity (base)		0	0	0	0	0	0
Activity in 1–2 yrs		-0.25	-0.14	-0.27	-0.26	-0.25	-0.17
Activity in 3–5 yrs		-0.36*	-0.35	-0.49**	-0.5**	-0.5**	-0.41
Activity in 6–10 yrs		0	0.07	-0.2	-0.18	-0.15	0.04
1 country requiring an audit (base)			0				0
2–5 countries			-0.03				-0.1
6–20 countries			-0.07				-0.16
21–50 countries			-0.21				-0.27
51+ countries			0.21				0.19
Number of partners on audit team (logarithm)				0.36**	0.36**	0.22	

Source: CC.

\* 90%, \*\* 95%, \*\*\* 99%.

TABLE 3 Average predicted probabilities for continuous characteristics, reported at the values of the 25<sup>th</sup> and 75<sup>th</sup> percentile of the characteristic and the difference between them

		<i>per cent</i>						
		<i>Model number</i>						
		<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>
Assets	p25	67.3	67.4	71.8	72.7	73.0	72.4	72.0
	p75	67.3	67.3	69.1	67.1	67.0	68.2	69.4
	Difference	0.0	-0.1	-2.7	-5.6	-5.9	-4.2	-2.6
Turnover	p25	61.5	61.7	62.5	63.4	63.5	63.8	63.5
	p75	73.0	72.9	77.4	76.5	76.5	76.3	77.1
	Difference	11.6	11.2	14.9	13.1	13.0	12.5	13.6
Risk	p25	63.5	63.4	66.7	65.2	65.2	65.7	67.3
	p75	68.3	68.3	71.3	71.3	71.3	71.3	71.5
	Difference	4.9	4.9	4.7	6.1	6.1	5.7	4.2
Tenure	p25	57.7	57.8	59.4	59.2	59.4	59.4	59.4
	p75	77.8	77.8	80.9	80.8	81.1	81.1	81.4
	Difference	20.1	20.0	21.5	21.7	21.7	21.7	21.9
Number of partners on audit team	p25				65.9	66.0	67.9	
	p75				75.8	75.8	74.0	
	Difference				9.9	9.8	6.0	
Number of years with merger activity	p25	67.5						
	p75	68.7						
	Difference	1.2						

Source: CC.

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Note: p25 = 25th percentile, p75 = 75th percentile.

TABLE 4 Average predicted probabilities for categorical characteristics

	<i>per cent</i>						
	<i>Model number</i>						
	1	2	3	4	5	6	7
Company loss in fewer than six years					70.0	70.0	70.2
Company loss in six or more years					77.7	78.3	79.8
Basic materials (base)	82.2	82.5	82.8	81.9	82.1	82.3	82.9
Consumer goods	67.5	68.1	70.0	67.1	67.8	69.0	71.4
Consumer services	68.7	68.6	70.0	71.7	70.9	70.5	69.1
Financials	64.4	64.2	68.8	69.0	69.2	69.2	69.2
Health care	60.7	59.7	67.0	69.5	73.0	72.2	71.2
Industrials	66.0	66.6	70.9	69.1	70.0	70.1	71.2
Oil & gas	69.4	69.6	71.4	72.2	72.8	73.5	73.3
Technology	71.6	71.2	74.7	73.4	72.5	71.5	74.3
Telecommunications	69.1	67.3	80.0	79.9	80.0	79.6	79.1
Utilities	62.9	61.5	62.3	65.3	64.3	65.6	63.7
Non-Big-4 audit firm at start of period	44.0	43.9	48.4	47.1	47.7		
Big 4 audit firm at start of period	70.5	70.5	73.5	73.3	73.4		
Non-Big-4 audit firm at start of period						48.1	49.2
Big 4 (and AA) firm dummy variables							
[X]						68.0	68.8
[X]						75.7	74.8
[X]						79.3	82.7
[X]						71.0	67.9
[X]						87.6	88.0
Private for 10 years	59.5	59.7	60.7	66.9	66.1	64.6	59.8
FTSE 350 for 10 years	71.2	70.5	72.7	71.3	72.0	73.2	74.6
FTSE 350 and Other listed only	70.9	71.3	73.9	71.7	71.5	70.9	72.5
Moved from listed to private	47.8	48.2	56.4	56.7	55.6	56.2	57.6
Moved from private to listed	78.3	78.7	82.0	80.3	80.1	80.9	82.1
No merger activity	71.8						
Merger activity in at least one year	62.8						
No merger activity		71.0	73.4	75.2	75.3	75.1	74.1
Activity in 1–2 yrs		63.7	69.5	67.7	68.3	68.4	69.5
Activity in 3–5 yrs		60.2	63.1	61.3	60.8	61.0	62.4
Activity in 6–10 yrs		70.9	75.2	69.7	70.5	71.1	75.2
1 country requiring an audit			72.0				73.5
2–5 countries			71.1				70.9
6–20 countries			70.1				69.1
21–50 countries			65.8				66.1
51+ countries			77.5				78.3

Source: CC.

## **Evidence on the characteristics of companies that have not switched or tendered in the last ten years from the CC survey**

### **Introduction**

1. This appendix presents evidence on the characteristics of FTSE 350 companies and other companies that have neither switched auditor nor tendered their audit engagement in the last ten years. We also compare the characteristics of these companies with those that have tendered or switched in the last ten years.
2. We estimated that 25 per cent of the surveyed companies did not switch audit firm and did not tender in the last ten years (long-tenure companies), and that among FTSE 350 companies this proportion increases to 36 per cent. We observed that these companies were more likely to have higher turnover and a larger number of employees. We do not observe any statistical difference in the proportion of these companies with a higher proportion of audit fee outside the UK compared with companies which did tender and did switch audit firm in the last ten years (shorter-tenure companies).
3. As well as company characteristics, we considered company preferences in terms of what was important in the selection of an audit firm, market-testing activities, triggers of a tender and contact with audit firms. In the vast majority of cases we did not find significant differences between long- and shorter-tenure companies.
4. Lastly we consider the company characteristics and preferences of FDs/CFOs and ACCs separately. These results reinforce the findings described in paragraphs 2 and 3.

## Prevalence of long- and shorter-tenure companies

5. There were 419 companies (165 FTSE 350 and 254 non-FTSE-350 companies) that responded to questions on the number of consecutive years their auditor, or one of their predecessors, performed the statutory audit for that company<sup>13</sup> and how many years since the company last went out to tender for statutory audit services.<sup>14</sup>
6. From this sample we are able to separate four mutually exclusive categories:
  - (a) companies that switched auditor following a tender during last ten years, referred to in the remainder of the text as shorter-tenure companies;
  - (b) companies that did not switch auditor and did not go out to tender during the last ten years (or had never tendered), referred to as the long-tenure companies;
  - (c) companies that switched auditor during the last ten years without going out to tender; and
  - (d) companies that went out to tender during the last ten years but did not switch auditor.
7. As in the main survey working paper, all results tested for statistical significance are identified by an asterisk.<sup>15</sup>
8. Of the 419 companies, one-quarter (106 companies) did not switch auditor and did not tender (long-tenure companies), 7 per cent switched auditor without tendering and 11 per cent held a tender and retained the incumbent audit firm during the last ten years. This is shown in Table 1 below. 57 per cent of companies both tendered and switched audit firm in the last ten years (shorter-tenure companies).

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<sup>13</sup> CC survey, question A4.

<sup>14</sup> CC survey, question B9.

<sup>15</sup> The approach to testing for statistical significance is discussed in more detail in the Competition Commission survey results WP, Annex 1.

TABLE 1 **Switching and tendering behaviour during last ten years (all companies)**

	<i>per cent</i>	
	<i>Tendered in last 10 years</i>	<i>Not tendered in last 10 years</i>
Switched auditor in last 10 years	57	7
Not switched auditor in last 10 years	11	25

Source: CC.

Note: Total sample base: 419.

9. The percentage of long-tenure companies increases to 36\* per cent among FTSE 350 companies only and decreases to 18\* per cent for non-FTSE-350 companies.
  
10. Conversely, only 44\* per cent of FTSE 350 are shorter-tenure companies, compared with 65\* per cent of all other companies. Table 2 presents the switching and tendering behaviour separately for FTSE 350 companies and other companies.

TABLE 2 **Switching and tendering behaviour among FTSE 350 companies and other companies**

	<i>per cent</i>			
	<i>Tendered in last 10 years</i>		<i>Not tendered in last 10 years</i>	
	<i>FTSE 350 companies</i>	<i>Other companies</i>	<i>FTSE 350 companies</i>	<i>Other companies</i>
	<i>Base: 165</i>	<i>Base: 254</i>	<i>Base: 165</i>	<i>Base: 254</i>
Switched auditor in last 10 years	44	65	10	5
Not switched auditor in last 10 years	10	12	36	18

Source: CC.

Note: Total sample base: 419.

11. Table 3 below shows that long-tenure companies are mainly FTSE 350 (57\* per cent), whereas shorter-tenure companies are predominantly non-FTSE-350 (69\* per cent). However, we note that this difference may be due to the higher percentage of responses to the survey by the former group.

TABLE 3 Proportion of long- and shorter-tenure companies within tender/switching behaviour category

	<i>per cent</i>	
	<i>FTSE 350</i> <i>Base: 165</i>	<i>Other</i> <i>Base: 254</i>
Long-tenure	57	43
Shorter-tenure	31	69
Tendering without switching	35	65
Switching without tendering	55	45

Source: CC.

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Note: Total sample base: 419.

## Company characteristics

12. Our analysis focuses mainly on the differences between long-tenure and shorter-tenure companies (ie we do not consider companies that switched auditor but did not tender and companies that tendered but did not switch auditor—see paragraph 3), starting with company characteristics such as annual turnover, number of employees and percentage of audit fee outside the UK.

### ***Annual turnover***

13. Companies with longer tenures tend to be larger than those with shorter tenures. In particular, 43\* per cent of long-tenure companies have an annual turnover greater than £1 billion, whereas 41\* per cent of shorter-tenure companies have an annual turnover smaller than £0.25 billion. Although we observe differences in the distribution of turnover between long- and shorter-tenure FTSE 350 companies, we find no statistical significance between the differences. Approximately half of non-FTSE-350 shorter-tenure companies had a turnover smaller than a £0.25 billion. Table 4 presents the turnover distribution of long- and shorter-tenure companies for FTSE 350, non-FTSE-350 and for all companies.

TABLE 4 Annual turnover of long- and shorter-tenure companies

Annual turnover	per cent					
	All companies (Base: 413)		FTSE 350 (Base:164)		Non-FTSE-350 (Base:249)	
	Long-tenure Base:104	Shorter-tenure Base: 234	Long-tenure Base:59	Shorter-tenure Base: 72	Long-tenure Base:45	Shorter-tenure Base: 162
<£0.25 bn	24	41	15	14	36	52
£0.25–£1 bn	33	35	32	37	33	34
> £1 bn	43	24	53	49	31	14

Source: CC.

### Number of employees

14. Long-tenure companies tend to have a greater number of employees. In particular: 45\* per cent of shorter-tenure companies have less than 1,000 employees compared with 29\* per cent of long-tenure companies, and 16\* per cent of shorter-tenure companies have more than 10,000 employees compared with 33\* per cent of long-tenure companies. Table 5 shows the distribution of employees for long- and shorter-tenure companies. Among FTSE 350, long- and shorter-tenure companies are almost equally distributed, while companies with more than 10,000 employees are more frequently (20\* per cent) non-FTSE-350 long-tenure companies than non-FTSE-350 shorter-tenure companies (8\* per cent).

TABLE 5 Number of employees among long- and shorter-tenure companies

Number of employees	per cent					
	All companies (Base: 419)		FTSE 350 (Base: 165)		Non-FTSE-350 (Base: 254)	
	Long-tenure Base:106	Shorter-tenure Base: 236	Long-tenure Base:60	Shorter-tenure Base: 72	Long-tenure Base:46	Shorter-tenure Base: 164
<1,000	29	45	30	26	39	53
1,000–10,000	38	39	35	38	41	39
>10,000	33	16	42	36	20	8

Source: CC.

### Non-UK activities

15. The analysis of the percentage of audit fee outside the UK does not show any substantial or statistically significant difference between long- and shorter-tenure

companies or between FTSE 350 companies and other companies. The results are summarized in Table 6.

TABLE 6 Percentage of fee outside the UK for long- and shorter-tenure companies

Percentage of fee outside the UK	<i>per cent</i>					
	<i>All companies (Base: 386)</i>		<i>FTSE 350 (Base: 151)</i>		<i>Non-FTSE-350 (Base: 235)</i>	
	<i>Long-tenure Base: 100</i>	<i>Shorter-tenure Base: 217</i>	<i>Long-tenure Base: 56</i>	<i>Shorter-tenure Base: 68</i>	<i>Long-tenure Base: 44</i>	<i>Shorter-tenure Base: 149</i>
0%	35	36	21	19	52	44
1–40%	34	39	29	38	41	39
41–100%	31	25	50	43	7	17

Source: CC.

## Industry

16. The industry comparison involves industries for which we have a minimum sample size of 30 observations.
  
17. Across all companies, the proportion of long-tenure companies is similar in all sectors (between one-quarter and one-third) with the exception of technology companies. In the Financial industry, the proportion of shorter-tenure companies is higher for non-FTSE 350 (70\* per cent) compared with the corresponding group of Financial companies in the FTSE 350 (43\* per cent). Table 7 summarizes a comparison among the two groups across representative industries according to length of tenure and company category.<sup>16</sup>

<sup>16</sup> We consider only industries having a representative sample of at least 30 observations overall. Therefore the Oil and Gas (26 observations overall), Basic Materials (17), Healthcare (17), Telecoms (11), Utilities (16) industries are not included in this analysis.

TABLE 7 Industry comparison across long- and shorter-tenure companies

	<i>All companies (Base: 419)</i>			<i>FTSE 350 (Base: 165)</i>			<i>Non-FTSE-350 (Base: 254)</i>		
	<i>Total Industry base</i>	<i>Total long-tenure Base:106 %</i>	<i>Total shorter-tenure Base:236 %</i>	<i>FTSE 350 Industry base</i>	<i>Long-tenure Base: 60 %</i>	<i>Shorter-tenure Base: 72 %</i>	<i>Non-FTSE-350 Industry base</i>	<i>Long-tenure Base: 46 %</i>	<i>Shorter-tenure Base: 164 %</i>
Financial	83	25	57	40	35	43	43	19	70
Consumer services	82	33	50	31	35	45	51	31	53
Industrial	65	29	58	24	46	42	41	19	68
Consumer goods	35	31	51	13	54	23	22	18	68
Other	34	29	47	17	29	47	17	29	47
Technology	33	18	70	10	40	50	23	9	78

Source: CC.

## **Company audit preferences**

18. Generally speaking, we found that the preferences expressed by FDs and ACCs and the behaviour of companies did not differ much between long- and shorter-tenure companies. However, there were some features of interest described below.

## ***Auditor selection***

19. Among FTSE 350 companies, 91\* per cent of long-tenure companies considered the strength of the international network as an important factor in deciding to appoint or reappoint a statutory auditor, compared with 76\* per cent of shorter-tenure companies. Although long-tenure companies were more likely to have a higher turnover and higher number of employees than shorter-tenure companies (see paragraphs 13 and 14), we did not find a significant difference between the proportion of long- and shorter-tenure companies with more than 40 per cent of the audit fee overseas (see paragraph 15).
20. Regarding market-testing activities, we considered differences in the proportions of long- and shorter-tenure companies carrying out certain activities at least every three years. We found that 69\* per cent of all long-tenure companies did not request a formal proposal or presentation from the auditor before reappointment, compared with 52\* per cent for shorter-tenure companies. If long-tenure companies faced, for example, higher switching costs, we might have expected them to engage in more (or more frequent) marketing activities to ensure that they received the best audit service.

## ***Switching auditors and relationship with audit firms***

21. Among shorter-tenure companies, 50 per cent were usually approached by Big 4 firms only (in the remaining cases a non-Big-4 firm also approached the company). Among long-tenure companies, 71\* per cent were approached by Big 4 firms only.

This is consistent with more long-tenure companies being larger companies, where only the Big 4 firms may be placed to conduct the audit. However, if we consider FTSE 350 companies only or non-FTSE-350 companies only, we observed no difference between long- and shorter-tenure companies.

22. Considering triggers for a switch of audit firm, 77\* per cent of shorter-tenure companies considered the appointment of a new FD or ACC as a potential trigger compared with 56\* per cent of long-tenure companies. We did not find any other substantive differences in what would trigger a switch of audit firm between long- and shorter-tenure companies.

### **FD and ACC audit preferences**

23. As for company level, we performed a similar analysis considering responses by ACCs and FDs separately. The vast majority of results do not show any relevant statistically significant differences among ACCs of long-tenure and shorter-tenure companies, mainly due to the small size of the corresponding samples.
24. Findings from the FD/CFO sample confirm the vast majority of results reported in the company audit preferences section, in particular the importance of the strength of the international network in the decision to appoint an audit firm (see paragraph 19) and approaches from Big 4 firms only (see paragraph 21).
25. Among FDs/CFOs, 92\* per cent of long-tenure company FDs/CFOs considered the strength of the international network important compared with 74\* per cent of shorter-tenure company FDs. We also observed that 91\* per cent of FDs/CFOs at long-tenure companies considered an adverse comment against the audit firm by a regulator as important compared with 74 per cent among shorter-tenure companies.

26. 71\* per cent of FDs/CFOs from all long-tenure companies were approached by Big 4 audit firms only, compared with 44\* per cent of FDs/CFOs at shorter-tenure companies, which is consistent with company-level results (see paragraph 21). However, among FDs/CFOs, we observe a significant difference between FTSE 350 long-tenure and FTSE 350 shorter-tenure companies: 85\* per cent of FDs/CFOs at FTSE350 long-tenure companies were approached only by Big 4 audit firms compared with 62\* per cent of FDs/CFOs at FTSE 350 shorter-tenure companies.