COMPETITION COMMISSION

STATUTORY AUDIT SERVICES MERGER INQUIRY

Review of evidence on the price effects of switching

Introduction

1. In our provisional findings (PFs),[1] we found that following a direct switch, companies obtained a significant price decrease that eroded over the subsequent two to three years (see the PFs, paragraphs 7.37 to 7.54):

   (a) Excluding only Arthur Andersen related switches, the results indicated that audit fees generally decreased in real terms the year after a switch and returned to the previous fee level in the third year after switching. The median company obtained a 17 per cent real decrease in fee in the first year after switching and had a 2 per cent real increase (compared with the previous fee) in the third year (see PFs paragraph 7.39).

   (b) For direct switching events[2] we observed a median real decrease in audit fee of 17 per cent and by the third year a median 2 per cent real increase in fees. 78 per cent of these direct switching events resulted in a real reduction in fee in the first year and 48 per cent in the third year (see PFs paragraph 7.40).

   (c) Where there was a tender but no switch, we observed a small real increase in the median audit fee of 2 per cent in the first year following the tender, and that 48 per cent of these companies obtained a reduction in audit fee in the first year (see PFs paragraph 7.41).

   (d) PwC's analysis found that the price of audits fell following direct tenders or switches, but that these price effects were temporary. Taking into account the dynamic structure of PwC's model, in the first and second year after tendering or switching companies enjoyed an audit price reduction of 9 and 8 per cent

[1] www.competition-commission.org.uk/assets/competitioncommission/docs/2011/statutory-audit-services/provisional_findings_report.pdf.
[2] Excluding all events associated with the collapse of Arthur Andersen, merger and acquisition activity and moves to or from joint audits.

respectively, relative to the price obtained if no tender or switch had occurred. It obtained indications of a price reduction of 4 per cent in year 3 and a price increase of 3 per cent in year 4 (see PFs paragraph 7.42).

2. There are alternative explanations for the pattern that we observed:

   (a) Firms offer discounts in order to encourage companies to switch auditor. These discounts are not sustainable, and the price pattern demonstrates audit fees returning to normal, competitive levels.[3]

   (b) Audit scope is underestimated by firms bidding for an engagement since firms are uncertain about the precise extent of the work required when they bid for a new engagement, and once engaged, may have to undertake more work than they predicted and so fees must increase.[4]

   (c) Incumbent auditors have some power over price, and so pre-tender prices are excessive. The tender reveals the competitive price (hence the price drop), but the new incumbent also enjoys some power over price, and so is able to increase prices to pre-tender levels over perhaps two to three years. This is the position we took in the PFs (see PFs paragraph 7.54).

3. This working paper contains further analysis of the evidence that we have on pricing behaviour contained in the descriptive statistics[5] of fees before and after switching and PwC's econometric analysis of the price effects of tendering and switching. It discusses in more detail the robustness of this evidence, and what the observed patterns imply for competition in the market for the provision of statutory audit to large companies, in particular, which of the explanations set out in paragraph 2 appears to be most plausible. We note that those explanations are not mutually exclusive.

---

[3] See, for example, the responses to the PFs by KMPG and Deloitte.
[4] See EY's response to the provisional findings and notice of possible remedies, paragraph 2.2(a).
[5] See PFs Appendix 5.

4. The specific topics in this paper were triggered by the parties' responses to the PFs, both written and oral.

5. Part 1 of this working paper discusses the robustness of the evidence discussed in the PFs, and consists of the following sections:

(a) Robustness of the descriptive statistics.

(b) Robustness of PwC's econometric analysis.

(c) The effect of more frequent tendering.

(d) Selection bias in the price effect after switching.

(e) Robustness of additional econometric evidence PwC.

6. Part 2 of this working paper discusses the interpretation of the evidence presented in the PFs, and consists of the following sections:

(a) Characteristics of the market.

(b) Observed price pattern.

(c) Discounts to compensate companies.

(d) Audit scope is underestimated.

(e) Bargaining power is gradually lost.

(f) Distinguishing between explanations.

Part 1: Robustness of the evidence

Robustness of the descriptive statistics

7. The descriptive statistics appendix considered the real changes in fees after switching, separately for a range of switching events. Among 55 direct FTSE 350 switches the median price decrease was 17 per cent in the year after the switch, with

78 per cent of companies achieving a fee decrease. However, the median price decrease found disappeared over time.[6]

8. We observed a small increase in the median audit fee of 2 per cent in the first year following a tender not resulting in a switch. One explanation for this observation is that in these cases the incumbent's offer was competitive, and during the tender the company concluded there might be no clear gain[7] from switching. However, as the sample is much smaller than that of direct switches (29 vs 55), it is unclear how much weight we can put to this result.

9. In its response to the PFs, KPMG stated that:

> The CC presents an analysis of audit price changes for the median company following a switch in audit firm. The CC also notes the range in prices around that median value. This range is enormous. Such substantial variation in the data suggests that other factors also have a strong bearing on the fees, and fee changes, that are observed. As a result, any analysis that fails to control for other relevant factors, particularly in the face of such substantial noise, can provide no robust results.[8]

10. Some statistics, such as the average of a sample, are severely affected by outliers. However, we note that the measure we focused on, the median, is much less affected by outliers. This means that even though in the sample of direct switches there might be some instances where other factors significantly affected fees, if there are sufficient observations where this was not the case, the median fee change is informative regarding the 'typical' price development after switching.

---

[6] See the PFs, Appendix 5, section 'Fees after switching auditor'.
[7] There is only a gain from switching if the benefits, such as a lower fee, outweigh the (perceived) switching costs.
[8] See KPMG's response to the provisional findings, paragraph 2.3.2.8.

11. To address the concern regarding outliers, Appendix 1 investigates in more detail the distribution of price changes after switching as analysed by the descriptive statistics. We found that in the first year after switching the distribution of the middle 50 per cent of price changes is roughly symmetric and not overly wide, implying that the median value in this year is an informative parameter. The distributions widen in years 2 to 4 after tendering and become asymmetric, which suggests that more and more noise is entering the statistics.[9]

12. In its response to the PFs, EY said:

> The fact that audit fees increase in the years following a switch did not provide evidence that 'incumbent auditors have power over price'. As the CC recognises, the data on which it bases its findings did 'not control for other observable factors which determined the audit fee, for example, scope and complexity of the audit'. Changes in the scope and complexity of any audit may account for significant changes to the audit fee – this is compounded in the early years of a relationship between and auditor and a company as the auditor becomes more familiar with limitations of the control environment in place.[10]

13. To some extent the descriptive statistics aimed to control for changes in scope by separating out direct switches. This was also the reason why switches close to any kind of deal activity were excluded, as takeovers typically change the scope of an audit and could lead to additional effort on the short term. We further excluded switches that coincided with a company moving in or out of the FTSE 350, as this might also drive fee changes.

---

[9] Findings for the distribution of the price changes over time after tendering but not switching were similar.
[10] See EY's response to the provisional findings and notice of possible remedies, paragraph 2.2(a).

14. Appendix 2 reports on a more detailed investigation of switching events in recent years (2007 to 2011) regarding their relation with merger activity. This was one of the factors for which the descriptive statistics aimed to control. We found that slight variations in classification do not materially affect what we can take from the descriptive statistics.

15. The descriptive statistics suggested to us that companies have achieved reductions in fees after switching. In particular we observed that the majority of companies that switched saw a reduction in their audit fee. However, we recognize that there might be numerous other factors influencing fees around switching events. We consider that a more extensive analysis is required that controls for these other factors.

16. The importance of controlling for additional factors is even greater for the descriptive statistics of years 2 to 5 after switching. Scope could have changed significantly over time, even if there was no merger activity. Further, the number of observations with two to five years of data after switching becomes increasingly small.

17. The next sections discuss in more detail the robustness of PwC's econometric analysis, which does control for various factors.

Robustness of PwC's econometric analysis

18. KPMG noted that:

> The PwC analysis ... attempts to control for factors such as scope of the audit. The substantial reduction in the magnitude of the decrease in audit fees after a switch in the PwC analysis compared to the CC's own analysis shows, importantly, that when other relevant factors are controlled for the magnitude of the effect that the CC observes

decreases. However, even the PwC analysis does not control for all relevant factors.[11]

19. We consider that the evidence we have from descriptive statistics on the profile of fees in the years after switching may be weak (see paragraphs 15 and 16). However, even though the estimated relative price decrease found by PwC is lower than that found in the descriptive statistics, the pattern is similar, and PwC's analysis controlled for various observable factors that co-determine the level of audit fees.

20. With respect to scope and complexity, PwC controlled for asset value, turnover, merger activity, and takeover switches. It also included the previous years' audit fee, which should capture company specific effects, even if these change over time. To control for risk PwC included a 'loss' dummy and the ratio of assets to turnover. Finally the model included year dummies to capture market developments over time such as regulation.

21. Given the available data and the nature of the industry, PwC's 'company specific effects' model took into account what it reasonably could. However, we acknowledge that the model likely does not control for all relevant factors that determine the audit fee, and some of these omitted variables might bias the results.[12] One such potential issue is the potential selection bias, which is discussed further below, in particular in paragraphs 36 to 42.

22. Other reasons for the different estimate when compared with the descriptive statistics might be a different definition of the direct switches (covering also non-FTSE-350 switches, moves from and to joint audit, etc). Also the sample is different as the specification put forward by PwC as 'preferred' excluded banks and financial services

[11] See KPMG's response to the provisional findings, paragraph 2.3.2.9.
[12] Important factors not controlled for in the analysis are costs and quality.

companies.[13] A model including those companies estimated a price decrease that was closer to the median price decrease reported in the descriptive statistics appendix (13 per cent vs 17 per cent).

23. Finally the PwC analysis combined direct switches and tenders that did not result in a switch. Oxera said: 'PwC has not distinguished between tendering and switching in its econometric paper, so the effects are not separable from reading the PwC paper'.[14] Although conceptually it is defendable to combine these two categories, the descriptive statistics suggested the price effects might be quite different. This could be another factor explaining the larger price effect found in the descriptive statistics.

24. A disadvantage of the PwC analysis is that it does not provide much evidence on the fee profile post year 4. Further, Oxera raised doubts regarding the strength of the evidence in years 3 and 4.[15] Oxera suggested that rather than showing fees return to pre-switching levels, the analysis provides limited information on the profile of fees from year 3 onwards as the effects are insignificant.[16]

25. However, PwC stated in paragraph 4.15 of its analysis that

> The standard errors associated with the 'direct tender/switch' variable do not increase significantly over time. This is an important result as it suggests that we can be confident that audit prices return quickly towards or beyond the levels that the company would have obtained had it not tendered or switched.

We consider that this is a reasonable interpretation of the estimation results.

---

[13] The PFs, Appendix 30, paragraphs 17–23 and paragraph 26.
[14] See Oxera submission, paragraph 1.3.
[15] Statement made by Oxera during a presentation to CC staff members on 20 March 2013.
[16] This mostly applies to the preferred model. The model including banks and financial services companies finds an effect for the third year that is very close to being significant and a point estimate for year 4 that is almost zero.

26. In its response to the PFs, PwC said: 'The CC focuses on the pattern that typically is observed when there is an audit firm switch, where reduced first-year prices (and profitability) are followed by increases over the subsequent two to three years, before reaching a plateau.'[17,18] PwC broadly accepted the pricing pattern identified by the CC (although not the precise details) but fundamentally disagreed with the inferences drawn by the CC.[19]

27. With regards to the fee rise, PwC said

> Our econometric analysis shows that prices decline immediately on tender or switch and then 'rise' in the following three years. However, these price rises are in relative (not absolute) terms and are not 'rapid'. Our econometrics shows that, after the immediate price reduction, prices rise at the rate of about 3% per annum relative to the price that would have been obtained if the company had not tendered or switched (but the prices that have been obtained by companies that do not tender or switch have themselves been falling).[20]

28. PwC's comment is likely related to the conclusions in paragraph 7.52 of the PFs. However, the PFs in other sections stated that the price drop was relative to the companies that did not tender or switch, or 'but-for' the tender or switch. Indeed the fees increased by around on average 3 to 4 per cent per year in relative terms.[21] PwC itself labelled this as 'quickly', see paragraph 25 above.

---

[17] See Annex 1 to PwC's response to the provisional findings and notice of possible remedies, dated 22 March 2013, paragraph 18.
[18] We note that we do not have robust information about what happens after year 4, so it is not clear whether in fact a plateau is reached.
[19] See Annex 1 to PwC's response to the provisional findings and notice of possible remedies, dated 22 March 2013, paragraph 19.
[20] See Annex 1 to PwC's response to the provisional findings and notice of possible remedies, dated 22 March 2013, paragraph 19(a).
[21] Based on the point estimates and dynamic effects of PwC's analysis, on average prices rise at the rate of about 4 per cent a year relative to the price that would have been obtained if the company had not tendered or switched ((103 – 91) / 3 = 4 %). An alternative explanation is that the estimated price effect in the preferred model is not significant in years 3 and 4, and therefore

29. In another submission PwC went on to combine the observation discussed in paragraph 27, with an observation that over the period 2006 to 2011 in real terms the median FTSE 350 audit fee had declined 15 per cent.[22] PwC concluded that companies that tendered or switched 'are obtaining on average a reduction in prices which is about 3 per cent per annum less than other companies'.[23] We consider that the two pieces of evidence cannot be combined in such a manner, as the analyses covered substantially different time periods.[24]

The effect of more frequent tendering

30. With regards to tendering frequency, PwC said: 'The results of the econometrics shows the average short-run price reduction through switching and tendering where the companies switch tender at their current rates. There is not a single company in the industry dataset which has actually tendered or switched every three years.'[25]

31. We consider that there is considerable variation within the data on patterns of switching which we cannot unravel. The estimates do not control for length of tenure and we do not have information on when each engagement was last tendered. However, we agree that more frequent tendering driven by regulation might have a different effect than the direct tendering and switching companies undertook on their own initiative. Further, there is the issue of costs associated with increased tendering.

32. KPMG said:

> By simply relating the level of pricing to the frequency of tendering, the CC appears to adopt the paradoxical view that the greater the

---

the price in year 4 after switching is equal to that without switching, eg 100. That translates into an average effect of 3 per cent per year ((100 – 91) / 3). In a similar fashion we estimate price rises of an average 4 per cent for the complete sample including financial services companies ((99 – 87) / 3).

[22] See appendix to the post-hearing follow-up submission from 23 May 2013, paragraph 24.

[23] See appendix to the post-hearing follow-up submission from 23 May 2013, paragraph 24(b).

[24] PwC's analysis covered the years 2000 to 2010, so the two analysis overlap for only four out of the 11 years.

[25] See Annex 1 to PwC's response to the provisional findings and notice of possible remedies, dated 22 March 2013, paragraph 20(a).

> frequency of tendering, the lower the price over the overall tenure. This is unrealistic and ignores the fact that firms will change their pricing strategies in response to increased tendering ....There is no evidence that prices overall would decrease ... the opposite effect may result due to the need to build into prices the costs of regular tendering and the increased uncertainty of tenure.[26]

33. KPMG further said:

> In pricing an audit during a tender, an audit firm will implicitly take into account the likely duration of the engagement (although we note that this can never be known with certainty). Audit firms are willing to shoulder fixed costs of transition and tendering (rather than passing these onto companies), as well as potentially offering early year discounts, if it can expect to make this up over the life of an engagement. However, the shorter the life of the engagement the less an audit firm will be willing to shoulder these costs or offer any given discount.[27]

34. Similarly, PwC said: 'If companies were in fact to tender much more frequently, audit firms would not have the incentive to offer the same level of discounts'.[28] We consider that the incentive to offer discounts will depend on the profitability of the engagement.

35. Paragraph 64 discusses how in a competitive market we expect tender costs and the expected duration of an engagement, among other factors, to play a role in the determination of audit fees to be offered in a tender. Therefore, even though we

---

[26] See KPMG's response to the provisional findings, paragraph 2.3.3.6.
[27] See KPMG's response to the provisional findings, paragraph 2.3.3.2.
[28] See Annex 1 to PwC's response to the provisional findings and notice of possible remedies, paragraph 20(b).

believe that tenders are a transparent competitive situation, exogenously increasing the tendering rate may dampen some of the benefits that have been observed in the past. These points will be considered in detail in the assessment of our proposed Remedy 1 (ie mandatory tendering). In this paper we focus on understanding observations on past behaviour.

Selection bias in the price effect after switching

36. In its response to the PFs, PwC suggested that there might be a potential selection bias in its results: 'the results of our econometrics are based on companies which have actually chosen to tender or switch and hence likely include those where greatest short-run price reductions were achievable (because, for example, their previous prices were relatively high).'[29]

37. However, in the econometric analysis PwC also noted that 'we know from the CC's market questionnaire that dissatisfaction with the current audit is the most frequently cited reason for a company choosing to tender or switch',[30] which suggests that price is not the most important driver of switching. Even though this was not a category in the CC survey, switching could also be driven by good corporate governance, as opposed to the performance of the auditor.

38. Further, self-selection might also be driven by low switching costs. This means that some of the observed switches might not necessarily be those where the greatest short-run price reductions were achievable, but rather where the difference between the potential price reduction and the (perceived) switching cost was the greatest.

[29] See Annex 1 to PwC's response to the provisional findings and notice of possible remedies, dated 22 March 2013, paragraph 20(a)(i).
[30] See PwC's analysis, paragraph 4.20.

39. Nonetheless, we consider that there might be a selection bias in PwC's econometric results.[31] This means it is not clear whether the price effect was a causal effect of tendering or switching, or whether the companies that tendered or switched were paying a higher than average price. We indicate this issue in the PFs, footnote 138, and explain it in more detail in PFs Appendix 30, paragraph 15.

40. We note that the potential for this bias also depends on the precision with which the group of 'direct switchers' is determined. We consider that the group analysed by PwC also includes switches associated with external events, such as mergers within the FTSE 350 which are not captured by PwC's filter for M&A activity.[32]

41. Given the results of the analysis, the question still arises why companies that were previously paying prices that were relatively high should only enjoy short-run reductions following a tender or switch. This would suggest that these companies in particular have a weak bargaining position (outside of a tender), which is improved by a tender or switch, but erodes again over time as the new firm asserts itself further on in the new engagement.

42. The next section describes PwC's empirical effort to understand whether there is a selection bias, and the CC's evaluation of this analysis. The conclusion is that we cannot confidently say whether there is such a bias or not. However, irrespective of any selection bias, the results are informative: if there is no selection bias, the results are consistent with companies in general losing bargaining power over time. If there is a selection bias, the results are consistent with a subset of companies losing bargaining power.

[31] This potential issue applies equally to the descriptive statistics.
[32] PwC's analysis does control for other mergers with a separate dummy. To the extent the merger coincides with a switch, merger-specific first-year switching effects should be captured.

Other econometric evidence of PwC

43. In addition to the 'company specific effects' model, PwC's analysis also presented results for a 'sector and index effects' model. However, PwC indicated that the results of this model needed to be treated with caution due to a potential bias in the estimated coefficients. It was also indicated that there were data issues with the tenure variable that featured in some of the specifications. Therefore we did not consider the results from this model in the PFs.

44. However, in its response to the PFs, PwC referred to this evidence, and said:

> There is no evidence that prices rise above competitive levels. For example, our econometrics shows that (over the long run and on average), companies which tender or switch (and which are therefore exposed to transparent competitive pressure) do not pay lower prices than companies which do not tender or switch. The CC appears to disregard this evidence because it was not perfect (as we acknowledged in our submission), despite it being more robust than much of the evidence on which the CC relies and the best evidence that is before the CC on this question.[33]

45. PwC also based the following statement on that evidence: 'our econometrics actually shows that companies which tender or switch do not obtain lower prices over the longer term than companies that do [not] tender or switch'.[34]

46. In addition to the fact that PwC itself raised several other methodological issues with the analysis, we consider that the applied model specification was not appropriate. Given the more serious issues with the tenure variable, the discussion of this

---

[33] See Annex 1 to PwC's response to the provisional findings and notice of possible remedies, dated 22 March 2013, paragraph 19(b).
[34] See Annex 1 to PwC's response to the provisional findings and notice of possible remedies, dated 22 March 2013, paragraph 20(a)(ii).

conceptual issue will focus on the model that aims to compare the average audit fee paid by companies that tendered or switched with the fees that are paid by companies that did not.

47. PwC developed this 'Industry and index effects model' to obtain evidence on whether companies that tendered or switched paid higher prices than those that did not over the long term (which it takes as the data period 2000 to 2011).[35] It points out that companies that voluntarily tendered or switched may have been self-selecting, if they were paying higher-than-average prices prior to the tender.[36]

48. To test this, PwC set up random effects and between effects models, with a dummy variable that takes the value 1 if a company tendered or switched at any point in the data period and 0 otherwise. As the models do not have fixed company effects (such as the preferred specification), they can theoretically measure the average difference between companies that switched and companies that did not switch. The models also include controls for different sectors and indices.

49. There are two issues to this approach. The first was pointed out by PwC, as it said the results of its 'industry and index effects' model needed to be treated with caution. It explained that if the company-specific effects were related with any exogenous variables in the model then the estimated coefficients of the random effects and between effects models might be biased.

50. Further, we note that for some companies, data is not available for all the years, ie the panel dataset is unbalanced. If the likelihood of companies to enter or disappear

[35] See PwC's analysis, paragraph 4.19.
[36] See PwC's analysis, paragraph 4.20.

from the sample is related to the company-specific effects, then the 'industry and index effects' models may be inconsistent as well.[37]

51. The second issue with PwC's approach is the fact that even if we could consistently estimate an average price difference between companies that switched and those that did not, it is not informative. The estimated effect would be an average of the difference before switching and that after switching. Suppose that companies paid 5 per cent more than average before switching, and 5 per cent less after switching, this might over the entire period result in the same average fee as that for companies that did not switch.

52. We consider that if we wanted to test whether companies that tendered or switched paid higher prices than those that did not, the dummy variable should only take the value 1 AFTER the company first tendered or switched and 0 otherwise. Conversely one could include a dummy that takes the value 1 BEFORE a tendering or switching company first switched and 0 otherwise. However, ideally a model would include both to see how the fees paid by companies that switched relate to that of other companies, both before and after switching.

53. To investigate this, we have adjusted PwC's model in the way described above. We could not clearly identify whether switching or tendering companies paid more than average before tendering (and therefore likely self-selected), or paid less on average after tendering. Potentially this is because the sample includes both types of cases. However, we saw a benefit of switching for those companies that switched roughly in line with the average effects of the 'company-specific effects' model.

[37] See Wooldridge, Jeffrey M (2002), Econometric Analysis of Cross Section and Panel Data, MIT Press, Chapter 17.

54. Overall, we consider that PwC's 'Industry and index effects model' does not show that there are no long-term benefits to switching. The 'company specific effects' model, however, does provide interesting insights in the price development after switching. It is a helpful extension to the descriptive statistics, as it controlled for various observable factors that co-determine the level of audit fees.

55. Nonetheless, we consider there are limitations to what we can take from the results. The model likely does not control for all relevant factors that determine the audit fee, and some of these omitted variables might in fact bias the results. An important issue is the potential selection bias (see paragraphs 36 to 42).

56. In Part 2 we discuss the relative price development the analysis found, and potential explanations of that pattern. Given the considerations above we cannot take the price pattern as proof of an adverse effect on competition, but we do consider that it appears consistent with one.

Part 2: Interpretation of the evidence

57. Part 1 of this working paper discussed the robustness of the evidence we have on the price effects of tendering or switching. This part discusses how that evidence can be interpreted. As PwC's econometrics control for several factors, its results are more robust than the descriptive statistics with regards to the fee development over time. Therefore this part will focus on in the interpretation of those results.

Characteristics of the market

58. The parties said that the PFs did not detail what we might expect to observe in a well-functioning market, in particular for outcomes other than price.[38] However, there

[38] See, for example, PwC's response to the provisional findings and notice of possible remedies, dated 22 March 2013, paragraphs 2.21–2.23.

is no single description of a well-functioning market, and this includes price developments after tendering or switching.

59. What we can do is review the observed outcomes in the context of the characteristics of the market, and evaluate whether we think they are compatible with a well-functioning market. We consider the most important characteristics of the market to be the following:

(a) Periodic open competition for engagements (subject to the other characteristics below).

(b) Tendering and switching costs for both companies and firms, the exact nature and level of which may not be clear in advance.

(c) Engagement-specific investments such as start-up costs for the new auditor and benefits such as longer-term cost reductions.

(d) Inability to commit to fixed fees due to scope changes.

(e) Uncertainty on the value of an engagement to a firm including its profitability, duration, and strategic value in winning other audit and non-audit work.

60. We think, and the parties have generally accepted, that tenders are transparent and competitive events. We would not expect a company to tender and switch auditor unless the expected gains from doing so outweigh the expected costs.[39] The PFs, Appendix 12, paragraph 5 identified a range of switching costs such as management time taken up by a tender process, the loss of costs efficiencies resulting from longer engagements, and the risk of mistakes by a new auditor.

61. We note that many of these switching costs (perceived or actual) for companies are difficult to measure precisely or express in monetary terms. Equally, it is difficult to measure some of the gains from switching in monetary terms, and again

[39] The gain that can be achieved is not necessarily a lower price, but can also be higher quality.

expectations might not be in line with reality. Further evidence on this point will be considered in the assessment of the proposed remedies 1 and 2 in our provisional decision on remedies.

62. Tendering and taking on a new engagement is also costly for the audit firm. Appendix 24 to the PFs reported on our calculations of the staff costs incurred by audit firms participating in tenders.

63. Further, firms make additional efforts in the initial years of an engagement to become familiar with the new company. Figure 18 in Appendix 5 to the PFs shows that a new auditor spends up to 30 per cent more hours than the previous auditor in the first years of an engagement, which drops again in years 3 and 4. The coinciding drop in fees per hour suggests that these start-up costs to a significant extent are borne by the auditor.

64. Theoretically the lower bound for the price a firm would be prepared to offer for the first year(s) of an engagement is determined by a range of factors:

1. The tender costs.
2. The likelihood of winning the tender (given the proposed fee).
3. The expected costs of the engagement (including run-up costs).
4. The expected duration of the engagement.
5. The expected development of the audit fee, given the proposed fee for the first year, plus the monetary value of other potential benefits resulting from the engagement.[40]

65. In addition to understanding the lowest fee they can offer, firms must form an expectation regarding the likely proposals of competing firms (both in terms of fees

[40] One example of such a benefit is enhanced experience or reputation in a sector.

and quality). This will help them to determine whether the fee to propose can potentially be higher than their lower bound for the audit fee, and if so how much. A firm that expects competitors to underbid its lower bound, all else equal,[41] will likely not participate in a tender.

66. In the years after winning the tender the firm might have the ability to increase audit fees, reflecting the scale of the switching costs faced by the company. As soon as the expected gains to be had from tendering become larger than the switching costs, the company will have an incentive to tender again. For this mechanism to work, however, it is important that companies have a good understanding of the costs and gains of switching.

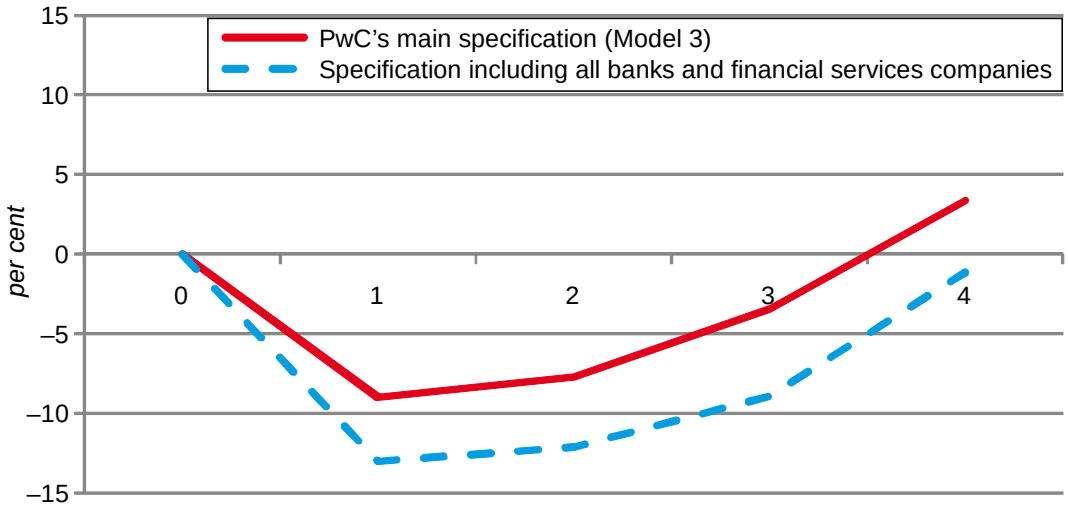
Observed price development

67. Figure 1 shows the relative audit fee development after tendering or switching compared with audit fees paid by companies that did not switch or tender, after controlling for various other factors that determine the audit fee.[42] The figure is based on the results of PwC's econometric analysis. As explained in Appendix 30 to the PFs, we consider the results of the specification including all banks and financial services companies more representative.

[41] Such a comparison would need to control for quality differences between the bidders. In that context the signalling effect of a quoted price might also be relevant.
[42] The figure is identical to Figure 1 in Appendix 30 to the PFs.

FIGURE 1

Estimated price effects after direct tenders or switches



Source: Figure 1 and Appendix E of PwC's econometric analysis, CC calculations.

68. The chart shows that on average the relative price benefit[43] obtained after tendering or switching is short-lived. This raises two questions: *(a)* whether the price in the first year after switching is a sustainable competitive price or not; and *(b)* whether the relative price progression after the first year is consistent with a competitive market.

69. Audit firms have not to date provided a clear, complete, and consistent story on how they determine the appropriate fee to propose in a tender situation, and in particular how this relates to the expected outcome of fee negotiations occurring later during the engagement.[44]

70. However, some alternative explanations for the observed price pattern have been proposed (as set out in paragraph 2):

(a) it amounts to a discount offered by the firm that wins the tender to compensate companies for their switching costs;

[43] This empirical evidence only measures fees levels, changes in quality could make the decrease of a 'quality controlled' fee either smaller or larger, although we expect it to be larger given the evidence we have on companies switching auditors for other reasons than price.

[44] In the appendix to the post-hearing follow-up submission from 23 May 2013 PwC provided some description on how audit fee to propose during a tender is determined, see paragraph 103.

(b) firms winning tenders underestimate the scope of the audit; and/or

(c) companies gradually lose bargaining power with regard to the audit firm post-tender.

71. The following sections first discuss the two explanations put forward by parties, and then explain what the CC understands from the price pattern.

Discounts to compensate companies

72. Several parties said that the observed price drop in year 1 did not imply that incumbent firms realized a premium above the competitive price prior to the tender or switch. They suggested that audit firms submitted low bids to encourage switching in the knowledge that they could increase fees later and thereby recoup any losses in early years.

73. Deloitte stated: 'There is an obvious and identified pro-competitive reason for this profitability phenomenon – that firms bear the costs of getting up to speed with a new audit assignment, representing a cost which unwinds over time.'[45]

74. KPMG said:

> In our view, low bids are often offered to encourage a switch by offsetting any company costs incurred as part of a tender process and to offset any concerns on the part of the management or AC in relation to possible future quality. However, the CC dismisses these potential

[45] See Deloitte's response to the provisional findings, paragraph 5.2(e). Even though this statement refers to profitability, the argument is made to explain why pricing behaviour in the first few years of a new audit engagement does not indicate that newly appointed auditors have pricing power.

arguments because 'engagements are profitable at the gross margin level'. The CC is wrong to do this ...[46]

75. As explained in paragraph 64, in a competitive environment we expect firms tendering for engagements to consider expected returns over the lifetime of the engagement. This would form the basis for deciding on the resources to allocate to the tender process, the resources to make available to the transition process, and the fees quoted in the proposal.

76. If firms expect that fees can be increased later on in the engagement, they may therefore be prepared to offer lower fees to win the engagement. In a competitive market the resulting audit fees will recover the tender costs and the 'discount', but result in expected margins over the life of the engagement that are not excessive.

77. There are two reasons why we consider that discounts are not a plausible explanation for the pricing pattern observed. First, we have some evidence that companies go out to tender for non-financial benefits such as quality. In such a context there might be a signalling effect of the fee offered, which reduces the incentive to propose a very low fee. In other words, a low audit fee might be seen as indicating a poor quality audit. We understand that in some cases fees were negotiated in a second stage of the selection procedure.

78. Further, we have not seen evidence that a reduction in fee would make companies more inclined to accept risks to audit quality.[47] It is unlikely that a fee reduction could compensate companies for the potential costs of an audit failure.

---

[46] See KPMG's response to the provisional findings, paragraph 2.3.2.2.
[47] As suggested by KPMG in the quote in paragraph 73.

79. Putting to one side potential quality issues, the main cost associated with tendering and switching is the opportunity cost of management time. Potentially a temporary reduction in fee could compensate an organization for this. However, we have no evidence that companies are incurring the costs involved in tendering and switching auditors in the knowledge that they will achieve a short-term reduction in fees, instead of more long-term benefits.

80. In particular, we understand that the concept of a 'discount' is not presented as such to the company during the tender process.[48] We have not encountered examples of firms offering short-term discounts to companies to induce switching, even though we have run approximately 25 case studies and spoken to numerous stakeholders, including personnel of both companies and firms who negotiate fees. Therefore it is unclear why a company with sufficient bargaining power would accept fee increases in the years following a switch that are not directly related to scope increases.[49]

81. An explicit statement regarding the first-year discount came from the Audit Engagement Partner of Company F:

> A concern with appointing new auditors, particularly if the fee was lower than the incumbent, was that it was a one-year discount which would increase to a higher fee in the future. Companies did not appoint an audit firm with the expectation of switching after two years so they wanted to make sure the fee was sustainable.[50]

---

[48] In the appendix to the post-hearing follow-up submission from 23 May 2013, paragraph 12, PwC indicated they do not offer discounts during tenders.
[49] PwC's analysis already controls for scope through a range of variables. Therefore scope changes are not the most likely driver of the relative price development.
[50] See Case Study F, paragraph 87.

Audit scope is underestimated

82. EY in particular suggested an alternative explanation for the observed pricing pattern: 'The lower prices offered in a tender process will often reflect the difficulty that non-incumbent firms have in establishing the adequacy of the human and system resources and the controls ("the control environment") already in place'.[51]

83. It added that:

> Audit fee proposals are therefore often based on an incomplete understanding of the control environment – leading to a need to increase the fee in subsequent years once the reality of the control environment becomes apparent to the new auditor in order to avoid audit quality being compromised.[52]

84. In other words, the firms that underestimate costs win the tender, and thereby suffer a 'winner's curse' that needs to be rectified in the years following the switch. We do not consider this explanation very plausible.

85. First, if companies have sufficient bargaining power, as the parties claim, firms have an incentive to estimate audit costs accurately. Companies would be reluctant to accept fee increases resulting from a firm's estimation error. It is unclear why in such a setting audit firms participating in tenders would on average underestimate these costs.[53]

86. Further, we have evidence that selection is not on the basis of fees alone,[54] and we have heard of a case where a very low-priced offer did not give the firm in question a

---

[51] See EY's response to the provisional findings and notice of possible remedies, paragraph 2.2(a).
[52] See EY's response to the provisional findings and notice of possible remedies, paragraph 2.2(a).
[53] We note that bidding aggressively to win only makes sense if there is an expectation the engagement will be profitable overall, it is not rational to bid below that level.
[54] We calculated that in roughly 36 per cent of the cases (14 instances), the winning firm was not the firm that bid the lowest fee (See the PFs, Appendix 25, paragraph 50).

better chance of being selected.[55] We therefore do not expect that firms under-estimating costs win tenders in general, as selection is not driven by price alone, and a very low bid might signal that the auditor does not understand the control environment or aims to renegotiate substantially after appointment.

87. An alternative explanation for underestimated audit scope is that instead of firms on average underestimating the scope of the audit, company management on average provides overly optimistic assumptions in the tender specifications. However, it is not clear to us why on average companies would be unable to provide correct assumptions in the tender proceedings.

88. Even if it were true that companies on average provide overly optimistic assumptions, for example to mislead firms and reduce the proposed audit fees, we would expect a different price progression as a result of that. If firms expect that they cannot re-negotiate,[56] they would likely price in a premium to cover the risk of an under-estimated scope.

89. If firms can renegotiate, it is not clear to us why they would not do this immediately (eg from year 1 onwards). In the first year of the engagement the firm detects where the companies' assumptions were too optimistic, the first-year fee would be adjusted to compensate for the additional work that proved necessary, and would form the basis for fees in the later years.

[55] There was a fear that the firm would try to compensate the low fee offered through costs overruns and clawbacks. See Proxima hearing summary, paragraph 13.
[56] The firm would have to negotiate even if the agreement is subject to scope changes, as this only covers the incremental changes, not the potentially incorrect assumptions that formed the basis for the tender.

Bargaining power is gradually lost post-tender

90. We consider that the explanations put forward by the parties for the observed price patterns are not consistent with companies having a strong bargaining position throughout the engagement, a view the parties also support.

91. As the tender process is not undertaken frequently, outside of the tender process a company only has an imperfect understanding of the costs on the one hand and the potential gains on the other from tendering and switching. This information asymmetry when compared with the audit firms (which are involved in tenders much more frequently), might result in the companies losing their bargaining power over the duration of an engagement.

92. EY summarized this view as follows: 'The CC further infers that the temporary nature of the price reduction reflects the fact that companies become less able to identify the "competitive price" as time passes after an audit tender.'[57] We consider that the observed price progression is consistent with an erosion of company bargaining power post-switch or tender, as firms increase audit fees to pre-tender level.

93. Deloitte did not agree with such an interpretation and said that

> Pricing behaviour in the first few years of a new audit engagement does not indicate that newly appointed auditors have pricing power, as the PFs wrongly suggest. If incumbency did give rise to pricing power, it would be expected that the incumbent auditor would continue to be able to raise prices and profitability over time.[58]

94. We consider it incorrect to suggest that an incumbency advantage would be reflected in prices that would continue to rise over time. The ability to raise prices after

---

[57] See EY's response to the provisional findings and notice of possible remedies, paragraph 2.2(a).
[58] See Deloitte's response to the provisional findings, paragraph 5.2(e).

appointment will be limited. A firm would not be able to raise prices beyond the point where the company, even despite the uncertainty surrounding it, would feel that the benefits to tendering or switching exceeded the expected costs.

95. Various companies indicated during hearings that audit fees after a tender or switch were agreed on a fixed basis for a period of three years.[59] However, fees were fixed subject to changes in a variety of factors such as scope, the number of subsidiaries, the number of territories, new systems, changes in accounting standards, foreign exchange, and inflation.[60,61]

96. Almost all of these companies also indicated that there were substantial changes in some of these factors quite soon after tendering or switching. As a result of that, final fees in many cases were still agreed on an annual basis. This means that as time passes, conditions become less comparable to those that formed the basis for the audit fees offered in the tender procedure.

97. For some aspects it might be relatively straightforward to understand whether a proposed fee change is reasonable, for example with regards to inflation.[62] For other aspects, such as scope, it might be more difficult to do that. Company H said 'The company's structure had changed significantly ... therefore the audit fee was very different and hard to reconcile with previous years.'[63]

---

[59] See Summary of calls held with Company C, paragraph 35, Company E, paragraph 27, Company F, paragraph 30, and Company H, paragraph 37. Company S also agreed on a fixed fee arrangement, although not for three years, see paragraph 13.
[60] Different companies mentioned different factors, the overview combines all factor mentioned by any of the companies.
[61] PwC said that all FTSE 350 audit appointments were annual and subject to shareholder approval at the annual general meeting and thus formally there were no three-year audit contracts. See appendix to the post-hearing follow-up submission from 23 May 2013, paragraph 15.
[62] Company E said that its Finance Director looked to counter fee increases among other things by being tough on inflation. See Summary of calls held with Company E, paragraph 29.
[63] See Summary of calls held with Company H, paragraph 37.

Distinguishing between explanations

98. EY said: 'The CC's position appears to be that, because a switch tends to lead to an immediate price reduction that provides prima facie evidence that the company was paying an audit fee that was uncompetitive prior to the switch.'[64]

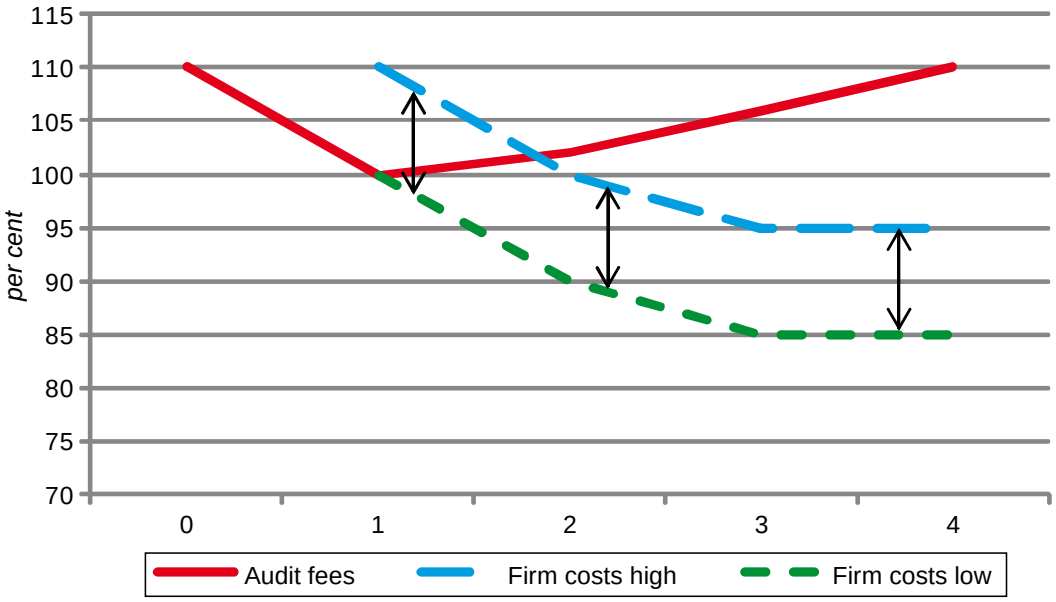
99. Our position is more subtle. There is evidence that companies have achieved reductions in fees by switching. That this is the case suggests that companies that have not tendered or switched for some time may be paying excessive prices. This may be evidence of a lack of price sensitivity or a reluctance to contemplate switching (ie a stickiness in the market), for whatever reason.

100. In order for the parties' explanations and the observed price pattern to be compatible with a competitive outcome, we would not expect first-year audits to be profitable. Figure 2 illustrates this point graphically. In such a scenario ('Firm costs high') firms not only have to bear their own start-up costs, but also those of the company through a short-term discount.

[64] See EY's response to the provisional findings and notice of possible remedies, paragraph 2.2(a).

FIGURE 2

Hypothetical cost and pricing pattern current situation



Source: CC assumptions and development of hours from the engagement dataset.

101. This would amount to competition 'for the market', whereby firms compete to obtain an engagement, in which they are able to extract additional rents due to reluctance of companies to tender or switch. However, the competition for such an engagement could be so fierce that the expected additional rents are given away by the firm through unsustainably low fees in the first years of an engagement.

102. In this context KMPG said: 'The CC offers no explanation of why this pricing behaviour should be predicated on audit firms making "normal returns". In fact, the observed pricing pattern of a temporary reduction in price following a change in audit firm is entirely consistent with either competitive or high returns.'[65]

103. However, our available evidence on profitability does not suggest that even in the first year firms do not cover direct costs. [✂][66] indicated that first-year audits were

[65] See KPMG's response to the provisional findings, paragraph 2.3.3.2.
[66] [✂]

typically not profitable. However, even for [✂] it was not clear how common this is and in what time period it occurred (eg in the past two years or over the period in which the relative price development was observed).

104. PwC said that it offered a competitive price for the first year's audit, which then formed the base from which fees were varied in future years depending on circumstances.[67] In setting the fee it often had regard to an estimate of audit costs in the third year, which meant that the first-year fee did not take account of the additional time that it was incurred during the early period of an engagement.[68,69] This suggests to us that the first-year fee is sustainable, and there is no competitive reason for it to rise over time.

105. Finally, even absent all the arguments above it is difficult to see how competition in this market would produce such a pattern. Given the switching costs that companies face, it is likely that firms could increase prices to some degree and sustain them. In the context of annual negotiations firms are in a good position to determine what price level or increases are likely to be acceptable and sustainable.

106. Theoretically it is possible for the observed price pattern to be compatible with a well-functioning market. However, the imperfect information regarding the lifetime value of an engagement (eg due to variation around scope, duration, non-audit services) makes the trade-off with an up-front discount complicated, and therefore less plausible.

107. We cannot exclude that there have been cases where a discount was given, or where the scope of an engagement was underestimated during a tender procedure.

---

[67] See appendix to the post-hearing follow-up submission from 23 May 2013, paragraph 12(a).
[68] See appendix to the post-hearing follow-up submission from 23 May 2013, paragraph 12(b).
[69] PwC indicated that the ability to absorb these familiarization costs was linked to the frequency with which companies tendered and switched. See appendix to the post-hearing follow-up submission from 23 May 2013, paragraph 13.

However, we are not convinced that this was typically the case. Given the market characteristics, we consider it more plausible that companies lose bargaining power over the course of an engagement. The observed relative price pattern after tendering or switching is consistent with that. We have seen no robust evidence suggesting that competition for engagements fully compensates companies for this.

108. In preparation of the final report we seek parties' views on the above. In particular:

(a) In your view what is the most plausible explanation for the observed relative price development observed for companies that tendered or switched?[70]

(b) How can a relative price development, whereby an initial relative price drop erodes away in three to four years, be consistent with companies that (on average) have strong bargaining power/price transparency outside of a tender situation?

(c) In your experience, over the period from 2000 to 2010, to what extent were first-year audit fees unsustainable? Please provide supporting evidence if available.

(d) To what extent do you consider that a tender situation in the market for FTSE 350 audits is subject to competition 'for the market'? Please provide supporting evidence if available.

[70] Please bear in mind that the underlying analysis already controls for a variety of factors that proxy for audit scope, which makes changes in these factors an implausible explanation for the relative price development.

Analysis of outliers

1. This appendix investigates in more detail the distribution of price changes after switching as analysed by the descriptive statistics. The objective is to address concerns voiced by the parties regarding outliers.

2. We found that in the first year after tendering or switching the distribution of the middle 50 per cent price changes is roughly symmetric and not overly wide, implying that the median value in this year is an informative parameter. The distributions widen in the years 2 to 4 after tendering or switching and become asymmetric, which suggests that more and more noise is entering the statistics.

3. Table 10 in the descriptive statistics appendix presented the real changes in audit fee in the first year after a tender for FTSE 350 companies. Table 1 below once more presents statistics for these observations, again broken down by type of switching event. However, in addition to the minimum, median, and maximum, the table also presents the 25th and 75th percentiles of the distribution.

TABLE 1 **Distribution of the fee development after a direct switch (percentage change in fee in year 1)**

						per cent
Type of switching event	*N*	*min*	*p25*	*p50*	*p75*	*max*
Arthur Andersen transaction	21	–89	–2	2	11	195
M&A	11	–86	–39	–2	75	218
Tender and no switch	29	–38	–20	2	22	198
Direct switch	55	–84	–31	–17	–1	141
From joint audit	6	–37	–12	14	80	2,101
To joint audit	1	540	540	540	540	540
Total	123	–89	–28	–2	15	2,101

Source: CC.

4. The numbers show that the middle 50 per cent of the direct switches resulted in a price decrease from 1 to 31 per cent of the audit fee before switching. This is an almost symmetrical band of 15 percentage points around the median value of 17 per cent.

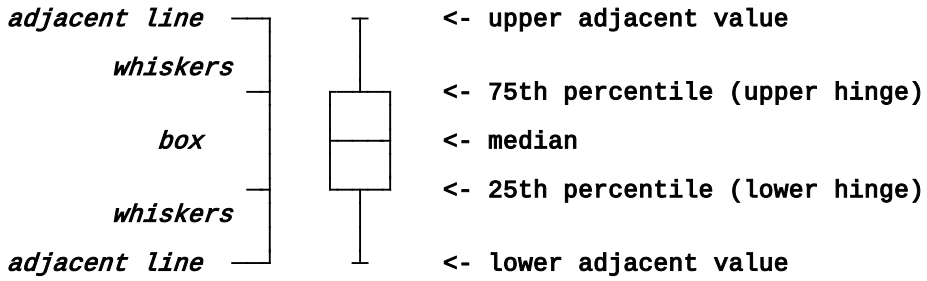
5. For the middle 50 per cent of price changes for tender and no switch the price changes range from a 20 per cent reduction to a 22 per cent increase. The distribution of these observations is also roughly symmetrical, but at approximately 20 percentage points is somewhat wider than that of direct switches.

6. A convenient way to display the distribution of a variable graphically is the so-called box plot. A box plot graphically displays the distribution of numerical data. The main element is a box of the middle two quartiles, so ranging from the 25th percentile to the 75th percentile.

7. Inside the box there is a line indicating the median value of the distribution. Finally, the box has vertical lines extending from it (the whiskers), which indicate dispersion outside of the middle 50 per cent of the distribution. Figure 1 shows an example and labels the different elements.

FIGURE 1

Elements of a box plot

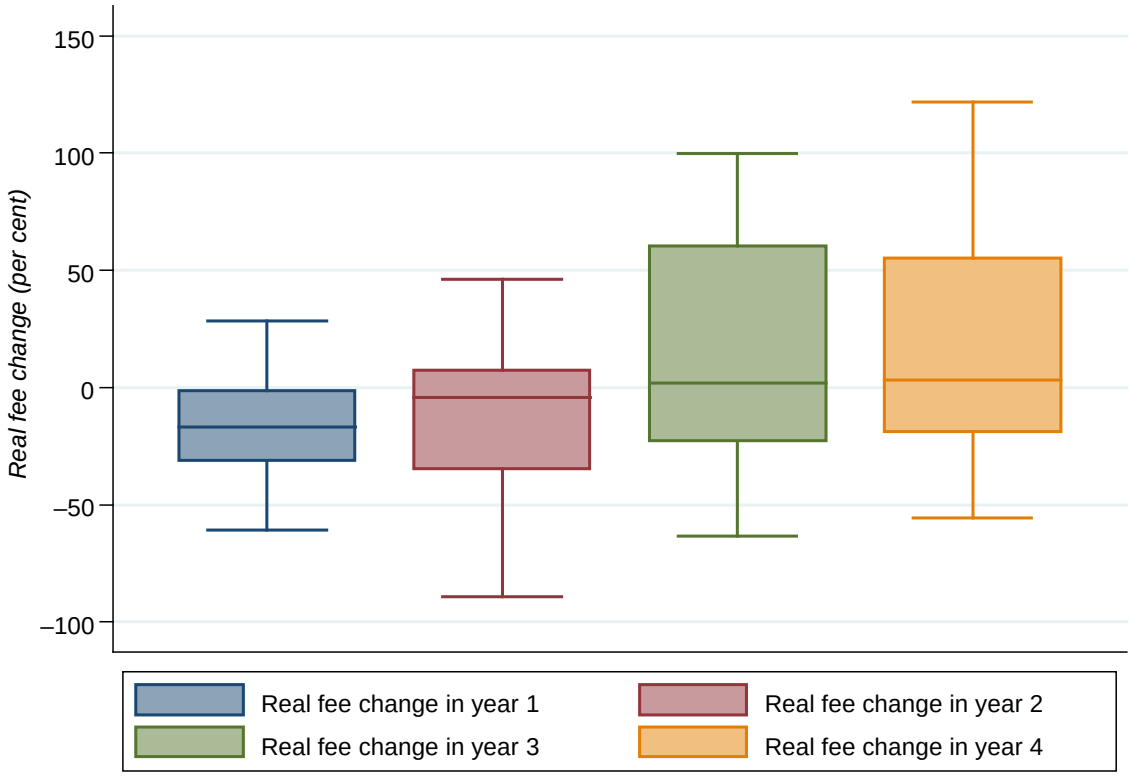


Source: StataCorp LP.

8. Figure 2 presents box plots for the values of fee changes after direct switches for the first four years after switching.

FIGURE 2

Distribution of real fee development after direct switch (percentage change relative to fee before switch)



Source: CC.
Note: Excludes outside values.

9. The distribution in year 1, especially in comparison to the later years, is rather narrow and symmetrical. For the later years the distribution widens significantly and gets asymmetrical features, suggesting that scope changes and a reduced sample make statistics for these years less informative. The level of the distribution is steadily increasing over time, which is in line with other evidence such as PwC's analysis.

10. Table 2 presents more details on how the sample and the distribution of the relative fee changes develop over time after a direct switch. For both the middle 50 and middle 80 per cent of observations the spread widens and the level rises over time.

TABLE 2 **Distribution of the fee development after a direct switch (percentage change relative to fee before switch)**

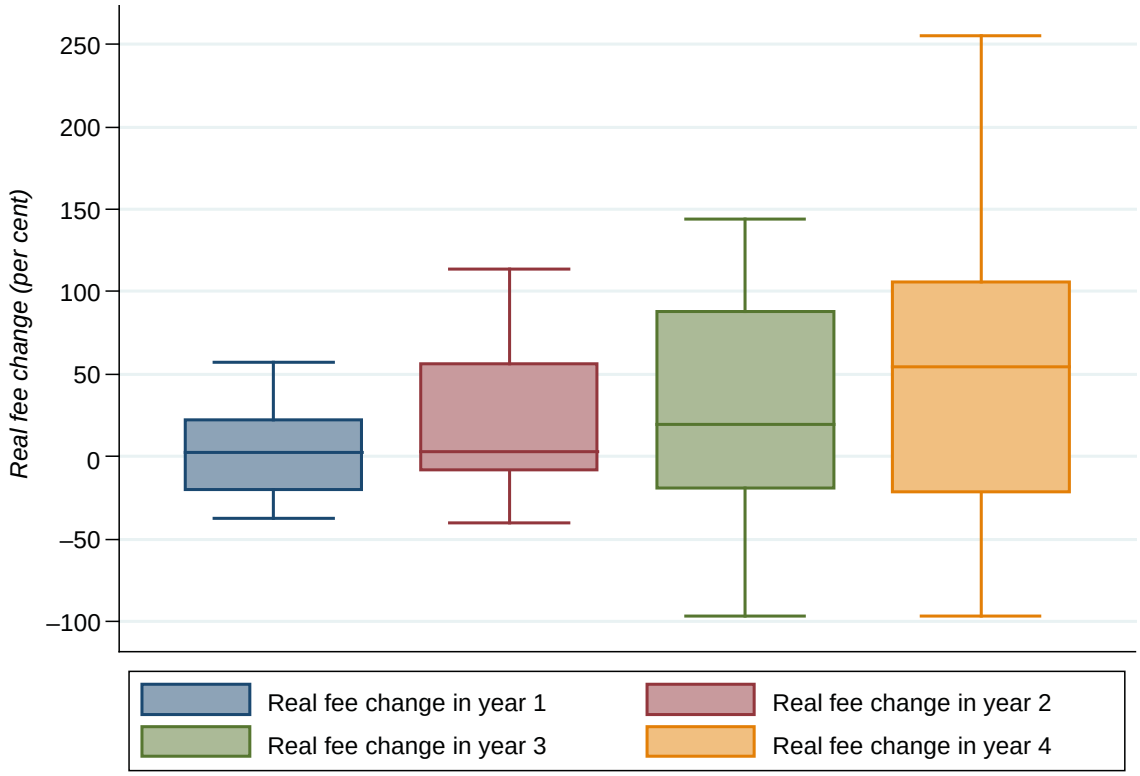
Statistics	*Year 1*	*Year 2*	*Year 3*	*Year 4*
Number of observations	55	43	31	25
Maximum (%)	141	150	100	275
p90 (%)	23	46	77	88
p75 (%)	–1	7	60	55
Median (%)	–17	–4	2	3
p25 (%)	–31	–35	–23	–19
p10 (%)	–51	–50	–45	–31
Minimum (%)	–84	–89	–63	–55

Source: CC.

11. Figure 3 presents box plots for the values of fee changes after tenders that did not lead to a switch, for the first four years after tendering. The picture is similar to that seen for direct switches, as the distribution widens over time, and its level rises.

FIGURE 3

Distribution of fee development after tender and no switch (percentage change relative to fee before tender)



Source: CC.
Note: Excludes outside values.

12. Table 3 presents more details on how the sample and the distribution of the relative fee changes develop over time after tendering but not switching. For both the middle

50 and middle 80 per cent of observations the spread widens and the level rises over time.

TABLE 3 **Distribution of the fee development after tender and no switch (percentage change relative to fee before tender)**

Statistics	*Year 1*	*Year 2*	*Year 3*	*Year 4*
Number of observations	29	17	16	12
Maximum (%)	198	114	144	255
p90 (%)	101	102	123	217
p75 (%)	22	56	88	106
Median (%)	2	3	20	54
p25 (%)	–20	–9	–19	–22
p10 (%)	–36	–36	–31	–35
Minimum (%)	–38	–40	–97	–97

Source: CC.

Further analysis of switching events associated with M&A activity

1. We reviewed the switching data for recent years (2007 to 2011) in more detail during the process of selecting companies to interview in the second run case studies. We used this increased insight to understand if there are switching events where the classification with regards to merger activity might be interpreted differently than what was applied for the descriptive statistics.

2. This appendix reports on the results of this investigation. We found that only a limited amount of cases might be classified differently. Furthermore, any such differences did not materially affect what we can take from the descriptive statistics.

3. For the PFs we chose not to rely on a single definition of switching events related to M&A activity, but used two separate ones: the 'PwC' definition and the 'alternative' definition. The PwC definition is based on a classification applied by PwC in its analysis of the change in audit fee after switching. For the descriptive statistics we furthermore separated out switches related to moves to or from joint audits, resulting in a classification of switching events as in Table 1 (see previous appendix).[1]

4. In Table 12 of the PFs we reported results using an alternative definition of merger activity to separate direct switches and tenders that did not result in a switch into those that coincided with merger activity, and those that did not. The criterion for merger activity was whether a company had any deal activity in the year before or the year of a tender or switch.[2]

[1] See the PFs, Appendix 5, paragraphs 59 & 62.
[2] See the PFs, Appendix 5, paragraph 45.

5. These two definitions can be considered extremes, where the PwC definition is not very inclusive (in terms of M&A-related switches), and the alternative definition very inclusive. Due to the mechanical nature of the alternative merger definition, it is likely to catch some cases that are in fact not merger related. We noted that this might happen in the relevant section of the descriptive statistics appendix.

6. The more thorough review identified a small number of cases which the PwC classification does not classify as merger related and our alternative merger definition does, where a more in-depth investigation would lead one to conclude that the tender or switch was not truly merger related.

7. One way to adjust the 'alternative' algorithm is to not make it conditional on any amount of deal activity, but set some lower bound on the value of the deal activity relative to turnover or assets. However, such a lower bound will also be arbitrary and potentially not inclusive enough.

8. There are also a small number of cases which the PwC classification does classify as merger related and our alternative merger definition does not, but a more in-depth investigation would lead one to conclude that the tender or switch was merger related. This can happen if the merger or takeover is not represented in the deal data, or no deal data is available at all for a company.

9. There is a single case where both the PwC and the alternative classification identify an event as merger related, and the more in-depth investigation does not.

10. We investigated the effect of these classification differences and it became clear that in particular for the direct switches (our main group of interest) the numbers do not shift substantially. This is the case both in terms of the number of observations and

the median fee change (p50). The second result once more illustrates the useful feature of the median: it is robust to outliers and does not depend heavily on individual observations.

11. The statistics for the tender and no switch group are more sensitive to changes of the classification, but this is likely because the sample is much smaller (five to eight observations in the period analysed, excluding those related to merger activity). Either way, we did not heavily rely on the statistics for this subgroup in the PFs.