

KPMG Response to Initial Review of Relevant Academic Literature

1. Executive Summary

1. This note sets out KPMG's response to the 'Initial review of relevant academic literature', prepared for the Competition Commission (CC) by Professor Vivien Beattie ("the literature review"). We have a number of serious concerns with this literature review, which can be summarised under three broad categories.

2. Firstly, in relation to the approach the literature review has taken to identifying the literature which is 'relevant' to the CC's assessment of competition in the supply of audit services. Specifically, the focus on audit-specific papers means that the literature review does not include the industrial economics literature (which is not, in general, industry-specific) - indeed the 'relevant' literature discussed is exclusively from the accounting and finance literatures. Although this is natural given Professor Beattie's accounting background, in our view, for the CC to perform a robust theoretical and empirical analysis of competition in the supply of audit services it will be necessary to review the relevant industrial economics literature and base its analysis on a robust economic framework.

3. Secondly, the literature review does not provide any assessment of the robustness or reliability of the methodologies employed in the papers reviewed, and as a result, does not offer any insight into the weight that can be placed on their results. Furthermore, even in our brief review of the papers in the time we have had available, we have identified instances where the literature review has failed to note caveats to certain papers' results, which were set out in the papers themselves. This casts serious doubt on the reliability of the literature review's summary and discussion of the papers. In addition, we note that many of the papers reviewed as part of the literature review make specific references to evidence on the audit industry which was gathered some time ago, often before the current independent regulatory regime was in place, or refer to jurisdictions other than the UK.

4. Thirdly, we find that substantial sections of the literature review are in clear contrast with a sound theoretical framework and, further, with robust evidence (which we cited in our submission in response to the CC's Issues Statement ("main submission") and / or our response to the market and financial questionnaire ("MFQ response")), and our direct experience of the audit industry. For example, in the opening paragraph, the literature review contains a statement about the inelasticity of demand for audit services, which confuses market- with firm-level elasticity. Also in the opening paragraph, the literature review advocates the use of revenues as a proxy for profits, which is fundamentally incorrect.

5. As a result of these serious concerns, which we discuss in more detail in the main text of our response, in our view the CC should not place any weight on the literature review.

6. This does not mean that all of the papers reviewed as part of the literature review are irrelevant for the assessment of competition in the audit industry. However, to the extent that the CC relies on any of these papers, it will need to analyse them individually in detail and support the findings with robust evidence analysed within an appropriate industrial economics framework.

2. The approach of the literature review

7. The literature review contains a review of papers sourced through a search of the keywords 'audit market competition' in databases including Web of Knowledge, Business Source Premier, Google Scholar and SSRN¹. Such an approach will inevitably not capture any literature that is not specific to audit services - and indeed all of the literature that is reviewed focuses on audit services. In our view, there are important strands of literature that are not specific to or limited to the audit industry, and hence not captured by the literature review, but that are nevertheless highly relevant to explain the characteristics of the audit industry and how competition works given those characteristics. In particular, we note that the papers reviewed are exclusively from the accounting and finance literatures, and that the literature review does not include important economics literature, and industrial economics literature in particular. In the last section of our response we suggest some strands of the industrial economics literature which we think the CC should consider as part of its analysis of competition in the supply of audit services, some of which we also flagged in our main submission.

8. The literature review states that “*investigation of competition in the audit market is quite intractable, due to the particular characteristics of the audit market*”². In our view however, the modern industrial economics literature does provide ways to understand competition, including principles for robust empirical analysis. As is well established, industrial economics provides the theoretical and empirical underpinnings for competition economics. The literature review also states that “*...the determinants and consequences of concentration are especially difficult to assess using theoretical analysis and, therefore, must be investigated empirically*”³. However, in our view an assessment of competition that has a firm grounding in the principles of theoretical and empirical industrial economics is crucial. Indeed, the results from any empirical analysis that is not grounded in economic theory are likely to be deeply misleading.

¹ Section 1.2 of the literature review

² Section 1.1 of the literature review

³ Section 1.1 of the literature review

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9. The literature review contains a discussion of the problem of endogeneity in econometric studies seeking to explain characteristics of the audit industry. It states that although advanced statistical methods for overcoming these problems do exist, such as instrumental variables techniques, these “*are seldom used by auditing researchers*”⁴. As the literature review notes, however, such techniques are crucial in order to establish causality. Without accounting for the problems associated with omitted variables, for example, an econometric study can establish only correlation between the dependent variable and the factors that are being used to explain it. Any study which then inferred causality from such a relationship would therefore be completely unreliable, and we discuss some concerns with papers that appear to draw conclusions based on correlations alone further in section 4 below.

10. More generally, the literature review does not contain any analysis of the robustness or reliability of the papers that have been reviewed. It has clearly not been possible for us to review all of the papers referred to in detail, but even on our limited review of certain papers we have found a number of inconsistencies in the summary of them contained in the literature review (which we discuss further in section 4). For example, in some places the literature review does not note the caveats on the reliability of results that are presented in the papers themselves. In other places, different sections of the literature review discuss models that rely on contradictory assumptions, but the literature review does not highlight these inconsistencies for the CC. For any conclusions or findings to be drawn from this literature, it would therefore be necessary to review the methodology and analysis contained in the papers themselves in order to assess the robustness and reliability of the results.

11. Finally, we also note that the literature review makes certain statements or draws some conclusions which appear to be unsupported by robust evidence and analysis. We discuss some of these statements in section 4 below.

12. As a result of these strong concerns about the literature review's approach, in our view the CC should not place any weight on its findings. This does not mean, of course, that the findings of all of the literature discussed are unreliable - indeed we recognise some of the points discussed as consistent with a robust economic analysis of the industry as well as with direct evidence that has already been submitted to the CC (we discuss these points in section 3 below). What will be important, however, is

⁴ Section 1.4 of the literature review

for the CC to establish these points based on reliable evidence and analysis, rather than relying on what is, in our view, a flawed and incomplete literature review.

3. Points we recognise in the literature review

13. As set out in the previous section, we have serious concerns with the approach taken in the literature review. However, certain of the findings do strike a chord with our own understanding and analysis of the audit industry, and are supported by the facts and evidence we have provided in our main submission and / or our MFQ response. In this section we set out some of these points.

3.1 Increasing returns to scale are relevant to the audit sector

14. A paper by Banker et al (2003)⁵, discussed in section 1.6.2 of the literature review, estimates a production function for the top 100 US accounting firms. While we have not reviewed the methodology in this paper in detail, we recognise the existence of increasing returns to scale and scope in this industry. We explained in our main submission⁶ how the investments in quality that audit firms need to make in order to retain and compete for clients drive economies of scale and scope.

3.2 Endogenous sunk costs are relevant to the audit sector

15. Section 2.1.2 of the literature review discusses a recent working paper by Sirois and Simunic (2011). We have not reviewed this paper in detail, but note that the authors build a theoretical model where audit firms compete through fixed-cost investments in quality (which they interpret as audit technology). In equilibrium, the authors note that the market features a “*dichotomy*” between audit firms of different quality, with only a few large high-quality audit firms (all of which have made substantial fixed investments) and audit firms of lower quality (which have not invested to the same extent). The authors conclude that their model “*suggests that despite the high level of market concentration in the audit industry, the market remains overall competitive and innovative*”. In other words, high market concentration is consistent with a competitive outcome.

16. Sirois and Simunic's (2011) model appears to be an application to the audit industry of the Shaked and Sutton literature we discussed in our main submission (section 8.4), and discuss further in the final section of our response. Indeed, Sirois and Simunic state that they based their own model on Sutton's seminal work⁷.

⁵ All references to the literature, unless otherwise stated refer to the list of references contained at the end of the literature review.

⁶ In particular, see sections 8 and 9.1 of our main submission.

⁷ Sirois and Simunic (2011).

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3.3 Unsolicited approaches are common

17. One of the papers referred to in the literature review (Beattie and Fearnley (1998b)) finds that unsolicited approaches to new audit clients were relatively common.

18. This accords with our experience in targeting new clients, and in other audit firms targeting our clients. We set out some evidence on the targeting activities undertaken by audit firms to compete for new clients in section 7 of our main submission, and in questions 96 and 97 of our MFQ response.

3.4 Little evidence to support the benefits of mandatory rotation

19. The literature review states that “*the evidence in relation to the impact of long tenure on audit quality (and perceptions of audit quality) is mixed, although most evidence does not support mandatory rotation to reduce tenure periods*”⁸. We discussed in our main submission the relationship-specific investments made by both audit firms and audit clients, which are necessary in order for the audit firm to be able to deliver a high quality audit⁹. The value of these investments are lost when a company switches to a new audit firm, and, as a result, frequent switching and tendering would not be efficient in this industry. This implies that there would be a substantial cost associated with mandatory rotation.

20. In addition, we set out in our main submission the substantial competition audit firms face in order to retain their clients, even in the absence of a competitive tender¹⁰. As a result, frequent switching is not necessary to ensure competitive outcomes.

21. In contradiction, the literature review also states that “*long tenure is considered a potential threat to auditor independence*”¹¹. We note that this view is not supported by evidence set out in the literature review.

4. Inaccuracies, inconsistencies and mis-characterisations

22. In the previous section we noted some statements in the literature review which are consistent with our experience in the audit market and that were supported by the evidence we submitted in our main submission and / or MFQ response. However, substantial sections of the literature review are in

⁸ Section 2.6 of the literature review

⁹ Section 5.2 of our main submission.

¹⁰ Section 7 of our main submission.

¹¹ Section 2.6 of the literature review

clear contrast with a sound theoretical framework and, further, with robust evidence (which we cited in our main submission and / or MFQ response) and our own direct experience of the market. We discuss these points in the rest of this section.

4.1 Audit quality

4.1.1 Definition and measures of audit quality

23. Section 2.1 of the literature review discusses audit quality, and begins by discussing definitions and measures of audit quality.

24. The measures of audit quality discussed in Table 1 of the literature review all relate to what is reported by companies, or whether audit firms issue a qualified opinion - for example, the issuance of an audit report qualification. As a result, these measures fail to identify the majority of audits where there were no such changes to financial statements. In our experience the vast majority of audit opinions are issued without qualification, either because there were no misstatements, or because management made changes to financial statements in advance of publication, following intervention by the audit firm. There is no reason to suppose that these audits are of any lower quality than those where a qualification, for example, has been necessary - indeed, in our experience, these unqualified audits are nevertheless performed to the same high quality standard. As a result, the measures of audit quality discussed in the paper are insufficient to distinguish between audits of different qualities.

25. Furthermore, we note that the literature review focuses on particular technical definitions of quality, and therefore does not capture the broader dimensions of quality, for example the efficiency of the service and usefulness of the informed observations of the auditor as a by-product of the audit. We set out our view on the determinants of audit quality in sections 5 and 8 of our main submission.

4.1.2 Models of the differential audit quality

26. The literature review then states that “[*there*] are understood to be three sources of demand for differential audit quality”¹². According to the discussion in the literature review, there are three main explanations behind why customers demand differential audit quality:

- “Agency theory and signalling theory”;
- “Information demand for audit”; and
- “Insurance dimension of an audit”.

27. We have not, in the time available, reviewed these models in detail. However, we note that while they may be part of the explanation for why customers demand differential audit quality, as explained in section 4.1.1, the definition of audit quality is far broader than these three models.

¹² Page 11 of the literature review.

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28. Furthermore, the literature review does not discuss how these models fit into an overall consideration of competition in the supply of audit services. To do this, it is necessary to assess how companies develop, and compete to develop, high quality offerings. As we set out in section 3.2 above, and section 8.3 of our main submission, the literature on the relationship between quality differences and market structure, and the literature on investment in quality including endogenous sunk fixed-cost investments is crucial to this assessment of competition.

4.2 Reputation

29. Section 2.3 of the literature review contains a discussion of auditor reputation, which is in our view inadequate.

30. More specifically, our concerns relate to the definition and characterisation of reputation used in section 2.3 of the literature review. The discussion of audit firm reputation begins with a quote that sets out a characterisation of reputation, as follows: “*Auditor reputation is one dimension of audit quality*”¹³. In other words, audit firm reputation is defined in the literature review as a feature of audit quality. It appears that this is based on Beattie and Fearnley (1995), briefly discussed in Section 2.1.4 of the literature review.

31. However, reputation is not an attribute (or a 'dimension') of an audit, nor a 'feature' of audit quality. Instead, reputation is accumulated by an audit firm over time through its investments in quality-enhancing features, through the consistent delivery of high quality audit services and through consistently acting with integrity. As a result, reputation depends entirely on the quality of an audit firm's offering, and hence is not one 'feature' of audit quality as suggested in the literature review. As we explained in section 8.3 of our main submission, reputation takes time to build, but can easily be lost (as illustrated by the collapse of Arthur Andersen). The literature review itself cites a paper by Skinner and Srinivasan that reviews the demise of ChuoAoyama (PwC's Japanese affiliate) following the failed audit of Kanebo (a large cosmetics company whose management had engaged in a large-scale accounting fraud).

32. Moreover, the treatment of reputation in section 2.3 of the literature review is also, in our view, inconsistent with other areas of the literature review. Specifically, the models which seek to explain demand for differential audit quality (listed in section 4.1.2 of our response above, and in section 2.1 of the literature review) in our view implicitly rely on a model of reputation at odds with that set out in the literature review's discussion of reputation (in section 2.3 of the literature review) -

¹³ Section 2.3 of the literature review.

and instead rely on a model of reputation in line with that set out in our main submission (see previous paragraph).

33. For example, the agency and signalling models note that owners of a company need to monitor the performance of managers, and that this monitoring entails costs. External audit is a way of monitoring the performance of managers, and the agency and signalling models find that when the costs of monitoring are more substantial, owners may demand a higher quality audit firm. The agency and signalling models then note that audit firm quality is itself difficult to monitor, but the potential for a firm's reputation to be destroyed ensures that firms provide a high quality service. As such, these models rely on reputation being accumulated through the provision of high quality services (and lost if quality falls). Similarly, the information and insurance models of demand for audit quality (see paragraph 26 above) also rely on audit firms having incentives to maintain high quality services, through the risk to their reputation if quality is neglected.

34. The assumptions about reputation contained in the models of demand for audit quality discussed in the literature review are, therefore, consistent with the characterisation of reputation that we set out in our main submission (and discussed in paragraph 31 above). However, they are at odds with the literature review's characterisation of reputation elsewhere as a 'feature' of audit quality. The literature review does not note this inconsistency, which raises serious concerns about the reliability of the literature review as a whole.

35. The literature review also notes that reputation “*is proxied by audit firm size and industry specialisation*”¹⁴. While it is arguable whether audit firm size is a good proxy for reputation, we cannot see how 'industry specialisation' alone can be a proxy for reputation. A hypothetical audit firm that specialised in auditing only clients in one particular sector would be unlikely to have the breadth and depth of experience to provide it with a reputation as a high quality audit firm across the board. Similarly, having the relevant expertise in certain sectors is only one aspect of providing a high quality audit to large clients - as set out in paragraph 178 of our main submission, clients look for a number of characteristics in their audit firm.

36. In our view it is important for the CC to consider a more economically coherent approach to the role of reputation (and audit firm quality), as discussed above and as presented in sections 5 and 8 of our main submission, grounded in the relevant industrial economics literature.

¹⁴ Section 2.3 of the literature review.

4.3 Competition and negotiations

4.3.1 Dimensions of audit competition

37. Section 1.6.2 of the literature review states that audit firms “*can compete on price, product or service quality.*” More specifically, it characterises 'product' competition as being conducted on the basis of technical expertise (proxied by reputation), and separates this from 'service' competition which relates to the existence of a local office or the ability to provide non-audit services. We find this discussion and distinction inadequate. As we set out in our main submission¹⁵, as well as competing on price and other dimensions of an audit that can be flexed in the short term, audit firms compete in the longer term by making sunk fixed-cost investments. These investments allow firms to develop a variety of attributes, which contribute to the provision of a high quality audit. Many of these attributes will contribute to both 'technical expertise' and 'service quality' (for example, investment in a global audit methodology, as discussed in section 5.1.4 of our main submission, allows audit staff to access a wider range of technical knowledge and promotes technical consistency across the international network, while also increasing the efficiency and hence service quality of the delivery of the audit).

38. The discussion in the literature review of the dimensions of competition therefore fails to capture the long term, dynamic aspects of competition - namely investment in quality, innovation and in building a client-specific product and relationship. In addition, the literature review makes a distinction between service quality and technical expertise which in our view is unhelpful. Instead, it is in our view important to ground the analysis of competition in the theories of industrial economics, as set out in our main submission, where we discussed models relevant to the assessment of both short term and long term competition.

4.3.2 'Solicitation'

39. Section 1.6.2 of the literature review states that since audit firms were permitted to advertise their services to non-clients, there have been concerns about 'low-balling' (which is defined in the literature review, following the Beattie and Fearnley (1994) paper, as “*prices set below cost in the first year of the audit engagement to secure the appointment*”¹⁶). There is no evidence to suggest that audit firms price below (or have priced below) the cost of providing services to a client in order to

¹⁵ Sections 7 and 8 of our main submission

¹⁶ Section 1.6.2 of the literature review

secure an audit appointment - indeed, neither the literature review nor the Beattie and Fearnley (1994) paper provides any evidence to support the existence of 'low balling'¹⁷.

40. Furthermore, while competition during tender opportunities is fierce, competitive pressures remain throughout the life of an audit engagement. We set out in our main submission the competitive constraints that audit firms face in order to retain existing clients during annual renegotiations¹⁸. We provided evidence that companies are able to secure fee reductions from their existing audit firm through negotiation, even when companies have indicated a preference not to switch provider¹⁹. Indeed, as noted in paragraph 17 above, the literature review itself notes that unsolicited approaches were common, which is further evidence of the competitive constraints on audit firms throughout the life of an engagement.

41. The existence of competitive pressures throughout the life of an engagement constrains any incentive or ability to 'low ball'²⁰, because there is no opportunity to set higher prices in the later stages of an engagement such that initial losses through below cost prices would be recouped.

4.3.3 Negotiations

42. The literature review contains a discussion of the process of negotiations (see section 2.2.3), referring to several papers that explore the negotiations between audit firms and clients (in particular Finance Directors / Chief Finance Officers and audit committee chairs). Given the time available we have not reviewed in detail all of the papers referred to in this section of the literature review. However, based on our initial review of certain papers, we identified five serious concerns with the approach and analysis, which we set out next.

43. First, it is important to analyse negotiations, for example over fees or value-added services, in the appropriate theoretical framework. More specifically, the negotiations between audit firms and clients should be analysed by reference to a bargaining framework, as we set out in section 7 of our main submission. Evaluating the negotiation process and, more specifically, the competitive pressures that audit firms are under requires considering what would be the consequence, for each party, of not reaching an agreement. The literature review does not refer to these models either formally or informally, which in our view are necessary for a robust analysis of the constraints placed on audit firms through ongoing negotiations with clients.

¹⁷ While there is evidence that price competition can be fierce during tenders (and in subsequent negotiations) there is no evidence of prices being below the costs of providing services to a particular client.

¹⁸ For example, see section 7.2 of our main submission.

¹⁹ Paragraph 337 of our main submission.

²⁰ Using the definition of this term contained in the literature review.

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44. Second, we question the robustness of the analysis, which has used a total of only twelve interviews (relating to only six audit relationships). Such qualitative data can be useful in certain contexts, for example to develop an understanding of how to frame a more systematic and large-scale analysis, but cannot constitute a large enough sample to draw any general or quantitative conclusions.

45. Third, the papers we have been able to review²¹ discuss negotiations over 'audit issues' (for example see Beattie and Fearnley (2004)). The literature review does not spell out what aspects of the audit the negotiations have focussed on. However, Beattie and Fearnley (2004) refers to 'negotiation' surrounding a range of audit and audit-related issues, resulting in changes to the accounting numbers or disclosures. In our view it is incorrect to characterise the interaction between the audit firm and client management leading up to the issue of an audit opinion and any "*changes to either the accounting numbers or disclosures*"²² as a negotiation. Rather, the interactions take the form of the audit firm learning enough about the business, its performance and financial position, and how these have been reported, in order to be able to take a true and fair view of a company's accounts. These discussions will ensure that the auditor has sufficient understanding to be able to assess the extent of compliance of the financial statements with the relevant reporting framework, the underlying judgements taken in preparing that financial information and the resulting level of prudence. Audit firms can and do provide advice to management as part of the audit, and the management might change its financial reporting in advance of the publication of its statements as a result. However, the discussions do not represent a negotiation between an audit firm and its client over the audit firm's opinion; rather they are one of the means by which the audit firm forms its opinion. As we set out in our main submission and discussed in section 4.2 above, an audit firm's reputation can be easily lost, and as a result audit firms are not willing to 'negotiate' over their opinions on a company's accounts. We also note that these interactions take place throughout the life of the engagement, rather than just at the end (which was suggested by the literature review in the first paragraph of section 2.2).

46. Fourth, Beattie and Fearnley (2004) also refer to several factors that could influence the outcome of 'negotiations', including the 'integrity' of audit partners (characterising some as "*rogues*" who have "*no sense of professional integrity*"²³). While this paper explains that in general it has gathered its evidence through interviews with six audit engagement partners and six finance directors,

²¹ Some of the papers in this section we have not been able to source, or are only available in a book which we have not been able to source in the time available to respond to this literature review.

²² Section 2.2.2 of the literature review.

²³ Page 15, Beattie and Fearnley (2004)

it does not set out more specifically the evidence from those interviews that has led to its conclusions as to the importance of these (and other) factors. In our view, the discussion of these factors influencing negotiations is seriously flawed. As with the reputation of an audit firm, the integrity of an audit partner is ensured through the risk to that partner's reputation were he / she to compromise his / her audit opinion, as well as an audit partner's personal liability in the case of negligence. Moreover, as set out in our main submission²⁴, KPMG has extensive and robust quality assurance processes in place, to ensure that quality is maintained across the firm and our reputation for quality is protected.

47. The literature review does not mention the crucial role of reputation in ensuring the integrity of audit opinions, and in any interaction between audit clients and audit firms over audit opinions. This is despite reputation being discussed elsewhere in the literature review, and the literature review discussing other models which are implicitly based on the incentives to preserve a reputation for quality (see section 4.2 of our response). This failure seriously undermines the consistency and reliability of the literature review as a whole.

48. Fifth, Beattie and Fearnley (2004) (which summarises Beattie et al (2001)) uses a “*grounded theory approach*” which the paper defines as “*the process of building theory inductively by means of the qualitative analysis of data.*” This approach has no basis in industrial economics, or indeed in economics more broadly, and in our view does not develop a clear or robust model or theory against which the evidence can be assessed and from which conclusions can be drawn.

4.4 Non-audit services

49. The discussion of non-audit services in the literature review begins by stating that “*NAS [non-audit services] provision by the incumbent auditor is considered to be a serious threat to auditor independence*”²⁵. We note that the literature review does not contain a discussion of any supporting evidence for that view. Later in the same paragraph, Professor Beattie states that the literature's “*overall conclusion is that, while there is very little clear support for the view that joint provision impairs independence in fact, there is a reasonable consensus that joint provision adversely affects perceptions of auditor independence*”²⁶. As a result, it is not clear whether the literature finds that the provision of non-audit services adversely affects auditor independence, or rather just the perception of it.

50. The provision of non-audit services (and in particular audit-related services, as set out in section 9.2 of our main submission) by audit firms can, in our experience, give rise to efficiency savings. This is recognised later in section 2.5 when the literature review refers to evidence from

²⁴ Section 10.1 and section 5.1.7 of our main submission.

²⁵ Section 2.5 of the literature review

²⁶ Section 2.5 of the literature review

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Beattie and Fearnley (2009) that “*additional restrictions [on non-audit services] have adversely impacted the efficiency and effectiveness of the financial reporting and auditing process, as auditors have less knowledge and understanding of the business.*”

51. Professor Beattie also discusses the provision of non-audit services in section 2.4.2, in relation to two papers that examine audit fees and the level of non-audit services (Hay et al (2006) and Hay (2011)).

52. Hay et al (2006) provides a meta-analysis (i.e. the joint analysis of several independent studies looking at similar issues) of audit fee determinants. Looking at a sample of 19 studies, it reports that 16 found a positive relationship between non-audit services and the audit fee level. Professor Beattie finds this result surprising and interprets this association as evidence that there are no knowledge spillovers (i.e. economies of scale and scope) from the provision of non-audit and audit services to the same client that are passed on in the form of lower audit fees. As set out in paragraph 50 above, this conclusion does not accord with our experience of efficiencies arising from the provision of both audit and non-audit services (in particular audit-related services) to a single client. Furthermore, this conclusion is inconsistent with evidence set out elsewhere in the literature review (see paragraph 50 above), and the literature review fails to recognise this inconsistency. In the rest of this section we set out a number of reasons why that conclusion is not reliable and, in our view, incorrect.

53. First, it is not apparent either from Hay et al (2006) or from the literature review more generally how (if at all) these studies controlled for other relevant factors that drive audit fees and the amount of non-audit services audit firms provide to audit clients. An observed correlation between the level of audit fees and the amount of non-audit services might be entirely driven by other, exogenous, factors. For example, one could expect a relatively small and non-complex audit client to require both a simpler audit (and be charged a relatively low audit fee) and a smaller number of non-audit services than a large, complex business. As a result, any relationship that the papers that make up this meta-analysis posit appears to be based only on correlation and therefore to be pure assertion - and as a consequence is completely unfounded.

54. In fact, this is recognised in Hay (2011)'s updated meta-analysis. Although this paper reports a similar positive correlation (among the studies reviewed) between non-audit services and audit fee levels as that reported in Hay et al (2006), it also notes that ²⁷:

“Some recent research has shown that the apparent positive relation is due to the audit fees and non-audit fees being simultaneously determined, so that studies using simultaneous equations (e.g., two-stage least squares) are needed.”

55. In fact, even Hay et al (2006) cautioned against any causal interpretation of the relationship that some studies found between non-audit services and audit fee levels:

“On the one hand, it is argued that the provision of audit services can lead to lower fees because of cross-subsidization of fees or synergies between audit and non-audit services. On the other hand, non-audit services could be associated with higher audit fees because such services may lead to extensive changes in an organization that require additional audit effort, or because clients that buy consulting services may be problematic in general, or because monopoly power and service efficiency in the non-audit service market allow auditors to charge fee premiums. Non-audit services had a significant positive relationship in 84 percent of studies (16 out of 19) that include this variable. [...] However, these studies do not really help to disentangle the explanation for this relationship.”
(Emphasis added)

56. Therefore, regardless of the merit of the meta-analyses by Hay et al (2006) and Hay (2011) and of the underlying studies (which we have not reviewed), the literature review's exposition of Hay et al (2006) and Hay (2011) is deeply misleading. The statistical difficulties in drawing stronger conclusions from these studies were already reported in Hay et al (2006) and Hay (2011) but were completely neglected in the discussion in the literature review.

57. Second, it is not clear from Hay et al (2006) what 'non-audit services' means, and in particular whether the studies reviewed looked at the number of non-audit service categories provided to a client or the total revenues earned from these services by an audit firm. Analysis based on the number of non-audit service categories provided to audit clients might be unreliable, if, for example, all of these services were in fact of limited value.

58. Third, any meta-analysis requires careful consideration of the methodologies employed and datasets analysed in the underlying studies, in order to ensure the suitability of the aggregation of the results. Professor Beattie provides no assessment of the robustness of this meta-analysis.

²⁷ The author refers here to non-audit fee levels as opposed to the scope of non-audit services, but the issue of simultaneous determination, or endogeneity, is the same.

4.5 Audit fees and concentration

59. Section 2.8 of the literature review discusses literature on the relationship between audit fees and the level of concentration in the supply of audit services to large companies. We have serious concerns about both the literature review's interpretation of these papers, and the methodologies employed in the papers themselves. In particular, we focussed our review on the McMeeking (2007) and Abidin et al (2010) papers, and the discussion of their findings in the literature review.

60. The literature review finds that past studies provided mixed evidence on the relationship between the structure of the audit market and audit fees. The fact that the evidence is mixed indicates that it is not appropriate to draw any general conclusion about the existence of a statistically significant relationship between market structure and audit fees. For example, we note that the McMeeking (2007) study finds a statistically significant link between audit fees and concentration (HHI) in only one model (out of three specifications)²⁸, and this cannot therefore be treated as a general finding.

61. Furthermore, the literature review interprets McMeeking's (2007) analysis as implying that tenders are competitive, but that repeat clients do not benefit from competition. As a result, the literature review's analysis of this paper states that increases in concentration have led to higher audit fees for those clients who have not switched auditor. We disagree with this interpretation. We set out in section 7 of our main submission a large body of evidence to show the substantial pressures that audit firms are under to maintain the competitiveness of their offering, in order to retain clients. We have seen no evidence that would suggest otherwise, and hence in our view the discussion contained in the literature review is completely unsupported.

62. In addition to our concerns about the interpretation of the results of these papers (as discussed in the previous paragraphs), we have some concerns in relation to the methodologies they employ. As set out in our main submission, price-concentration analyses face the challenge of accounting for the endogeneity of market structure. This is particularly important in the audit industry, since the competitive process gives rise to firms making investments in quality (see our discussion of Sirois and Simunic in section 3.2 of this response). The level of concentration is determined by these investments, and as a result is also consistent with competitive outcomes in terms of quality demanded, price and innovation. From our initial review of these papers, they have failed to account

²⁸ In one of the specifications, concentration is not used as an explanatory variable, in one concentration does not have a statistically significant effect, and in the third it has a statistically significant effect.

for the endogeneity of market structure and are inadequate to explain the competitive dynamics and outcomes in this industry.

63. We now set out some more detailed concerns on the methodologies used in the papers referenced in this section of the literature review:

- a. The literature review's view of how changes in concentration come about is overly simplistic and incomplete. For example, it fails to account for the importance of buyer-side concentration, which provides a lower bound to the level of concentration on the supply-side. We discussed the importance of accounting for buyer-side concentration, in particularly when analysing concentration within sectors, in more detail in our main submission (section 9.1).
- b. The literature review's discussion of Abidin et al (2010) states that larger clients are less risky²⁹. We do not agree with this assertion, and also note Abidin et al (2010) has not undertaken any analysis of the effect or source of client risk. As we discuss in section 4.2 above, and in section 8.3 of our main submission, audit firms are always aware of the need to maintain and protect their reputation for providing high quality services, and also of the potential for that reputation to be damaged in the event of an error. The likelihood of a serious mistake is no lower for a large client than for a smaller one – instead, given the size and high profile nature of many large clients, the reputational risk associated with large clients has the potential to be more significant. Client riskiness is an important factor to control for in any regression analysis linking fees with market structure, which the papers discussed in the literature review fail to do.
- c. Both the McMeeking (2007) and Abidin et al (2010) studies fail to account for important variables. The Abidin study relies exclusively on descriptive statistics, and therefore does not control for any other explanatory variables. As set out in paragraphs 53 to 55, in relation to non-audit services, conclusions drawn from analyses which do not control for other explanatory variables are likely to be deeply misleading. While the McMeeking study goes further in controlling for other variables, it crucially fails to account for changes in audit scope. The paper examines the impact of changes in the audit firm on audit fees, but does not account for changes in scope which are likely to be an important driver of audit fees (for example, on a large number of occasions when a client changes audit firm, this is associated with mergers or acquisitions, which also imply a change in the scope of an audit). In our main

²⁹ Last paragraph of section 2.8 of the literature review.

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submission³⁰ we set out the drivers of audit complexity (and therefore scope and cost), many of which will not be easily observable or measurable.

64. A more detailed review of the papers cited in the literature review is outside the scope of this response given the time available. However, in our main submission (Annex 3) we set out some high-level comments on the Oxera (2006) study, and believe that similar concerns also apply to the McMeeking (2007) paper. It is important for the CC to consider these comments before proceeding with, or seeking to rely on, any econometric studies of this nature.

65. Finally, we also note that the opening paragraph of the literature review states that “[a]s costs are unobservable from public data, audit fees (revenues rather than profits) must generally be used to proxy for profits”³¹ in empirical analysis. This is fundamentally incorrect – revenues are not a reliable proxy for profits, and we would be seriously concerned if the CC were to conduct an analysis based on this approach. This would be equivalent to assuming that costs are the same across all firms, and are equal to zero.

4.6 Switching and tendering

66. In section 2.9 the literature review discusses the process of choosing a new audit firm. It begins by noting that a significant change in a company's characteristics, potential auditor's characteristics and / or the auditing environment are necessary for a company decide to switch audit firm, “since the costs of switching are material”³². We note that the literature review provides no analysis or evidence to support its assertion that switching costs are material. More importantly, as we explained in our main submission³³, it is incorrect to apply the standard 'switching cost' framework of the economic literature to this industry. Rather, the industry is characterised by relationship-specific investments, and we encourage the CC to analyse this market using the standard techniques of industrial economics in relation to industries characterised by such investments. We discuss some relevant industrial economics literature in more detail in section 5 below.

³⁰ Section 4 of our main submission.

³¹ Section 1.1 of the literature review

³² Section 2.9 of Professor Beattie's literature review

³³ Sections 5.2, 7.2 and 9.3 of our main submission.

67. The literature review also states that “*the auditor change process*”³⁴ is usefully separated into two stages - first, the decision to change auditors and second, the choice of a new audit firm. While we understand that for the purposes of modelling simplifying assumptions may be required, we have concerns with the more general separation of the switching process into these distinct phases. We set out in section 7 of our main submission the activities undertaken by audit firms in targeting new clients. This targeting activity provides additional benchmarks that audit clients can use to evaluate the performance of their audit firm, and also determines the competitiveness of the audit client's 'outside option'³⁵. If a company finds that its outside option is more attractive than the service it receives from its incumbent provider, it may decide to switch provider and / or initiate tender proceedings. In this way, the choice and evaluation of alternative providers cannot be divorced from the decision to switch.

68. Similarly, in some instances, companies may initiate tender proceedings and then decide to retain the incumbent provider once all the alternatives have been considered. Again, this suggests that the evaluation of alternative options and choice of audit firm does not follow sequentially from a decision to switch audit provider.

4.7 Elasticity of demand

69. The opening section of the literature review states that “[t]he audit market is heavily regulated and the requirement for all listed companies to have an audit results in inelastic demand”³⁶. This statement appears to confuse market- with firm-level elasticity. The requirement for a company to have a statutory audit might (although we have seen no evidence or analysis in support of this conclusion) lead to relatively inelastic demand for audit services overall (the market-level elasticity). However, this does not imply that the demand faced by each firm is inelastic, since audit clients have the option of switching to alternative providers if they are not satisfied with the offering of a given audit firm. Any analysis of demand in this industry needs to go far beyond the incomplete and inadequate statement made by Professor Beattie in her literature review.

5. Further literature and analysis

70. We set out in section 4 above that there are numerous conclusions in the literature review that do not appear to be grounded in standard economic models. In order for the CC's empirical and theoretical analysis of competition in the audit industry to be robust, it is crucial that it is based on an appropriate economic framework. Such a framework is not provided (or even discussed) in the

³⁴ Section 2.9 of the literature review.

³⁵ What an audit client can expect to achieve were it to terminate a relationship with its incumbent provider, as set out in section 7.2 of our main submission.

³⁶ Section 1.1 of the literature review.

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literature review. The literature review's focus on only those papers that refer to the audit industry and its failure to include any relevant industrial economic literature, as explained in paragraph 7, means that it cannot be seen as a review of the 'relevant' literature to the investigation of competition in the supply of statutory audit services.

71. As a result, we suggest that the CC should consider as relevant not just literature that focuses on the audit industry, but also the industrial economics literature which enables the assessment of the features relevant to the audit industry. Given the time available for our response, it is beyond the scope of our response to Professor Beattie's literature review to suggest in detail which papers the CC should review in the industrial economic literature. However, we suggest three important strands of in the industrial economics literature which in our view it is important for the CC to consider. We set out below some classic references, but note that they have generated a large body of theoretical and empirical literature, which could be traced in a proper literature review of relevant academic papers:

- a. **Relationship-specific investments:** As set out in paragraph 66 above, and in sections 5, 7 and 9.3 of our main submission, it is important to understand the investments made in a relationship by both audit firms and audit clients, in order to understand switching and tendering in this industry. While there is relatively little literature relating to the specific investments that are required by an audit firm, it is important that these investments nevertheless be modelled in the appropriate industrial economics framework. For example, Williamson (1979)³⁷ and Klein and Leffer (1981)³⁸ explain the theoretical industrial economics foundations for the analysis of these sorts of investments. Paul Joskow (1987)³⁹ contains an empirical application.
- b. **Quality competition and market structure:** As discussed in paragraphs 15 and 16 above, and section 8.3 of our main submission, audit firms make endogenous sunk cost investments in order to provide a high quality audit. This has important implications for the competitive market structure, which the CC will need to understand. As noted in section 8.3 of our main

³⁷ Williamson "Transaction-Cost Economics: The Governance of Contractual Relations", Journal of Law and Economics, Volume 22 Number 2 (October 1979).

³⁸ Klein and Leffer "The role of market forces in assuring contractual performance", JPE, 89.4 (1981).

³⁹ Paul Joskow "Contract Duration and Relationship-Specific Investments: Empirical Evidence from Coal Markets", American Economic Review, 1987.

submission, it is crucial for the CC to frame its analysis in the appropriate industrial economics literature, building in seminal contributions by Shaked and Sutton⁴⁰.

- c. **Bargaining:** As we set out in section 4.3.3 of this response and in section 7 of our main submission, it is important that the CC frames the analysis of negotiations between audit firms and audit clients in the bargaining context. A classic bargaining reference is Muthoo (1991)⁴¹.

⁴⁰ Shaked and Sutton "*Natural Oligopolies*", *Econometrica*, 1983; Shaked and Sutton "*Product Differentiation and Market Structure*", *Journal of Industrial Economics*, Volume 36 Number 2 (December 1987); Sutton (1991) "*Sunk costs and market structure*", MIT Press, 1991.

⁴¹ Muthoo "*Bargaining Theory with applications*", Cambridge University Press, 1991.