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Financial Services Authority

Telephone Recording:
recording of voice
conversations
and electronic
communications

March 2008



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Appendix 1: Final Handbook text

This Policy Statement reports on the main issues arising from Consultation Paper 07/9 *Conduct of Business regime: non-MiFID deferred matters (including proposals for Telephone Recording)* and publishes final rules.

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Copies of this Policy Statement are available to download from our website – www.fsa.gov.uk. Alternatively, paper copies can be obtained by calling the FSA order line: 0845 608 2372.

1 Overview

Introduction and purpose

- 1.1 Preventing, detecting and deterring market abuse is one of our key priorities. However, market abuse is one of the most difficult offences to investigate and prosecute. Good-quality recordings of voice conversations and of electronic communications (taping) help firms and us detect and deter inappropriate behaviour.
- 1.2 Currently, firms have different approaches to recording telephones and electronic communications. In addition, the amount of time firms keep records for varies widely. Introducing a taping requirement may raise the standard of behaviour by those using telephone lines and means of electronic communication which will be taped for the first time. It may also increase the quality and volume of information available in pursuing market abuse cases.
- 1.3 In Chapter 19 of CP07/9¹ we set out proposals to require firms to record certain telephone lines and to keep certain electronic communications. We proposed that firms should keep the recordings and records for three years in a form we could readily access. As explained in PS07/18², in the light of the consultation responses we received in relation to these proposals, we decided to conduct more work to address industry concerns and decide the right approach in this area.
- 1.4 We have now concluded this additional work, which consisted of:
 - looking again at our cost benefit analysis (CBA) in an effort to refine our estimates of the costs;
 - engaging with firms and trade associations to consider points made about the scope and practicalities of the proposals; and
 - looking at any proposals for an industry initiative to address the market abuse concerns that we need to tackle.

1. Conduct of Business regime:non-MiFID deferred matters.
2. Conduct of Business regime.

- 1.5 The purpose of this Policy Statement (PS) is to give feedback on this additional work and details of our final policy decisions and rules, which require firms to record and keep telephone and electronic communications. We have made significant changes to the proposals in CP07/9, particularly for the retention period for records, the coverage of discretionary investment managers and the treatment of mobile-phone conversations. The rules will also not come into force until March 2009.

Structure and scope

- 1.6 In PS07/18, we analysed the main concerns expressed in the responses to Chapter 19 of CP07/9. These concerns related to the CBA, timing and retention, practicalities, scope and competitiveness. PS07/18 also included an analysis of how taped evidence can contribute to our enforcement function and of the value of taped evidence over other forms of evidence. This PS should therefore be read in conjunction with PS07/18.
- 1.7 This PS is relevant to all firms that receive client orders and negotiate, agree and arrange transactions across the equity, bond and financial commodity and derivatives markets.
- 1.8 We deleted earlier guidance in section 3.6 of our Market Conduct Sourcebook, on the circumstances in which firms might find it appropriate to maintain records of voice communications, from our Handbook on 31 October 2007.

Changes to the FSA Handbook

- 1.9 The changes to the Handbook covered by this PS are set out in the appendix. These changes reflect comments made on the original Consultation Paper (CP) and the additional work, and are analysed in Chapter 2.

2 Follow-up work to CP07/9 responses

Introduction – the use of taped evidence

- 2.1 The mechanism leading from taping to economic benefits is as follows:
- i) recorded communication may increase the probability of successful enforcement;
 - ii) this reduces the expected value to be gained from committing market abuse; and
 - iii) this, in principle, leads to increased market confidence and greater price efficiency.
- 2.2 Taped evidence is an extra source of material for piecing together the facts of a matter and for building an enforcement case. Crucially, the evidence that might be obtained from tape recordings may not be available by other means, i.e. through documentary evidence or oral testimony. The advantage of telephone evidence over documentary evidence/oral testimony is that telephone evidence more often helps to show ‘knowledge’ and ‘intent’ – matters that are critical in terms of enforcement action but which are not always easily established.
- 2.3 Documentary evidence, including taped evidence, is likely to hold most weight in disciplinary cases because it constitutes contemporaneous evidence – information recorded at the time of the alleged misconduct. Information given at a later interview may be less reliable for various reasons. It is given with the benefit of hindsight and memories may have started to fade, or the interviewee may offer a less than truthful account of events because of the prospect of criminal/disciplinary action. Moreover, individuals may decline to attend an interview or to answer questions where they face the prospect of criminal prosecution or action for market abuse.

Summary of follow-up work

- 2.4 The work undertaken since the consultation responses has involved:
- Eight meetings between the end of September and mid-January with ten trade associations (AFB, AIMA, APCIMS, BBA, FOA, ICMA, IMA, ISDA, LIBA, SIFMA) which included discussions on our work on costs, revisions to the rules, practicalities and possible ‘industry solutions’. Most of the trade associations we have been discussing the taping proposals with have submitted memoranda for our consideration. The trade associations’ main points are shown in Annex 1. We address these points within this PS.

- an online survey of firms to review the costs of the proposals in CP07/9 (a summary of the results of this survey is attached at Annex 2); and
 - a study by the consultants Europe Economics (attached at Annex 3) looking at the accuracy of the CP07/9 figures for one-off and ongoing costs and the feasibility and cost of recording mobile phone conversations.
- 2.5 While it has not been possible to agree an industry solution, trade associations have indicated that if we make the rules as outlined in this policy statement they may well look to work with us to develop guidance for their members on the practical application of the rules.
- 2.6 As part of our dialogue with trade associations, we discussed the benefits of taping by referring to the types of issues that may arise in the context of our enforcement work.
- 2.7 Since the final rules are more limited in scope than those proposed in CP07/9, we do not think it is appropriate to consult again. The large number of responses to the CP and extensive work undertaken since we received these responses should, in any case, provide assurance the important issues relating to taping have been explored thoroughly, and in a manner that is transparent to the industry.
- 2.8 We intend to keep all aspects of these rules under ongoing review, to ensure they remain appropriate and sufficient to meet our objective of deterring, detecting and preventing market abuse.

Consideration of issues and revisions to the draft text on which we consulted in CP07/9

Transition period

- 2.9 We did not propose an implementation date for the proposals in CP07/9. The new rules will come into force in March 2009, giving a transitional period of one year. This should give firms enough time to prepare and implement the necessary system changes.
- 2.10 Article 51 of the Markets in Financial Instruments Directive (MiFID) requires that before 31 December 2009 the Commission shall report, based on advice from CESR, on whether the discretion member states have over introducing a taping requirement is still appropriate. Because of this, the trade associations have argued we should not make rules on taping until EU policy in this area becomes clear.
- 2.11 We do not believe that we should delay the introducing taping rules until the outcome of the EU review. The review does not have a pre-determined outcome and there can be no certainty that there will be changes to EU legislation in this area. Member states successfully opposed a taping obligation during the MiFID level 2 negotiations. In addition the scope of the EU review covers taking of client orders, which is narrower than our new rules that relate to taking client orders and dealing.

Scope and proportionality

Scope

- 2.12 CP07/9 proposed that firms be required to record telephone lines used for voice conversations that involve receiving client orders and negotiating, agreeing, and arranging transactions across the equity, bond, financial commodity and derivatives markets. We also proposed firms should keep electronic communications relating to these activities.
- 2.13 The financial instruments covered were based entirely on the scope of the market abuse regime, which covers a range of ‘qualifying investments’³ or related instruments admitted to trading on a ‘prescribed market’.⁴ We think this is important to ensure we could secure good-quality evidence in any market abuse case we are required to investigate.
- 2.14 The scope of the proposals included proprietary trading and other principal dealing and agency broking. Insurance-based products and most collective investment scheme products were not covered but, to the extent that they were regulated activities, the activities of individuals managing such funds were captured. Outside the scope of the proposals were: investment managers without authority to deal; retail financial advisers; corporate finance advisers; research analysts; and treasury and back-office functions.
- 2.15 In response to concerns expressed in the consultation responses, the final Handbook text gives more clarity about the scope of the regime. Our guidance in COBS 11.8.9G(2) says we would not ordinarily expect the conversations of research analysts, retail financial advisers and persons carrying on back-office functions to be captured. Corporate finance business and corporate treasury functions are excluded explicitly by COBS 11.8.2R.
- 2.16 In addition to the above exemptions, we have now decided not to require discretionary investment managers to record their conversations and electronic communications with other firms that are subject to the taping rules, as these relevant conversations and communications should be captured through the taping obligation on ‘sell-side’ firms. We estimate that this additional exclusion should reduce the costs of the requirements by 15% and there should be no significant loss of evidence. Discretionary investment managers will also not be required to record conversations and communications with firms who are not subject to the taping rules (such as overseas brokers not subject to FSA regulation) if such conversations and communications are infrequent, and a small proportion of the total relevant conversations and communications made by the discretionary investment manager.
- 2.17 As noted in PS07/18, there was concern in the industry that the scope of conversations or communications captured by our proposals (relevant conversations or communications) was not clear enough. Specifically, respondents were unsure what the definition of a relevant conversation or communication, being ‘a conversation or communication... which is carried on with a view to the conclusion [of either an agreement by the firm to deal as principal or deal as agent]’, meant in COBS 11.8.8R(2).

3. An investment which has been prescribed by the Treasury in the Prescribed Markets and Qualifying Investments Order.

4. A market which has been prescribed by the Treasury in the Prescribed Markets and Qualifying Investments Order.

- 2.18 As already explained in PS07/18, the phrase ‘carried on with a view to’ was not intended to broaden the scope of relevant conversations subject to the proposals. We designed it to prevent technical evasion of the substantive obligation. Our guidance in COBS 11.8.9G(1) says this phrase does not relate to general conversations about market conditions, but only to conversations that are intended to leading to the conclusion of an agreement (even if an agreement is not concluded).
- 2.19 The industry raised concerns that the scope of the description of relevant conversations in COBS 11.8.8(1) as being conversations ‘concerned with concluding’ an agreement was unclear. In response to this, we have amended this wording to be conversations ‘which conclude’ an agreement.
- 2.20 We have also inserted ‘reasonable steps’ before the requirement to record relevant telephone conversations and electronic communications in COBS 11.8.5 R. This is intended to reflect the reality that recording systems are always likely to be fallible to some degree. And there may also be occasions when relevant conversations or communications take place on equipment that is not recorded because it is not routinely used for such conversations or communications.

Outsourcing

- 2.21 It may be appropriate for firms to use third-party recording services to meet the requirements of these rules, which would be a form of outsourcing. There were concerns that the general outsourcing requirements in SYSC could impose onerous requirements on firms in this area. So we have amended SYSC 8.1.5R to make it clear the outsourcing of taping to third-party service providers will not be considered a critical or important function for the purposes of SYSC Chapter 8, and so the conditions relating to outsourcing in SYSC 8.1.8R will not apply to such outsourcing.

Record keeping and retrieval

- 2.22 COBS 11.8.10R requires firms to record all relevant telephone conversations and electronic communications so they are readily accessible to us and any changes to the originals can be identified. We are not setting any technical standards for search facilities, such as specifying voice recognition, but would expect that firms’ search facilities would support a reasonable interpretation of ‘readily accessible’. The MiFID general record-keeping standard requires tapes not to be manipulated or altered. To support this requirement, we do not expect firms to put in place expensive security arrangements, rather to implement appropriate systems and controls to monitor this area. However, in response to industry concerns that this rule would involve firms having to meet an unreasonable level of compliance, we have inserted the term ‘reasonable steps’ into this requirement.
- 2.23 As part of our further discussions with industry, we considered whether to include guidance in the Handbook on two issues: the interpretation of ‘reasonable steps’; and the way firms could expect us to interact with them in relation to requests for information.

- 2.24 We have concluded that it is not appropriate for us to include guidance on these issues in the Handbook. We believe the term ‘reasonable steps’ is principles-based enough to give firms the ability to make their own appropriate decisions. And we believe any guidance could easily become out of date, as a result of changes in business practice or technological developments. We do, however, acknowledge it is important for industry to be able to interpret ‘reasonable steps’ in a way that is proportionate and consistent. We intend to work closely with the industry to help with this interpretation.
- 2.25 There is already relevant material on requests for information in the Handbook (SUP Chapter 2) setting out what we expect from firms in the light of Principle 11. Having said this, as noted above, we have indicated to the trade associations that we are willing to work with them on any proposed industry guidance that could help their members on the practical application of the rules. We will usually make requests for information (see also Retention period below) in dialogue with a firm.
- 2.26 Concerns have been raised about whether we would expect firms to install taping solutions at disaster recovery sites for business continuity purposes. We acknowledge the cost of doing this could be significant and it may well be reasonable for a firm to decide not to install one.

Mobile telephones

- 2.27 In CP07/9 we proposed recording all telephone lines, including mobile telephones used for voice conversations that fall within the scope of the proposed rules. In the consultation responses, the industry asserted that recording mobile telephones was not technically feasible so the proposals were tantamount to a ban on mobile phones which were used for relevant conversations.
- 2.28 Europe Economics, the consultants we have been using since we received the consultation responses, have reported that mobile telephone recording is possible and solutions are available at costs similar to or below those of taping fixed lines.
- 2.29 Few financial services firms currently record mobile telephones, many firms prohibit their use for taking client orders or dealing and the technology for this is relatively new. In COBS 11.8.6R we have applied an exemption to recording conversations and communications (except emails) on mobile telephones or other handheld electronic communication devices. We will, however, review this in 18 months’ time to decide whether it is still appropriate to continue with this exemption. This review should coincide with the EU review of taping noted above.
- 2.30 Our taping rules do not prohibit the use of mobile telephones for voice conversations that would otherwise fall within the scope of the taping rules (for example, a telephone call from a client to the mobile telephone of a private banking account manager.) The use of mobile phones for such conversations is at the discretion of the firm and subject to their internal policies and procedures.

Retention period

- 2.31 We proposed in CP07/9 that firms be required to keep taping records for three years. The length of the proposed retention period was seen by the industry as demanding, particularly by the large firms who argued there was an exponential relationship between the retention period and storage costs. Most firms that currently tape keep the recordings for less than a year. It was also argued that suspicions of market abuse were likely to arise relatively quickly after a relevant conversation.
- 2.32 Existing market practice reflects the fact that tapes are mainly kept for dispute resolution purposes. Our initial proposals were driven by the fact there are different timelines involved in bringing market abuse enforcement cases. Because of the way enforcement cases evolve, we have sometimes asked for tapes over two years after the relevant incident that is the focus of our investigation.
- 2.33 In view of current practice and the industry's concerns about the costs associated with longer retention periods, we have set the retention period at six months. However, we will continue to ask firms to keep tapes that may be of interest to us as part of our investigatory and enforcement work. Although we will try to do more to identify and request the specific tapes of interest to us at an earlier stage in our enquiries from those firms have been asked to put tapes aside, firms may have to keep the tapes they have put aside for longer than six months.

Electronic communications

- 2.34 The term electronic communication has a wide application. It includes fax, email, Bloomberg mail, video conferencing, SMS, business to business devices, chat and instant messaging. But is not limited to these as it captures any electronic communications involving receiving client orders and the agreeing and arranging transactions. We will not produce an exhaustive list of electronic communication because of the continuing innovation and advancement in technology which would mean the list frequently becomes out of date. We also feel that it is inappropriate to limit the obligations to a prescriptive list and an outcome based approach is more suitable in implementing such rules. We would expect senior management to exercise their judgement in this area.

Cost benefit analysis

Population of individuals and firms affected

- 2.35 As explained in CP07/9, a precise estimate of the population size of individuals that may be affected is not possible. This is because we only have data on firms' permissions and controlled functions, which do not correspond exactly with the activities covered by the new rules. Based on the data we do hold and information gathered from firms, our estimate for the number of individuals likely to be affected by our rules at the time of CP07/9 was 55, 000 -70,000. We have not been given any credible information that would suggest this range is flawed.
- 2.36 Since we have provided an exemption for discretionary investment managers from our requirements, we estimate the population within the scope of our requirements will be around 10-15% lower than our original range.

Costs Summary

2.37 We originally estimated that one-off costs of our proposals were £3m to £4m and annual ongoing costs were £3.5m to £4.5m. CP respondents said we underestimated the costs in CP07/9, and we have undertaken considerable extra work resulting in the revised set of estimates given in the table below. Based on the further work we have done it is clear that the headline numbers in CP07/9 underestimated the costs of our proposals.

2.38 As shown in the table below, revised cost estimates are based on information from both suppliers and firms. The suppliers' figures were collated by consultants. Two sets of estimates were obtained from firms, one by consultants and the other via an online survey that we conducted.⁵ When this information was collected, we had not decided to exclude discretionary investment managers from the scope of our rules, or to limit retention periods to six months. So the bulk of the table presents total costs for a wider population, and is based on longer retention periods than our final rules. Only the final row in the table, labelled "Best Estimate****", estimates costs on the basis of our final rules.

£m	One-off costs			On-going cost (per year)		
	Fixed Lines	Electronic Communication	Total	Fixed Lines	Electronic Communication	Total*
BASED ON THE ORIGINAL CP ESTIMATE THAT 90% OF FIXED LINES ARE ALREADY BEING RECORDED:						
Suppliers	£m	£m	£m	£m	£m	£m
CP07/9	2.5-3	0.5-1	3-4	3-4	0.5-1	3.5-4.5
BASED ON THE REVISED ESTIMATE THAT 80% OF FIXED LINES ARE ALREADY BEING RECORDED:						
Suppliers						
CP07/9	5-6	1-2	6-8	3-4	1-2	4-6
Consultants	2-3	3-4	5-7	2-2.5	1-1.5	3-4**
Firms						
Consultants	6-8	19-24	25-32	3-4	9-12	12-15
Survey	29-37	N/A	29-37***	36-46	22-27	58-73
Best Estimate****			9-14			6-11

* Both sets of CP07/9 figures and survey results are based on a 3 year retention assumption. Both sets of consultants' numbers are based on a 1 year retention assumption.

** Ongoing supplier costs reported to consultants do not include maintenance costs.

*** Total one-off costs based on firms' responses to our survey do not include one-off costs arising due to electronic communication

**** Assuming 6 month retention period and exclusion of discretionary investment managers (i.e. the basis of the final rules).

2.39 We calculated the revised sets of estimates on the assumption that 80% of the telephone lines which need to be recorded under the new rules are currently being recorded, as indicated by our online survey of firms. In CP07/9, while we also reported costs based on this assumption, our headline figures were based on the assumption that current coverage was 90%. After further information subsequently provided by firms, we now accept that 80% is a more realistic figure. For completeness and comparative purposes, the table shows the CP07/9 estimates on both the 80% and 90% basis.

5. The online survey was sent to a random sample of 701 firms likely to be within the scope of the rules. This sample represented 26% of the estimated total population of firms affected by the rules. Substantive responses were received from 131 firms, representing 19% of the sample and 40% of the estimated number of lines that will need to be recorded.

- 2.40 In absolute terms the bulk of costs imposed by our requirements will fall on large firms because most individuals (around 80%) within the scope of our requirements work in these firms. Proportionally however, costs will be higher for smaller firms because a lower percentage of individuals within scope are currently taped in these firms. Survey results indicate that, current coverage for small and medium sized firms is 58% and for large firms (mainly major investment banks) is 84%.
- 2.41 There are significant differences in cost estimates, based on whether their origin is information provided by suppliers or firms. These differences, reasons for the disparity, and our best estimate of costs are discussed below.
- 2.42 Cost estimates based on data obtained from suppliers by consultants are similar to the costs reported in CP07/9. Consultants obtained data from suppliers on costs per line for different sizes of firms. This data was then multiplied by estimates of the incremental population of individuals within different-sized firms whose communication had to be recorded. For the entire population of firms affected one-off costs estimated through this process total £2-3 million for telephone recording, £3-4 million for the recording of electronic communication, and £5-7 million in total. Consultants further estimate incremental ongoing yearly costs of around £2-2.5 million for telephone recording, £1-1.5 million for electronic communication, and consequently £3-4 million in total. Our CP07/9 total cost estimates, using an 80% coverage assumption, of £6-8 million one-off and £4-6 million ongoing are quite similar.
- 2.43 Cost estimates based on information obtained from firms are significantly higher. Following a similar collection process as described above, but using data provided by authorised firms, consultants calculate total one-off costs to be £6-8m for telephone recording, £19-24m for recording electronic communication, and £25-32m in total. Consultants further estimate yearly incremental ongoing costs of around £3-4m for telephone recording, £9-12m for electronic communication, so £12-15m in total.
- 2.44 When we use data obtained from firms through our survey, one-off cost estimates of telephone recording for the entire population of firms affected total to £29-37m. Incremental ongoing yearly cost estimates amount to around £36-46m for telephone recording and £22-27m for the recording of electronic communication, which comes to £58-73m a year in total.
- 2.45 While the revised estimates from suppliers are broadly in line (after adjusting for a difference in the treatment of maintenance costs) with the original estimates obtained for CP07/9, both sets of cost estimates from firms are significantly higher.
- 2.46 Part of the difference between the suppliers' and firms' figures can be attributed to additional expenditure that firms would incur due to system redundancy and integration, project management, and recruitment and training. It also comes from bringing forward expenditure on replacing out-of-date systems that firms would have done at a later date, regardless of any regulatory requirement. We have discussed the difference with the trade associations and agree with their view that there may also be a degree of under-quoting by suppliers. However, this would only account for a small proportion of the variance.
- 2.47 There are other reasons for the difference between the suppliers' and firms' figures, which indicate the data from firms may be overestimated for several reasons:

- Consultants' estimates for the cost of electronic communication, based on information provided by firms, are likely to be biased upwards because their extrapolation assumes that there is no current recording of emails and instant messaging.
- 'Sanity check' questions included in our survey show firms are inflating incremental cost estimates. In survey responses firms report maintenance costs per line in the future to be implausibly around 4 times as large as current costs per line.⁶
- The survey and consultant's firm-reported figures appear to embed significant upgrades to the quality of equipment being used. These upgrades would probably have happened without a taping rule, but more slowly. So a large part of this expenditure is not truly incremental.
- Firms' reported ongoing costs presume a three-year retention period that would require costly complete system changes for a significant proportion of respondents (whereas our new rules specify a six-month retention).

2.48 Given the disparity in cost estimates, based on whether their origin is information provided by suppliers or firms, we provide our own estimate which takes into account the factors biasing supplier and firm numbers. If we used similar assumptions to the consultants (i.e. a one-year retention period and discretionary investment managers completely inside the scope of the rules) then, taking account of the factors biasing supplier and firm numbers,⁷ our estimate of incremental costs would be £12-20m one-off and £10-18m ongoing a year.

2.49 We then adjusted to account for a reduction in the retention period to six months⁸ and to reflect the exclusion of discretionary investment managers,⁹ to arrive at a best estimate****. Our best estimate is that incremental costs of our rules are likely to be in the range £9-14m one-off and around £6-11m ongoing a year.

Search costs

2.50 Apart from implementation, storage and maintenance costs, the consultants' report gathered search costs for firms (which are included in our estimates). We think the incremental costs arising from requests we would make should not come to a large figure, given our understanding of time spent by firms on average for current similar requests. By restricting the retention period to six months we also do not think the

6. We are aware of an element of bias in any survey sent out. Whenever we use costs from surveys we either remove outliers, or use medians, or incorporate sanity check questions to account for such bias. In this case, while we report estimates extrapolated from all firms' responses (when normally we would control for outliers) sanity check questions included in the survey suggest firms may be providing incremental cost estimates inflated by around four times. There are firms responding to our survey who report that each line that will need to be taped will have implementation costs of £120,000. There is no basis for us to accept such estimates as true.

7. We take the supplier-based estimates (from CP07/9 and consultants) to be the lower bound of cost, and firm responses to be an upper bound. We adjust supplier figures upwards on the basis that there are likely to be additional systems integration and project management related costs for firms and that there may be a degree of under quoting in these figures. We adjust firm figures downward to account for: i) the exaggeration in incremental cost estimates by a factor of around four in survey responses; ii) the assumption that no firm currently records emails or instant messaging in the consultant's estimate; iii) the extra on-going and one-off costs firms report (largely because of costly systems changes) in the survey because respondents assume a three-year retention period (consultant's analysis indicates a reduction in retention from three years to one year is estimated to lead to around 25% less one-off costs, and around a third less on-going costs a year). More detailed information provided by firms who have recently installed new recording systems backs up our estimate of costs.

8. We extrapolate this information from information provided to the consultants which show the effect on costs of a drop in retention period from three years to 12 months

9. Based on our understanding of the proportion these make of all individuals caught by our proposals and the percentage of these that are currently taped.

sort of additional costs firms identified in their response to CP07/9 (arising from requests under the data protection act or from requests from litigation) should be a large component of incremental cost.

- 2.51 The number of requests for recorded information we make in a year is relatively low.¹⁰ The limited information we have on this topic suggests that it takes seven working days to retrieve information for a typical request to a large firm. In view of this and given that 80% of those falling within the scope of our proposals are already taped, that retention on average appears close to six months in industry, and that the incremental number of requests for information is small, there appears to be limited further scope for additional costs.

Feasibility and costs of recording mobile telephones

- 2.52 The cost estimates in CP07/9 did not include the cost of recording mobile telephones. The further work conducted by consultants has confirmed that recording of mobile telephones is feasible, has been tested and works in practice. And the available solutions make it possible to distinguish between business and personal calls.
- 2.53 But given that the solutions for mobile telephone recording are new, almost no financial services company uses them as yet and few firms are aware of the cost of these solutions. Given this, the additional cost of such recording solutions is broadly equivalent to the full cost of deployment across the sector. Of course in many of the roles covered by our requirements, firms already ban the use of mobile phones (for e.g. on trading floors).
- 2.54 Based on supplier figure and on the assumption that 10% of individuals affected by the new rules use mobile telephones which needed to be recorded, consultants estimate one-off costs to the industry of implementing mobile telephone recording solutions to be around £1m, and ongoing costs to be around £2m per year. As noted in paragraph 2.29, we have applied an exemption to recording mobile telephones or other handheld electronic communication devices. We will review in 18 months' time whether it remains appropriate to continue with this exemption.

Market response to surge in demand and service for smaller firms

- 2.55 Firms have expressed concerns that a tight deadline for implementation of the rules would result in a surge in demand that would drive up the price of recording solutions. The possibility of this surge in demand has also led to concerns about the level of service that might be offered to small firms, who may receive less-favourable treatment than the large firms.
- 2.56 Suppliers, including a market leading provider, told the consultants Europe Economics, that they would be able to absorb a 100% increase in demand for fixed-line recording in a short time period. Based on this information, we decided that firms should not have any difficulties in relation to price or availability when obtaining telephone recording solutions to meet the proposals in CP07/9. The same conclusion was drawn for electronic communications.

10. While we do not have an exact number, we estimate this to be in the low hundreds.

- 2.57 In relation to service levels for small firms, the consultants reported that commercial reality dictated there could be some impact on the service provided to smaller firms, if a supplier faced demands from both large and small firms at the same time. However, this was not certain and depended on the individual supplier. In addition, some solutions were more suitable for small rather than large firms.

International competitiveness

- 2.58 Respondents to CP07/9 argued our proposals did not pay enough regard to the competitiveness of the UK as a location for financial services business. As explained below, our taping requirements aim to improve market cleanliness in the UK. It is not possible to quantify credibly what the monetary benefits to the UK economy, the financial services industry and investors are of having cleaner markets. However, we think cleanliness of the markets is essential to the success of the financial services industry that uses those markets, and we do not believe this proposition is seriously disputed by the industry or anyone else. If the benefits are proportionate given the costs incurred, imposing a taping requirement that may differ from the approach adopted by other jurisdictions should not damage the UK's competitiveness.
- 2.59 In CP07/9, we considered the possibility of some mobile firms who prefer a lesser regulatory approach exiting the UK market. By excluding discretionary investment managers from the scope of our rules, we expect any such potential impact to be materially reduced.

Benefits

- 2.60 As stated in CP07/9, individuals working within issuers of financial instruments and in investment firms, and the investment firms themselves, can exploit their position to commit market abuse. Our recording requirements aim to address the market failure that arises where such trading undermines market confidence. Our aim is to increase the probability of successful enforcement, thus reducing the profit incentive to commit market abuse and acting as a further deterrent to exploitative behaviour.
- 2.61 We identified the mechanisms leading from our recording requirements to potential economic benefits as follows:
- recorded communication may increase the probability of successful enforcement;
 - this reduces the expected value to be gained from committing market abuse; and
 - this, in principle, leads to improved market outcomes (market confidence and price efficiency).
- 2.62 In terms of evidence on each link of the mechanism:
- Analysis of a non-random sample of cases investigated by our Market Monitoring Department had indicated taping was associated with a greater probability of cases being pursued. We acknowledge that the ability of market abusers to avoid imparting incriminating information on taped lines or other forms of communication covered by our requirements limit the scale of benefits.

However, analysis of cases of potential market abuse dealt with by our enforcement division found that recordings had been useful in most cases where they were available to us and were likely to have been useful in most cases where they were not available to us.¹¹

- While our market cleanliness research does not test for a causal link between increased enforcement and cleaner markets, results indicate a decline in “informed price movements” ahead of corporate announcements of FTSE 350 firms (but not for takeover announcements) that may reflect the impact of enforcement.¹²
- Further academic literature shows potential improvements in market outcomes arising from increased enforcement. First, some evidence that increased enforcement action against insider trading reduces cost of equity generating benefits (though the effect is found to be stronger in emerging markets).¹³ And, second, weak cross-country empirical support for the position that prices may be more accurate and hence markets more efficient where insider rules are more stringent.¹⁴

2.63 In summary, while we are able to describe the mechanism by which our requirements should lead to benefits, and give some supporting evidence on each link of this mechanism, it is not possible to place a monetary value on benefits.

2.64 We considered if the changes we have made from our proposals to our final rules could reduce potential benefits. We do not think excluding discretionary investment managers from the scope of our rules will lead to a significant loss in evidence. Relevant conversations with sell-side firms would continue to be captured by our recording requirement covering the latter. The decision to reduce retention periods from three years to six months may reduce our ability to obtain some evidence. An analysis of investigations suggests in 85% of cases we already make requests within eight months. If we are able to speed up our process, knowing the retention requirement, this figure suggests loss in evidence may be marginal. However, there may be some loss in evidence in complex cases where abusive firms or individuals are identified late in the process, and requests for information cannot be made within six months.

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11. We analysed 46 cases of cases of potential market abuse dealt with by our enforcement division. In 23 cases tapes were available when requested and in 23 cases they were not. We judged that in 19 of the cases where tapes were available they had been useful and that in 19 cases where they were not available it is likely they would have been useful had they been available. By useful we mean that tapes did or would have helped to take enforcement action, they did or would have helped to take more serious enforcement action or they did or would have helped to save resources (either by enabling a case to be closed more quickly or by helping to reduce litigation risk and expenditure of resource in connection with the taking of enforcement action).
 12. Measure of market cleanliness: pre-FSMA (19.6%), post-FSMA (11.1%), post-Enforcement (2%) in FSA Occasional Paper 25.
 13. Bhattacharya, U and Daouk, H (2002), *The World Price of Insider Trading*, *Journal of Finance* 57; Hail, L and Leuz, C (2005) *International differences in the cost of equity capital: Do legal institutions and securities regulation matter?*, Wharton Working Paper; Daouk, H, Lee, C and Ng, D (2005), *Capital market governance: How do securities laws affect market performance?*, Cornell University Working Paper.
 14. Beny, L N (2006) *Insider Trading Laws and Stock Markets Around the World*, University of Michigan Law School Working Paper.

Summary of memoranda submitted to FSA by Trade Associations

The main points raised, in relation to our final proposals, by the trade associations in memoranda of 25 January 2008 and 6 February 2008 are (the points come verbatim from the memoranda):

- The changes FSA has suggested in the revised draft rules would diminish the cost-benefit, proportionality, and international competitiveness imbalance by comparison with the CP07/9 proposals.
- In sectors where recording is not currently the norm (e.g. retail stockbrokers, smaller houses in markets where trading is not subject to exchange requirements), and where a 6 month requirement would not correspond to current practice, the cost of establishing recording facilities from scratch, though reduced by comparison with what it would have been with a longer retention period, will still be proportionally significant, and still has the potential to be doubled in quick succession by EU policy decisions in a year's time.
- Even allowing that FSA's recent endeavours to identify and assess the benefits of its proposals are more reasoned and credible than those that appeared in the original CP, many firms are not convinced that the benefits that FSA has so identified would justify the costs imposed, that the requirements would be proportionate, or that they would be in line with other major international markets.
- There is however an argument that, since the costs and benefits are central to this exercise, FSA should provide the opportunity for further public comment on the revised CBA assessment rather than simply reporting on the differences and providing a new CBA as provided for in section 155(6) FSMA.
- FSA should not impose rules that firms would be expected to comply with on a timescale that intersects with EU-level policy-making.

- If FSA decides to go ahead with rules as redrafted, it is particularly important for FSA and market participants to work together to ensure that rules, guidance, and surrounding material (including comments by FSA in the policy statement and, perhaps, industry guidelines) are, taken as a whole, practical and not disproportionate, and enable firms to come to a clear operational understanding of the scope of recording obligations, and of FSA's expectations as to the coverage of their recording arrangements.

Summary of survey results to review the costs of the proposals in CP07/9

Survey population and responses

A sample of 701 firms was asked to respond to our online survey, representing 26% of the total population of firms likely to be within the scope of the proposals. Responses were received from 198 firms, of which 131 (19% of the sample) went beyond providing their name. We estimate that these firms account for 40% of the lines that will need to be recorded.

With the exception of the Coverage and CBA sections of this note, the data presented below relate to these 131. In order to present meaningful cost per line information, the data relating to a number of firms which reported costs but no telephone line coverage, or numbers of lines but no associated costs, have been excluded from the Coverage and CBA sections.

Mobile phones

41% of respondents reported that some relevant conversations would be recorded on mobile telephones. On average, these represented 7% of all relevant conversations. No major investment banks conducted relevant conversations on mobiles. 15 respondents used mobiles for 20% or more of their relevant conversations. The majority of these (11) operated in the wholesale asset management sector.

Asset management

Firms engaged in asset management activities reported that the number of telephone lines used by dealers who were not asset managers was 170 (135 in wholesale asset management and 35 in retail asset management).

Record retention

41% of respondents currently taping retained telephone records for less than 12 months, 6% for 12 to 14 months and 33% for over 24 months.

10% of respondents retained electronic communications for less than 12 months, 15% for 12 to 24 months and 75% for over 24 months.

Coverage

The number of lines currently recorded (“current coverage”) by respondent firms represents 79% of the total number of lines which these firms estimated would need to be recorded under our proposals. The equivalent figure for the large investment banks that responded to the survey is 83%. Excluding these investment banks current coverage is 58%.

The distribution of lines between the large investment banks and all other firms is shown in table 1 below:

Table 1

	Current coverage	Additional lines	Total lines
Large inv banks	87%	66%	83%
All other firms	13%	34%	17%

Costs

Total costs reported by respondents are as shown in table 2.

Table 2

£'000	Current annual costs (total for all firms)		Additional costs (total for all firms)			
	Storage	Maintenance	Implementation	Storage	Maintenance	Electronic comms
Total all respondents	9.5	8.3	16.2	13.4	9.0	12.9

Requests for information

When considering the following details relating to requests for information, you should be aware that some firms may not have been able to collate the relevant information to answer the questions posed in the survey.

Of the 131 respondents, 21 firms reported that they had received 138 requests in the previous year from the FSA for recorded or documentary information in respect of market abuse investigations. This figure included 81 instances reported by one firm which were requests to retain rather than provide information.

The number of man hours reported by firms as having been spent in the previous year dealing with FSA requests for recorded or documentary information in respect of market abuse investigations is as shown in table 3.

Table 3

No of man hours:	Nil response	0-10	11-25	26-50	>50
No of firms (%):	107 (82%)	10 (8%)	7 (5%)	1 (1%)	6 (5%)

Cost benefit analysis

Telephone recording

Based on the estimate in the original CBA for total number of lines that would need to be recorded under the proposals (63k, representing a mid point within a possible range of 55k to 70k), the survey results can be scaled up to provide the following estimate for total costs and costs per line (including and excluding the large investment banks):

Table 4

	Current annual costs		Additional costs		
	Storage	Maintenance	Implementation	Storage	Maintenance
£m					
Total costs:					
- 63k lines	24.1	18.6	34.6	27.6	15.5
- 55-70k lines	21.1-26.9	16.3-20.7	30.3-38.6	24.1-30.7	13.6-17.3
Costs excl Inv Bks:					
- 63k lines	2.8	4.0	8.2	4.9	3.5
- 55-70k lines	2.4-3.1	3.5-4.5	7.2-9.1	4.3-5.5	3.0-3.9
£'000					
Cost per line					
- 63k lines	1.3	1.0	7.2	5.7	3.2
- 55-70k lines	1.2-1.5	0.9-1.2	6.3-8.0	5.0-6.3	2.8-3.6
Costs per line excl Inv Bks:					
- 63k lines	1.2	1.8	5.0	3.0	2.1
- 55-70k lines	1.1-1.4	1.5-2.0	4.4-5.6	2.6-3.4	1.9-2.4

Firms were asked to estimate costs within bands. In order to calculate the cost estimates in the tables above, we have used the mid-point of each band. It may be more appropriate to use an estimate at a different point within the bands. As a result of adopting this approach, the results are heavily influenced by the responses of a small number of large investment banks which reported costs figures in the highest band of £1m-£5m.

Electronic communications

We have no information which would enable us to estimate what proportion of total relevant electronic communications are accounted for by the firms in our sample. To scale up the electronic communications costs reported in our survey we have decided to assume that the scaling factor used for the phone costs is the best available proxy (in the sense that it speaks to size and intensity of trading). Scaling up on this basis produces the figures shown in table 5.

Table 5

	Additional annual costs
£m	
Total costs:	
- 63k lines	25.7
- 55-70k lines	22.5-28.6
Costs excl Inv Bks:	
- 63k lines	5.8
- 55-70k lines	5.1-6.5

Consideration of a discretionary recording requirement

Report by Europe
Economics

1 Introduction

- A1.1 This report by Europe Economics was commissioned by the Financial Services Authority (FSA) and examines aspects of the cost and affordability of introducing a recording requirement for authorised financial services firms.
- A1.2 In particular, this study forms part of the additional analysis the FSA decided to conduct regarding the costs of the telephone and electronic communications recording proposals estimated during May 2007 in Consultation Paper 07/9 (CP07/9). The additional analysis was prompted by the stakeholder responses to CP07/9 and the aim of this report is to test the validity of some of the concerns raised.

Context

- A1.3 One of the FSA's statutory objectives is to reduce financial crime. Financial crime includes market abuse – insider dealing and market manipulation. Some of the most valuable evidence in investigating market abuse is that relating to the point at which transactions are undertaken: in particular taped conversations and records of electronic communications.
- A1.4 At present, there are no rules mandating firms to record telephone lines or to retain electronic communications. This does not, however, imply that the issue has been neglected. Indeed, Section 3.6 of the FSA Market Conduct Sourcebook provided, until 31st October 2007, guidance on the circumstances in which it might be desirable for firms to record telephone conversations. The FSA felt that introducing rules about when telephone calls should be recorded would provide greater deterrence to employees of regulated firms that might otherwise consider acting on the basis of inside information or undertaking market manipulation.
- A1.5 This study concerns the costs of telephone and electronic communications recording. In CP07/9 the FSA proposed that FSA-authorised firms should have to record 'relevant' telephone conversations and keep records of 'relevant' electronic communications (including e-mail, instant messaging and faxes).¹⁵ These proposals were aimed at tackling market abuse by ensuring that the FSA had access to high quality evidence when investigating and prosecuting market abuse.

15. 'Relevant' conversations and communications are those which involve taking client orders and the negotiating, agreeing and arranging of transactions. Excluded from the scope of the proposals were retail financial advisers, corporate finance advisers and investment managers without authority to deal. The financial instruments covered were those trading on exchanges (whether or not the transaction takes place on exchange) and instruments whose price depends on instruments trading on exchanges. This excludes insurance-based products and most collective investment scheme products.

- A1.6 CP07/9 proposed that firms would have to keep the recordings and records for three years from the point at which they were created. The associated cost-benefit analysis (CBA) assumed that 90 per cent of fixed lines affected by the proposals are already recorded. On this basis, total one-off costs for firms were estimated to be £3m to £4m whilst there would be a rise in continuing costs of between £3.5m to £4.5m per annum. CP07/9 also notes that if the coverage level were actually 80 per cent, the costs would be higher with a one-off cost of approximately £6m to £8m and ongoing costs in the region of £4m to £5m per annum. The proposals require the recordings and records to be kept in a way that they would be readily accessible to the FSA.
- A1.7 However, the above figures were contested by respondents to CP07/9 who felt that the costs of complying with the proposals had been underestimated. Several different ideas were put forward as to why the figures may be inaccurate, most of which came down to the assumptions upon which the estimates were based and the omission of some relevant costs from the CBA.

Our task

- A1.8 The purpose of this study is to examine the validity of the concerns as these were raised by respondents to CP 07/9. These are summarised below:
- accuracy of the figures for the one-off and ongoing costs of telephone recording and the recording of electronic communications.
 - through desk research and a set of interviews with stakeholders assess the possible additional costs to firms of searching (which discussions with the FSA clarified as to be understood to mean “making searching possible for”) tapes and electronic records in response to third-party requests.
 - assess the validity of concerns regarding certain practicalities of the CP07/9 proposals and in particular in respect of their impact on mobile phone conversations.
- A1.9 With respect to the first bullet point above, it should be noted that the Statement of Requirements (SoR) for the study clarifies that “the aim is not to produce a specific new figure but to provide some indication of whether the figures are broadly accurate or if not by what sort of order of magnitude they are incorrect”.

What we shall argue

- A1.10 The key findings of the study are listed below:
- Using similar assumptions to the FSA in CP07/9, our one-off estimates concerning the cost of recording, storing and retrieving fixed line telephone calls, emails and IM are broadly similar to the FSA’s estimates in CP07/9 (£4.2m- £5.4m vs £3m - £4m). However, our estimates of on-going costs are almost double (£6.5m - £8.3m vs £3.5m - £4.5m). It should also be noted that the range of our estimates is broader than FSA’s in CP07/9.
 - The assumption regarding the proportion of phone lines already taped was one of the points that attracted criticism from the financial services industry. The cost

estimates we obtain under another assumption, based on more recent data provided to us by the FSA, are greater than under the assumption made in CP07/9.

- On the basis of the discussions we had with suppliers and market participants, the vast majority of the authorised firms seem to be considering recording email and IM only at this stage, in addition to fixed line telephone recording. The firms spoken to for the survey did not have solutions in place for email and IM recording and hence the additional, though not incremental, cost of implementing the FSA proposals for these means of communication are virtually equal to the full cost of deployment of the relevant recording solutions.
- We find that recording of mobile calls and SMS text messages is feasible.¹⁶ The cost of doing so is non-trivial and has to be added to the cost of recording, storing and retrieving fixed line telephone calls, emails and IM. The resulting total cost estimate is materially higher than the figures reported in CP07/9, which did not include the cost of recording of mobile calls and SMS text messages.
- The cost of mobile call recording reported here is not equal to the cost of regulation, which is expected to be much lower. The reason is that for the latter, one would need to know how many authorised firms would have employed mobile call recording irrespective of the FSA requirements (in the same way many firms already record fixed line calls). Given that the solutions for mobile call recording are new, almost no financial company uses them as yet and, therefore, it is not feasible to form a precise view about what the incremental cost of regulation would be – we therefore offer two scenarios based on different assumptions the number of individuals whose mobiles would need to be recorded.
- While outside the scope of the study, it was brought to our attention that should the FSA proposals in CP07/9 be implemented some of the firms in the financial sector would consider ceasing to use IM and corporate mobile phones. While an interesting finding, it is not the subject of this study to examine the impact of the proposals on business practices.

Report structure

A1.11 This report sets out Europe Economics' discussion and conclusions, and is structured as follows:

- Section 2 briefly discusses the issues considered;
- Section 3 presents our findings;
- Section 4 presents our summary, conclusions and recommendations;
- Appendix 1 presents our methodology for addressing the issues the study is concerned with.

16. This is a recent development, reflecting the fact that mobile call recording solutions have only recently made it to the market — indeed, many financial sector firms remain unaware of the feasibility of mobile call recording.

2 Issues to be examined

A1.12 The Statement of Requirements divides the project into three tasks:

Task 1. Assess the accuracy of the estimates made in CP07/9 of the costs to firms of purchasing and maintaining telephone recording systems and the cost of storing recorded conversations.

Task 2. Assess the possible additional costs to firms of searching (which discussions with the FSA clarified as to be understood to mean “making searching possible for”) recorded conversations and records of electronic communications, the telephone recording proposals in CP07/9.

Task 3. Assess the feasibility and costs of recording mobile phone conversations.

The methodology employed to deliver these tasks is outlined in Appendix 1.

Tasks 1 & 2: Accuracy of estimates made in CP07/9 & Additional Costs to firms

A1.13 In CP07/9 it was proposed that rules be introduced compelling firms to record certain communications and retain these recordings for a specified period of time.

A1.14 More specifically it was proposed that firms — including banks, stockbrokers, investment management firms (in general) and insurance companies — be required to record telephone lines that are used for the receipt of client orders, the negotiation, agreement and arrangement of transactions across financial markets. Firms would also be required to retain electronic communications related to these same activities (including fax, e-mail, chat and instant messaging).

A1.15 It was further proposed that firms be required to retain these recordings and electronic communications for three years after the creation date and that the records be kept in a way such that they are easily accessible, that any changes/amendments can be identified and that the original copy can be ascertained. It must also be impossible for records to be altered or manipulated.

- A1.16 The proposals were presented along with a cost benefit analysis (CBA). In line with the requirements in the Financial Services and Markets Act, the CBA estimated the costs and analysed the benefits:
- The economic benefits of cleaner markets are increased market confidence (leading to a lower cost of equity), and improved stock price accuracy (and consequently efficiency in resource allocation). However, it is difficult to quantify the extent to which better taping and recording practices themselves add to these benefits of cleaner markets.
- A1.17 The CBA of the proposals noted above resulted in an estimate that total one-off costs for firms would be £3m to £4m whilst there would be a rise in continuing costs of between £3.5m to £4.5m per annum.
- A1.18 The CBA was conducted on the basis of incremental costs and does not, therefore, refer to those costs incurred by firms in activities which do contribute to meeting the requirements of the proposed rules but which would have also been undertaken in the absence of regulation.¹⁷
- A1.19 Returning to the proposal to introduce rules mandating firms to record relevant telephone lines and keep records of relevant electronic communications, the cost estimates were based on evidence from several sources including, but not exclusively:
- (a) A review of recording technologies and cost estimates prepared by Actica Consulting for the FSA.
 - (b) Responses to a questionnaire sent to firms regarding current recording norms.
 - (c) Input from FSA experts in policy, market monitoring, law, supervision and enforcement.
- A1.20 Responses to the questionnaire indicated that firms already tape between 70 and 100 percent of individuals that would be affected by the new proposals; the median figure of 90 percent was used in cost estimates. For those phone-lines not yet recorded, firms would be required to purchase and install recording systems. Phone costs were estimated to be £2.5m to £3m for one-off costs and £3m to £4m for ongoing costs.
- A1.21 The electronic communication costs were estimated to be no more than £1m for one-off costs and £0.5m for ongoing costs. Total costs are £3m to £4m for one-off costs and £3.5m to £4.5m for ongoing costs. From discussions with firms, Actica reported that the figure is likely to range from £200 to £600 per line, depending on the particular type technology used and the size of the firm. The median figure of £450 was used in subsequent cost estimates.

17. Consider, as an example, the case where a firm believed it made good business sense to send junior staff on a week-long course in writing “clear English” and had such project in place, and where, subsequently, the FSA included as part of its regulation the requirement that staff have some certificate in writing “clear English”. In such circumstances, the cost of the course to the firm should not be included as part of its compliance costs, as compliance with the regulation did not require the firm to adjust its behaviour.

Similar logic is often adopted in telecommunications in estimating the cost of certain regulated products. In particular, the Long Run Incremental Costing standard is used to determine cost oriented tariffs for regulated services, such as interconnection. In this process the increments are defined and the cost of the increment in question is determined taking the existence of the other increments as given.

Weaknesses in the cost-benefit analysis

- A1.22 Respondents to CP07/9 felt that the costs of complying with the proposals had been underestimated. Several different ideas were put forward as to why the figures may be inaccurate, most of which came down to the assumptions upon which the estimates were based and the omission of some relevant costs from the CBA.
- A1.23 Firstly, it was felt that the assumption that 90 percent of relevant phone lines are already recorded was too high. CP07/9 does, in fact, account for this possibility and estimates that if only 80 percent of relevant phone lines are currently recorded, the one-off costs would be between £6m to £8m whilst the on-going costs would be approximately £4m to £5m per annum.
- A1.24 Secondly, respondents felt that the estimated installation costs for a taping system and annual maintenance/storage costs were too low at £450 and £150 respectively. One trade association stated that initial costs should be quadrupled and on-going costs should be doubled.
- A1.25 Respondents further noted that the CBA had failed to include the costs of installing recording facilities at disaster recovery sites, the costs to firms of searching through records for information requested by the FSA or the costs involved in having lawyers review the requested material.

Implications for our study

- A1.26 On the basis of the discussion above, we determine the one-off and on-going costs for the firms of implementing the proposals. In line with the analysis in CP07/9 we sought to assess:
- (a) One-off costs, which may include design, installation, commissioning, integration, etc.
 - (b) On-going costs, which may include system operation, management, maintenance, usage charges, ongoing licences, upgrades etc.
- A1.27 In particular, we assessed whether the one-off and on-going cost estimates in CP07/9 are largely inaccurate or broadly correct. Two things should be kept in mind when making this assessment:
- (a) The cost estimates reported in CP07/9 depend on the assumption that for fixed-line telephones 90 per cent of the affected individuals are already recorded. This is one of the disputed areas challenged by respondents to CP07/9. However, our analysis does not include questioning of that figure i.e. we did not conduct a survey to obtain estimates of what percentage of individuals are already recorded. We asked similar questions in our communication with suppliers and financial firms, but the objective there was not to formulate a final estimate. The purpose of our enquiry was to inform us in which cases typical prices reported to us can be considered equal to additional costs for financial firms.

Formulating final cost estimates will again employ the assumptions used by FSA in its prior analysis. We note that even in FSA's CBA the 90 per cent figure was not an invariable parameter, as the analysis was also run under the assumption that 80 per cent of affected individuals already have their telephone conversations recorded.

- (b) Our understanding is that the FSA's estimates did not include the cost of recording mobile phone communications – the CBA estimates were based on cost figures coming from the Actica report, which at the time of publication did not find any mobile operator offering a recording service in the UK. In this study we investigate whether such recordings are feasible and at what cost. For ease of comparison with the CP07/9 figures, these costs are reported separately in the present study.

A1.28 Therefore, we report per user cost estimates for each of the following:

- (a) Fixed Telephone
- (b) Cellular Phones
- (c) Email
- (d) Instant Messaging
- (e) SMS from Cellphone

A1.29 To form estimates comparable with the CP07/9, we make use of the FSA assumptions on percentage of individuals currently recorded (this is then varied to see how cost changes depending on that assumption) and the number of financial services employees affected, along with our per user cost estimate for fixed telephone, emailing and instant messaging – cellular phones and SMS from cellphones are treated separately.

Market response to a surge in demand

A1.30 Should the proposals in CP07/9 turn into regulatory obligations for financial services firms, there will likely be a surge in demand for recording solutions. There are worries that should there be a tight deadline for the implementation of such proposals this surge in demand may drive prices of such solutions up. This could potentially make it prohibitive for some companies to purchase the solutions. On another front, our assessment considers such potential price increases in formulating cost estimates for the solutions considered, as this could have an impact on the FSA's cost benefit analysis which this study is to inform.

Service for smaller firms in case of demand surge

A1.31 The possibility of a surge in demand in a short time period has also raised concerns in connection with the service offered to smaller firms. In other words, one needs to investigate how suppliers of communication solutions will facilitate the needs of their smaller customers while dealing with the larger ones.

Task 3: Feasibility and costs of recording mobile phone conversations

A1.32 In the modern context it seems unlikely to make regulatory sense to record landlines if you cannot cover the mobile phones as well (otherwise one creates clear incentives to conduct illicit conversations through mobile phones, and the cost of installing and maintaining the fixed-line-only recording machine is incurred for no reason). However, the SoR mentions that “The FSA has been contacted by suppliers offering [mobile phone conversation recording services] but none appear to have clients amongst financial services firms”. Therefore, this passage indicates that: a) it appears that mobile phone conversation recording is not widely used by financial services firms, and b) recording mobile phone conversations is feasible.

A1.33 This raises questions regarding:

(a) *The ways in which mobile phone recording can be done.* We must examine what are the technological means, whether its use matches the work profile of financial services workers (i.e. a recording solution that requires time to set up each time a call is made would not match the requirements of fast paced working needs), whether the solution is managed by the customer or the company providing it, and whether it is a solution that makes retrieval easy.

(b) *The cost of mobile phone recording solutions.* What is the underlying reason for not observing widespread use of mobile phone call recording? Could it be that such solutions have only recently started to roll out or is it that the cost is prohibitive?

Market response to a surge in demand and service for smaller firms

A1.34 As discussed in the section on the accuracy of the CP07/9 estimates, concerns are raised regarding the market response to a surge in demand (as a result of making communications recording mandatory), and in particular with regard to price movements and the service provided to smaller firms. Such concerns may be even more exacerbated in the case of recording mobile phone communications because the market is not yet mature, such solutions have only started to be marketed and the majority of the financial services firms are not using them. Therefore, the surge in demand is likely to be much more profound.

3 Study Findings

A1.35 This Chapter presents our findings regarding the issues described in Chapter 0.

Task 1: Accuracy of estimates made in CP 07/9

A1.36 This section presents the outcome of our analysis regarding the accuracy of the FSA's cost estimates of CP07/9. In this Chapter we present the per-user costs as reported to us by suppliers and authorised firms; the findings are presented broken down by type of recording in a form that is comparable to the CP07/9 estimates in Chapter Error! Reference source not found.

Typical price per user and range of prices per user

A1.37 This section presents the results of our suppliers survey regarding the typical prices charged for each cost category (e.g. one-off fixed line call recording cost for medium sized companies) and the variability of the typical prices charged.

A1.38 The tables shown in the sub-sections below report typical, minimum and maximum prices charged by a given supplier for each cost category. Cost categories are defined by recording, storage for one year and storage for three years and for each of these categories one-off costs are reported separately from ongoing costs.

A1.39 Even though we have defined high-level specifications of the reference criteria, some variability in the offered services can be observed depending on a number of factors such as number of users, volume (of calls, emails etc.). Therefore, we asked participants to give us an idea of minimum and maximum charges for similar services.

A1.40 From the tables presented below we omit those on cellphones and SMS from cellphones because these are presented in a separate section.

Fixed-line Telephone

A1.41 Of all means of communication considered in this report, fixed-line telephony is the one for which the majority of financial services firms do make and retain recordings.

- A1.42 One of the respondents to our questionnaire reported that around 75 to 80 per cent of their large financial firms clients already comply with the reference criteria above. While there may be a difference between the proportion of clients that comply and the proportion of affected individuals that are recorded (e.g. if one of the non-compliant clients is a large firm) the supplier response does not seem to be hugely different from the revised data (coming from a different source, not the supplier) used in this study.
- A1.43 One thing that should be mentioned though, is that presently the motivation for fixed line call recording in the financial sector is likely to be for business development rather than for compliance purposes. This implies that storage of recorded conversations could be for a shorter period than that required by the FSA's proposals. Furthermore, the tags attached to the calls could be different from those required for the FSA's purposes.
- A1.44 The characteristics of the solutions we were presented with for recording fixed line telephone communications are shown in Table 3.1.

Table 3.1: Details of how the fixed line recording solution is provided

	Solution 1	Solution 2
Is the solution managed by the provider or the customer, or some combination of the two?	Some combination	Managed by the provider – for Small and Medium Companies Managed by customer – for Large Company deployment
Does the suggested solution imply that call recording will be undertaken by the people that are involved in the calls?	No	Both. The system can be set up to record all calls or the caller can record ad hoc 'relevant' calls only
What equipment and/or software would be provided by the supplier?	V8.9 Voice Recording Logger or VoIP software Software application for search and replay	Fixed Line recorder for M,L companies Middleware for M,L companies Telephony Server for L companies Global Network (if required) for L companies
Who would store the data?	This is automatically stored by the voice recording solution	Customer
What meta-tags would be attached to the data to aid in search and retrieval?	Date, time, extension number, channel number. Optional data dependant on where the system is connected: trader ID, Handset number, speaker information, private wire details	Date and time of call, number of caller, number called to, Call duration
How easy is it to search and retrieve information on the basis of the suggested solution?	Simple search and replay application will allow user or IT to retrieve information based on date, time, and extension/channel. The more call information captured the easier to pin point the call.	Very easy. Search criteria can be customised and fixed and mobile call recordings stored together
What disaster recovery provisions are assumed?	Resiliency is included within the voice recording logger as parallel recording or N+1 configuration. Additional DR configuration options are available	For Small and Medium companies all mobile recordings are stored on the provider's mirrored server for up to 10 days before deletion. It is the customer's responsibility thereafter. For large companies depends on customer's BCP strategy. The provider's system can be on mirrored servers in different locations.

A1.45 There was a large disparity between the prices of the different solutions presented to us. The table below presents the upper and lower typical prices for fixed phone recording, storing and retrieval.

Table 3.2: Typical price per user — Fixed-line Telephone

		Small Company		Medium Company		Large Trader	
		Design/ Install/ Commission Per User (£)	Annual Operational Cost per User (£)	Design/ Install/ Commission Per User (£)	Annual Operational Cost per User (£)	Design/ Install/ Commission Per User (£)	Annual Operational Cost per User (£)
Fixed telephone							
Recording	Low cost	79*	0	200**	20	160***	16
	High cost	2,610	644	414	145	216	74
Storage for 1 year & Retrieval	Low cost	N/A	N/A	N/A	N/A	N/A	N/A
	High cost	Included in the cost of recording	Included in the cost of recording	Included in the cost of recording	Included in the cost of recording	Included in the cost of recording	Included in the cost of recording
Storage for 3 years & Retrieval	Low cost	N/A	N/A	N/A	N/A	N/A	N/A
	High cost	Included in the cost of recording	Included in the cost of recording	Included in the cost of recording	Included in the cost of recording	Included in the cost of recording	Included in the cost of recording

* For the Small Company, the provider teams up with a third party supplier for providing fixed line recording systems.

** For the Medium Company the provider supplies a fixed line call recording system (from a third party supplier) purchased by the customer with an annual maintenance fee.

*** For the Large Company the fixed line prices are based on the incremental cost per 100 additional users to upgrade the call recording system from 400 to 500 users.

A1.46 There is no variation in one of the two solutions presented above; the low cost option always has the same per-user cost. The range in prices for the upper cost option is shown in the table below.

Table 0.3: Range of prices per user for upper cost option – Fixed-line telephone

		Small Company		Medium Company		Large Trader	
		Design/ Install/ Commission Per User (£)	Annual Operational Cost per User (£)	Design/ Install/ Commission Per User (£)	Annual Operational Cost per User (£)	Design/ Install/ Commission Per User (£)	Annual Operational Cost per User (£)
Fixed telephone							
Recording		N/A	N/A	414 - 421	145 - 148	216 - 228	74 - 79
Storage for 1 year & Retrieval		N/A	N/A	Included in the cost of recording	Included in the cost of recording	Included in the cost of recording	Included in the cost of recording
Storage for 3 years & Retrieval		N/A	N/A	Included in the cost of recording	Included in the cost of recording	Included in the cost of recording	Included in the cost of recording

- A1.47 Therefore, for each solution there is either no variation or very little variation in its price.
- A1.48 In one interview with a major firm we were told that they had introduced a VOIP system running over their Wide Area Network when they had moved their London offices to new premises. The company currently records 100 individuals and stated that the new technology would not have been introduced in the absence of relocation because of the high costs involved. The company stated that the eventual total costs of implementation will be £3m of which the total initial cost in providing three years of storage of £250k. It costs £500 to extend the system to each additional employee. If the proposals of CP 07/9 were introduced, the firm believes that it would be necessary to employ three additional individuals simply to manage the system, costing in the region of £120k per annum. Assuming that approximately 1,000 lines were recorded, there would be ongoing costs of £30k-£40k per annum in terms of extra hardware for storage alone. The costs of retrieval are not included in this figure.
- A1.49 One authorised firm was concerned that whilst recording is possible, retrieval is a big issue, especially given the large number of minutes that would be recorded under the FSA proposals. A typical retrieval for the firm takes seven working days; they currently receive about six such requests each year. The firm further stated that the Data Protection Act adds another layer of difficulty since the party listening to tapes must be totally independent of those involved and thus will not recognise (or be able to distinguish between) voices on recordings. The company may need to employ more people to search through tape recordings if the volume of requests were to rise once the coverage of taping was increased.
- A1.50 The firm stated that one difficulty with the available technology is that if a phone call is made to employee A (who is away from his desk) and hence the call is forwarded to employee B, the call is recorded on employee A's line. Therefore, if the FSA were to have concerns about the activity of employee B and searched the recordings made on employee B's line, they would not find a relevant and potentially incriminating conversation. The company is greatly concerned that in such a situation, where someone remembered having a conversation with employee B and hence a request for the conversation was made by the FSA, the company would be guilty by implication if the conversation could not be found.
- A1.51 It was also mentioned in an interview that significant problems would be faced by small and medium-sized companies. It was stated that the technology employed previously by the firm would have required recording equipment in each individual office but not all offices would have a technical expert. Therefore, the company would have had little confidence that the recording would be done correctly. The firm believes that this problem would be encountered by many authorised firms were the taping proposals introduced, and the problem would be most prevalent amongst firms that have a number of regional offices with only a few employees in each. It would be difficult, therefore, for such firms to comply with the proposals. Further, it was stated that the FSA is unlikely to get quality recordings unless all firms move to a new type of technology, a move that would be prohibitively costly for some.

Email

- A1.52 There is nothing specific to the financial sector in terms of email retention and discovery costs. The same issues apply across all sectors regardless of the drivers which dictate the need.
- A1.53 The vast majority of email retention and search tools in the market provide an integrated software solution for email recording and retrieval, and storage is simply a matter of providing adequate storage hardware for the software solution to use. The software solutions are priced either on an initial purchase cost followed by lower annual support costs or on an annual subscription cost. The storage costs are based around one-off hardware purchase (with future purchase necessary should archive growth exceed expectations).
- A1.54 Typical characteristics of the solution presented to us are provided below.

Table 3.4: Details of how the email recording solution is provided

Is the solution managed by the provider or the customer, or some combination of the two?	Managed by customer
Does the suggested solution imply that call recording will be undertaken by the people that are involved in the calls?	No
What equipment and/or software would be provided by the supplier?	M+Archive software for email retention and discovery. Customers provide their own server hardware for running the software and storage hardware to contain the archives.
Who would store the data?	Customer
What meta-tags would be attached to the data to aid in search and retrieval?	Standard tags from email system
How easy is it to search and retrieve information on the basis of the suggested solution?	This varies on the type of discovery request from exceedingly simple to quite complex.
What disaster recovery provisions are assumed?	The email archives should be backed up and stored externally.
Apart from the number of users, what are the other main cost drivers?	Volumes and average sizes of emails vary between organisations and can impact storage requirements considerably. In addition the actual drivers for email retention can vary hugely. Some customers need 100 per cent retention of everything, others only want to keep mail for selected users. The capabilities of the IT department also dictate whether professional services assistance will be required for design and deployment. Some of the customers have skills and time to design and deploy themselves and only need 1 day's education. Others have needed up to 40 days consultancy to design and deploy the solution.

- A1.55 The costs for this solution are shown in the table below.

Table 3.5: Typical price per user – Emails

	Small Company		Medium Company		Large Trader	
	Design/ Install/ Commission Per User (£)	Annual Operational Cost per User (£)	Design/ Install/ Commission Per User (£)	Annual Operational Cost per User (£)	Design/ Install/ Commission Per User (£)	Annual Operational Cost per User (£)
Emails						
Recording	N/A	N/A	40	24	20	12
Storage for 1 year & Retrieval	N/A	N/A	N/A	N/A	N/A	N/A
Storage for 3 years & Retrieval	N/A	N/A	N/A	N/A	N/A	N/A

The costs indicated above are for the software solution and consultancy services. Storage costs are not an element which is provided by the solution provider. The solution provider indicated that storage costs are for hardware vendors to specify based on the mail volumes required to be stored by that customer. Similarly Retrieval costs are not specified explicitly. The software provides the retrieval capability so the only additional cost would be customer manpower to actually carry out the searches (which the software minimizes to a few minutes or hours per discovery exercise).

A1.56 The following table shows the range of prices for the solution described above.

Table 3.6: Range of prices per user — Emails

	Small Company		Medium Company		Large Trader	
	Design/ Install/ Commission Per User (£)	Annual Operational Cost per User (£)	Design/ Install/ Commission Per User (£)	Annual Operational Cost per User (£)	Design/ Install/ Commission Per User (£)	Annual Operational Cost per User (£)
Emails						
Recording	N/A	N/A	20-100	24	2-80	6-12
Storage for 1 year & Retrieval	N/A	N/A	N/A	N/A	N/A	N/A
Storage for 3 years & Retrieval	N/A	N/A	N/A	N/A	N/A	N/A

A1.57 In an interview we were told that the pricing strategy of the company is such that the minimum number of users for which their solutions are affordable for a customer is 100. The software provided by the supplier to facilitate the recording of emails has a cost of £12 per user per annum and this is fairly static across different company sizes.

A1.58 By contrast, the cost of the hardware required for storage varies widely (from £5 to more than £500 per user) and there are numerous reasons for this. The main drivers behind the hardware costs are the quantity of emails that needs storing (which is mainly driven by the volume of emails generated per user) and by the average size of each email. The average size of emails varies by type of company. In the civil engineering sector, for example, large CAD files of 2-5Mbytes are emailed. However, when taken together with the text-only emails (of only a few Kbytes) the average email size for this sector works out at around 100Kbytes. In local government, average email sizes are smaller than this, because large attachments are comparatively rare.

A1.59 In addition to this, the number of years of retention required and the level of access would affect storage costs. There are three Tiers of email storage solutions:

- (a) Tier 1: This is where the customer requires a high performance solution and online access for users to both stored and archived emails (where users are accessing the email archive, high performance Storage Area Networks – SANS – are required to deal with the flow of traffic to and from the stored emails).
- (b) Tier 2: This solution typically comprises a Network Attached Storage (NAS) device attached to the customers’ network and has much lower costs than the Tier 1 solution. It still allows real time access to stored emails, but at a much lower throughput, making it ideally suited to audits but not for day to day user access.
- (c) Tier 3: This solution is suitable for offline, long-term storage where online user access is not required.

- A1.60 The solution presented to us stores emails as .xml files. The reason for this is that it takes away the dependency of the storage solution on the email system used by the customer (so the customer can freely change their email system without jeopardising emails that are already stored). Storing emails as .xml files can increase the storage requirements and whilst it is possible to compress these files, there could be an impact on performance (e.g. ease of retrieval) and so in practice few firms would compress the files in this way.
- A1.61 If a firm were to solely wish to comply with the proposals of CP07/9 and did not require any additional functionality, a Tier 1 or Tier 2 storage solution would be required in addition to a specific email recording, archiving and storage solution being in place. With such a solution, a time period for retrieval of one month would be “generous” but this period could disappear very easily without such a solution being in place. With offline storage and no dedicated email search software, the respondent thought that it would be difficult for a large company to retrieve a set of emails, even in one month.
- A1.62 To aid search and retrieval, the meta-tags that are attached to the data by the solution for all email systems include time, date, names and email addresses of sender and recipient(s). Depending on the particular email system the company has in place, further meta-tags could include whether the email was private/personal, whether it was read, whether it was a draft or a sent email and whether it was an incoming or outgoing message. Using the solution presented to us, it is also possible to search by keyword the full text of the email itself and any attachments.
- A1.63 In an interview with a major investment management firm we were told that the firm had recently started storing emails but the company does not know what the growth of storage costs will be. However, the company believes it would be difficult to find a specific email if required to do so because of the great quantity of emails stored.

Instant Messaging

- A1.64 Instant messaging is a term that refers to one to one communication, but generically (due to convergence) also refers to chatting, which involves to multi-party communication.
- A1.65 There are IM solutions that are free and available on the internet. However, as reported in the Actica report:

“many of the free variants have no capability to record communications and those that do, commonly provide no way for system administrators to mandate recording/archiving of conversations. Although business processes can be used with these free and internet based solutions to record and archive communications, the assurances for these solutions are low.”

- A1.66 The solutions we are looking to in this study are enterprise solutions, not free variants. However, it should be mentioned that small firms could be forced to resort to the free solutions as the enterprise solution may not be easily accessible to them.
- A1.67 Through discussions with industry participants we concluded that if organisations in the financial sector are aware that they are using IM, then they are recording it. However, if they are unaware, as is often the case, then they are unlikely to be recording the traffic. The reason organisations are not aware of IM is that these networks — specifically the public IM’s such as Yahoo and MSN — can be installed, or used over an HTTP connection often without the knowledge of the IT functions knowledge. Thus they go unrecorded.
- A1.68 We were presented with a solution that can record the text of any IM chat using the following networks
- MSN (also known as Windows Live Messenger)
 - Yahoo
 - AOL (also known as AIM)
 - GoogleTalk
 - Microsoft Live Communications Server (LCS)
 - Microsoft Office Communications Server (OCS)
 - IBM Lotus Sametime
 - Reuters
 - Bloomberg
 - Jabber
- A1.69 The solution can record one to one IM chats and also “group chat” — where more than two parties are involved — and can even record any attempts to “hide the conversation” (e.g. whitening out text). The solution can also prevent circumvention of the recording technology – users are sometimes able to direct their IM traffic “other ways out of the network”, other than via the recording mechanism. This would prevent any IM conversations that attempted to circumvent the conversation actually taking place. It would also log the fact that this attempt had taken place. This device sits at the edge of an organisations network.
- A1.70 In technical terms, the providers of the solution advertise the following capabilities for their service:
- Centralized, tamper-proof recording and archiving of all IM conversations and file transfers.

- Reduce costs from having to piece together conversations from multiple sources.
- Leverages existing storage infrastructure.
- Easy retrieval of stored information based on keywords, users, timeframes and more.
- Enforce company usage policies for IM and other real-time communications.
- Ensure that relevant communications are directed through authorized channels.
- File transfer archival support for Enterprise IM (EIM) networks.
- Reporting of Public IM (PIM) conversations conducted over EIM clients.
- 100 per cent guaranteed, accurate binary archiving of all real-time communications, including user sign on/off history and multi-party chat participation history.
- Automatic display of customizable legal audit disclaimers to all parties involved in the conversation.
- Assign and enforce regulatory compliance features at the company, group, and individual employee levels.
- Facilitate segregation of roles and tasks based on functional responsibilities of the individual.
- Configure “Chinese Wall” policies to restrict inter-group contact and use “Hair Pinning” to restrict inter-organization contact.
- Sophisticated workflow process with content monitoring, review cycles and custom search queries.
- Seamless integration with common email compliance and write once, read many (WORM) storage systems.
- Prevent data tampering with a checksum of time-stamped messages, ensuring exported conversations match recorded conversations.
- 360-degree audit of all users including system administrators and content reviewers.
- Email alerts and notifications to ensure records retention and facilitate ease of retrieval.

A1.71 The table below presents valuable information regarding the usability of the solution. This information helps us form a view on whether the solution is acceptable by FSA standards.

Table 3.7: Details of how the IM recording solution is provided

Is the solution managed by the provider or the customer, or some combination of the two?	Managed by customer.
Does the suggested solution imply that call recording will be undertaken by the people that are involved in the calls?	No. It is centrally managed by IT.
What equipment and/or software would be provided by the supplier?	Software.(and Hardware where specified) to record and retrieve the messages
Who would store the data?	Customer.
What meta-tags would be attached to the data to aid in search and retrieval?	Can retrieved by "real name" (e.g. John Smith) Corporate ID (e.g. J_smith) IP address of the machine Buddyname of the user (e.g. johnsmith@hotmail.com) Can search on any word Can search on dates and range of dates Can search by restricted phrases, e.g. "sell shell"
How easy is it to search and retrieve information on the basis of the suggested solution?	Very simple. Standard reports are set up and any custom report can be generated.
What disaster recovery provisions are assumed?	Solution can be installed in High Availability mode (no cost for second server software, additional cost for hardware) Data can be written to WORM disk and stored offsite or can be stored in conjunction with organisations DR strategy.
Apart from the number of users, what are the other main cost drivers?	Annual maintenance and subscription costs.

A1.72 On the basis of the information presented above, the solution seems to be compliant with the FSA proposals.

A1.73 The costs reported to us are shown in the table below.

Table 3.8: Typical price per user — IM

	Small Company ¹		Medium Company		Large Trader	
	Design/Install/Commission Per User (£)	Annual Operational Cost per User (£)	Design/Install/Commission Per User (£)	Annual Operational Cost per User (£)	Design/Install/Commission Per User (£)	Annual Operational Cost per User (£)
Instant messaging						
Recording	N/A	N/A	84*	44**	19***	12**
Storage for 1 year & Retrieval	N/A	N/A	N/A	N/A	N/A	N/A
Storage for 3 years & Retrieval	N/A	N/A	Cost included in recording	N/A	Cost included in recording	N/A

¹ The supplier of the solution did not report doing business with small companies.

* £3,000 software, hardware and three years' fees for 50 users plus £1,200 for installation.

** Applicable after 3 years.

*** £27,000 software, hardware and three years' fees for 1500 users plus £1,200 for installation.

A1.74 The provider of the solution that was presented to us reported that the prices quoted in Table 3.8 apply to all users i.e. there is no range around this figure.

Market response to a surge in demand

Fixed-line Telephone

- A1.75 One of the providers we contacted is a market leading company and they said they would be prepared to absorb a 100 per cent increase in demand in a short time period.
- A1.76 Smaller players in the field also claimed they could easily absorb a 100 per cent increase on their current levels of demand.
- A1.77 At this stage it should be mentioned that fixed-line recording is quite widespread among financial services companies and, therefore, a huge increase should not be expected.
- A1.78 Overall, on the basis of the information provided to us by suppliers, requiring financial services firms to meet the proposals for fixed-line telephone recording outlined by the FSA in CP07/9 should not cause any problems in the market for providing relevant recording solutions.

Email

- A1.79 Interviewees told us that supply-side problems would not be observed in the market in response to a demand surge.
- A1.80 One supplier reported in response to our enquiry that they ‘are used to operating in the North American market, where email retention is a much more widespread requirement’. The supplier further stated that they are currently running at breakeven level but, anticipating that future regulations will require some form of email recording and retention, have planned for a significant increase in output. As the supplier offers a software solution, it is easy to significantly increase output.
- A1.81 The most pessimistic view expressed from another supplier was that a 100 per cent demand surge would “have some impact especially to pre-sales activity rather than post-sales activity”.
- A1.82 Overall, on the basis of the information provided to us by suppliers, we cannot identify any serious threat to prices or supplies as a result of a surge in demand.

Instant Messaging

- A1.83 Enquiring about the impact on prices and response times of a 100 per cent increase in demand in short time, we were told that this level of growth did not pose any problems. Given that this is a relatively new and growing business area, the suppliers of IM recording solutions stated that their business plan for the future takes account of this.

Service for smaller firms in case of demand surge

Fixed-line Telephone

- A1.84 In line with the responses we received regarding the overall market response to a demand surge, we did not encounter many concerns raised by suppliers in connection with the service that would be provided to smaller firms.

Email

- A1.85 We asked providers of email recording solutions what could be the implications of a market demand surge for smaller firms and were told by one supplier that their offering to smaller firms is exactly the same as to larger and would not be prohibitive to them. However, the supplier did state that commercial reality dictates that if there were demands from both types of firm, the larger firms would get greater focus because of the greater revenue that they would bring. Furthermore, this suppliers' solution would not be applicable to any firm which operated with an ISP based email system alone – it is intended for firms, small or large, with in-house email solutions. Finally, this supplier stated that its pricing strategy is such that the smallest sized firm for which their solution represents good value for money is one with 100 users. They would supply smaller firms if requested to do so but felt that it is unlikely that such firms would choose to purchase their solution.
- A1.86 Another provider told us that a shared services or on demand service model works very well for smaller firms and it is feasible to build and pre-provision such services for all medium and smaller size companies. It is important to note that this is the opinion of a provider that only deals with smaller firms in the context of shared services.
- A1.87 It seems, therefore, that there could be some impact on the service provided to smaller firms if a company is faced with demands from both large and small authorised firms at the same time. This is, however, not certain and depends on the individual supplier.

Instant Messaging

- A1.88 While our investigation is not exhaustive of the sector providing recording solutions for IM and chat, we did not find any evidence raising concerns about the service provided to smaller clients of market players in response to a rise in demand over a shortened time period. We were told that solutions providers would work with the appropriate reseller in order to provide service and implementation.
- A1.89 Having said that, it should be mentioned that the supplier we have spoken to does not deal with small businesses; with small being defined as in Appendix 1. On the other hand, another supplier told us that shared services or on demand service model works very well for smaller firms and hence it is feasible to build and pre-provision such services for all the medium and smaller size companies.
- A1.90 Overall, on the basis of the information provided to us by suppliers, we conclude that there are no serious concerns for the service provided to small firms, even though, compared to larger firms, smaller authorised financial services firms may have a more limited choice of suppliers.

Task 2: Additional costs to firms

- A1.91 Whilst we cannot quantify this precisely, discussions with both suppliers and authorised firms gave the impression that authorised firms generally have fixed line voice recording, but lack such solutions for email, mobile telephones, SMS and IM. From the tables and discussion presented below we omit cellphones and SMS from cellphones because these are presented later in a separate section.

A1.92 Briefly, for IM and emails additional costs are treated as equal to full typical costs. The reason is that our discussions with suppliers and market participants suggest that recording solutions for IM and emailing are little used in the financial sector.

A1.93 As far as fixed line recording is concerned, full costs are considered for those whose lines are not taped at all. For the remaining lines, the additional cost is restricted to that of storing recordings for a longer period. Our findings suggest that companies tend to record fixed line calls, but store these recordings for about 6 months, which is less than the period required by the FSA proposals.

Fixed-line Telephone

A1.94 For companies that are not currently compliant with the FSA requirements, two of the available options are:¹⁸

- choose the low cost option presented at the start of Section 3 (this implies incurring the full cost of that option);
- utilise the firms' existing telephone recording system and acquire an additional standby voice recording logger to provide N+1 or parallel recording configuration (this implies that only some of the costs of the high-cost option are incurred).

A1.95 The additional costs under each of the two options are presented in the table below.

Table 3.9: Additional cost per user under the low cost option – Fixed Telephone

		Small Company		Medium Company		Large Trader	
		Design/ Install/ Commission Per User (£)	Annual Operational Cost per User (£)	Design/ Install/ Commission Per User (£)	Annual Operational Cost per User (£)	Design/ Install/ Commission Per User (£)	Annual Operational Cost per User (£)
Fixed telephone							
Recording	Low cost	79*	0	200**	20	160***	16
	High cost	1,805	644	244	77	432	160
Storage for 1 year & Retrieval	Low cost	N/A	N/A	N/A	N/A	N/A	N/A
	High cost	Included in the cost of recording	Included in the cost of recording	Included in the cost of recording	Included in the cost of recording	Included in the cost of recording	Included in the cost of recording
Storage for 3 years & Retrieval	Low cost	N/A	N/A	N/A	N/A	N/A	N/A
	High cost	Included in the cost of recording	Included in the cost of recording	Included in the cost of recording	Included in the cost of recording	Included in the cost of recording	Included in the cost of recording

* For the Small Company, the provider supplies a subscription based managed service for mobile phones and teams up with a third party supplier for providing fixed line recording systems.

** For the Medium Company the provider supplies a fixed line call recording system (from a third party supplier) purchased by the customer with an annual maintenance fee.

*** For the Large Company the fixed line prices are based on the incremental cost per 100 additional users to upgrade the call recording system from 400 to 500 users.

18. It should be pointed out that there are other options also; our survey does not have complete coverage. Firms could choose another solution (e.g. VOIP) rather than the two for which we have cost information.

Email

A1.96 Enquiring about the current state of play on email recording in the financial sector we were told the following by a supplier:

“In the realm of email retention and discovery very few companies in the UK have implemented an email recording solution as yet...The drivers for those firms are much more commonly storage management and performance of their email system than any desire to record emails for future discovery requests, although we are beginning to see an increased level of awareness of the need.”

A1.97 The same company stated that, to their knowledge, between 10 and 15 per cent of firms within the UK financial services industry have email retention solutions in place whereas in the USA almost 100 per cent of such firms have a solution due to the need to comply with regulations.

A1.98 Those firms which do not have email recording, retention, and retrieval solutions which are compliant with FSA’s proposals would require:

- a software solution to perform the email capture and lifecycle management of the archived mail;
- a software discovery tool for carrying out retrieval searches against the email archives;
- storage hardware to store the email archives; and
- server hardware to run the software solution.

A1.99 On the basis of the discussion above, additional costs are treated as full costs for all firms.

Instant Messaging

A1.100 As described above, the solution of which we are aware for recording of instant messaging includes the use of particular piece of software. On that basis, having companies which are not compliant with FSA proposals at the moment is tantamount for them having to incur the full cost of acquiring the relevant software. Therefore, the additional cost and the typical costs recorded in the previous section coincide for instant messaging.

A1.101 It should be mentioned that the provider of the solution presented to us already has clients in the financial sector. However, it hasn’t been possible for us to form a view regarding what percentage of the firms in the sector already use such solutions. In addition to this, the authorised firms with whom we held discussions generally stated that they are investigating such solutions at the moment and they have nothing in place as yet. Therefore, we decided to treat additional costs as equal to full cost to make sure we do not miss out any costs.

Task 3: Feasibility and costs of recording mobile phone conversations

The current state of play

- A1.102 The findings below are based on discussions we had with suppliers and authorised firms and the estimates have been formulated on the basis of the experience of each of the companies.
- A1.103 The findings are:
- Financial Institutions generally have fixed line voice recording, but lack this facility for email, mobile voice, SMS and IM.
 - Over 90 per cent of firms in the financial sector do not use mobile phone recording solutions which are compliant with the FSA's proposals. One supplier told us in an interview that "large banks and brokers seem to have their heads in the sand regarding mobile call recording." However, several authorised firms stated that they had considered introducing mobile recording solutions and are monitoring developments in this field.
 - IT departments are looking at mobile call recording systems but are waiting to hear the outcome of the FSA's proposals before committing funds.
 - The picture we got from discussions with suppliers and authorised firms is that employees in the financial services sector are resisting having all mobile calls recorded as there are conversations they wish to remain private, but do not object to having 'relevant' calls recorded only. There is no hard evidence for that, other than the views of the interviewees.
- A1.104 A final point worth mentioning (even though it should be treated cautiously) is that a supplier of mobile call recording solutions indicated that many of the companies they have been dealing with have complained of being bullied by vendors into buying mobile call recording equipment which is very expensive (we were told of a quote to a global investment bank of £900k), inconvenient and time consuming to use and easy for employees to bypass.

The available solutions

- A1.105 The use of company-provided cellphones adds another layer of complexity to the problem of recording 'relevant' voice communications. There are two basic types of solutions available that allow for calls to be routed via the call recording equipment irrespective of the location of the cellphone. These solutions — routing calls to and from company mobile phones via a PBX and routing calls to and from a call recording server — are discussed in more detail below.
- A1.106 Employees using personal cellphones present yet another layer of complexity and to our knowledge there are no solutions which can record calls from personal cellphones made or received on a company's premises. Theoretically it would be possible to do this, but it would require the cooperation of the cellular operators themselves and would incur considerable expense for them, and for the enterprises in question. It is unclear to us whether such an arrangement would be permissible under current communications legislation. In any case it could be seen as a violation of privacy.

- A1.107 The solutions used for recording mobile calls should comply with the MiFID general record-keeping standard. On that basis, recording conversations on a memory stick or a tape recorder should not be considered as viable options. Such methods do not ensure that it is not possible for the records to be manipulated or altered and that the contents of the records prior to correction or amendment can be easily ascertained. In addition there is no time stamp to provide irrefutable evidence that will stand up in court. Recording of mobile phone conversations with an audit trail is needed to comply with the FSA proposals.
- A1.108 Below we describe the solutions that were presented to us during our investigation. While there may be more solutions than those described below, these are the ones for which we have enough information to present them. In any case, the key point here is that *there are available recording solutions which cover mobile phone calls*. The availability of more solutions than the ones presented below can only enhance support for the FSA's position if they were to require financial services firms to record mobile phone communications.

Routing calls to and from company mobile phones via a PBX

- A1.109 There are solutions including software which allows organisations to route calls to and from company mobile phones via a PBX. Customers using such an option may choose to have separate Private Automatic Branch eXchange (PABX) extensions and mobiles, or issue employees only with mobiles which serve the function of both a PABX extension and a mobile phone; in either case, employees are issued with only one business telephone number.¹⁹
- A1.110 When making an outgoing call, the software on the mobile phone routes the call via a company PABX and out across land lines. When an incoming call is received at the PABX, the software detects whether the called party is on the phone (this is done for mobiles by using GSM or 3G data communications to the phone, which works even when the phone is being used for a voice call). If the called party is free, the incoming call is routed either to the PABX, the mobile or both phones simultaneously, depending on the client's preference.
- A1.111 The solution that was presented to Europe Economics requires that end users have mobiles with either Symbian or Microsoft operating systems. The offered solution does not work with BlackBerry handsets. This may be a significant barrier to take-up of this solution in the financial sector, because of the high penetration of BlackBerrys.
- A1.112 The client software (i.e. on the handsets), can be configured to allow business and personal calls, with the end user being able to toggle between the two settings. This allows organisations to treat business and personal calls differently (e.g. potentially to record business calls but not personal calls, to pay for business calls but not personal calls, etc.). This business/personal use capability may also be important to ensure that end users do not feel their privacy is being invaded.

19. PABX allows many local extensions to share a lower number of incoming lines.

- A1.113 The solution presented to us works with all major types of PABX. The solution will also work in companies using dealer boards, but would require the voice communications of the dealer boards to be routed via a standard PABX. The solution does not integrate directly with dealer boards, because the cost of modifying the software to work with dealer boards is too great when compared to the population of users that would be covered. The solution also works with software-based PABXs such as Asterisk and Microsoft OCS.
- A1.114 It is technically possible and relatively easy to record both incoming and outgoing calls using this solution. However the solution does not come with storage or retrieval capability; this would need to be purchased as an extra functionality.
- A1.115 The solution was presented to us as capable of being scaled up to 50,000 users. However, all current implementations are less than 1,000 users.
- A1.116 The cost of software licences for this solution is around £120 per user. This is a one-off payment for permanent use. Software support is around 16 per cent of the one-off payment per year (i.e. just greater than £19 per user per year). Any installation would also attract upfront professional services fees, but the magnitude of these fees was not specified.
- A1.117 The company providing this solution markets the solution primarily as a means of offering lower cost calling, especially for roaming users and for users making international calls. The company said that it has tried in the past to sell its solution based on its capability to record mobile calls, but has been unsuccessful in the UK financial community because of a lack of interest among financial institutions in voice recording.

Routing calls to and from a call recording server

- A1.118 Europe Economics has spoken to two UK-based companies that offer similar solutions for call recording from mobile handsets. Both companies have developed software for mobile handsets which routes outgoing calls automatically to one or more fixed line numbers, through a server with call recording software and then on to the final destination of the call. No special action is required by the user of the mobile phone to enable call recording to occur. Connection delays are imperceptible.
- A1.119 Both companies offer a choice of options for incoming calls. The first option (two number solution) is to offer an incoming telephone number which is different to the number of the user's mobile phone. Calls to this special number are routed through the recording server and on to the user's mobile. Calls made directly to the user's mobile handset are not recorded in this solution. The second solution (one-number solution) involves configuring the software on the user's mobile so that it (a) only accepts calls from the solution provider's numbers and (b) diverts all other calls to the solution provider's server for recording. Thus an incoming call to the user's mobile is initially diverted to the solution provider's server, where call recording is initiated, and then forwarded on to the user's mobile, which accepts the incoming call, since it is from one of the service provider's designated numbers. Both companies allow the incoming caller's ID to be passed on to the users' mobile phone.

A1.120 Both companies offer a hosted solution, in which the server recording the calls is managed by them; and an on-premises solution. Both claim that their solutions can be easily integrated with the market leading voice call storage and retrieval systems, which may be already implemented in large companies for fixed line storage and retrieval. The hosted solutions are intended for small companies. One of the two companies we spoke to offers web-based, password protected access, so that users of its hosted solution can retrieve the files of their telephone calls. The other company plans to implement a similar capability next year.

A1.121 One of the companies' solutions (hereafter Solution 1) supports handsets with Symbian, Microsoft and BlackBerry operating systems. The other (hereafter Solution 2) supports BlackBerry only.

A1.122 Background information for each of the two options is provided below (this information is provided so as to inform the reader of the solutions reliability — as we have stated before, an unreliable/untested solution should not be considered by the FSA):

- Solution 1 was deployed on a telecoms carrier's network in the first quarter of 2007 after more than 6 months of extensive carrier testing. The carrier, StarHub, is Singapore's second largest mobile carrier and they launched the first company's service under their Call2Meet brand in April 2007 selling to a wide variety of sectors. The Call2Meet service is not marketed as a call recording system by StarHub as no regulatory requirement exists in Singapore to record mobile phone calls. As a result less than 5 per cent of sales are to financial services firms. The majority of customers are shipping companies and overseas travellers wanting to save money on roaming calls.

In addition to several overseas carriers, the provider of the solution is in negotiations with a large UK carrier wishing to provide an easy to use mobile recording service to its customers in the UK.

The managed service provided by the developer of Solution 1 was launched in October 2007 and current clients are from the professional services and manufacturing sectors. A major marketing campaign through BlackBerry resellers to financial services firms is planned for January 2008 on publication of the new BlackBerry Financial Services brochure which features the mobile call recording service in question.

The service is currently being trialled by two UK global investment banks and a major UK fund manager prior to a full deployment.

- The company behind Solution 2 has a non-exclusive marketing partnership in place with a UK cellular operator, which has introduced this company's solution to a number of large financial customers, some of whom are currently evaluating its technology. Its largest live deployment is with 30 employees of a UK energy trading company.

For those customers wishing to integrate this company's mobile call recordings with existing recording systems for fixed line calls, the company will either email call recordings to the customer's server using PGP encryption, or install a dedicated server for the customer.

Comparison of solutions presented to Europe Economics

A1.123 This section presents in tabular form the solutions that we were presented with. In particular, the following table briefly explains how each solution for routing calls to and from a call recording server is provided. Unfortunately, the company that provides the solution of routing calls to and from company mobile phones via a PBX did not complete our questionnaire and since the interview questions were not identical to those in this table, we cannot include this solution in the table.

Table 3.10: Comparison of the cellular phone recording solutions

	Solution 1 (Routing through Company Server)	Solution 2 (Routing through Company Server)
Is the solution managed by the provider or the customer, or some combination of the two?	Managed by supplier for Small and Medium Companies Managed by customer for Large Company deployment	Some combination as required
Does the suggested solution imply that call recording will be undertaken by the people that are involved in the calls?	Both. The system can be set up to record all calls or the caller can record ad hoc 'relevant' calls only	No
What equipment and/or software would be provided by the supplier?	Handset application software S,M,L ; Fixed Line recorder M,L; Middleware M,L; Telephony Server L; Global Network (if required) L	Not answered
Who would store the data?	Customer	Not answered
What meta-tags would be attached to the data to aid in search and retrieval?	Date and time of call; Number of caller; Number called to; Call duration	Date, time, originator, destination
How easy is it to search and retrieve information on the basis of the suggested solution?	Very easy. Search criteria can be customised and fixed and mobile call recordings stored together	Simple search interface allowing search by number called/calling, date and time
What disaster recovery provisions are assumed?	For Small and Medium companies all mobile recordings are stored on the mirrored server for up to 10 days before deletion. It is the customer's responsibility thereafter. For large companies depends on customer's BCP strategy. The [supplier's] system can be on mirrored servers in different locations.	Redundant and resilient architecture and backed up storage are used. Additional resilience can be added for bespoke installations.
Apart from the number of users, what are the other main cost drivers?	Volume of call traffic recorded.	Complexity of requirements and call volumes
What assumptions have you used for these other cost drivers in arriving at the prices above?	Fixed line – 600 minutes per user per month Mobile – 120 minutes per user per month	Standard implementation with low-average call volumes. Blackberry implementation costs assumed for medium and large companies, which have higher setup and support costs than Smartphones

A1.124 It is clear from the table above that all solutions have provisions for disaster recovery and, in that sense, comply with the requirements set.

- A1.125 The meta-tags attached to the calls are similar across options, with some allowing for more complex searches to be performed. The standard meta-tags include date and time of call, number of caller, number called to and call duration. Therefore, the offered solutions allow for retrieval of the recordings within a short time period in an acceptable manner (for the FSA's purposes).
- A1.126 At this point it should be mentioned that while voice recognition could allow searching for keywords in a telephone conversation, such technology is not very robust as yet.
- A1.127 Regarding storage of the data, there is a mix of automatic storing and customer initiated (by customer, we do not refer to the user of the mobile handset but to the authorised firm of which the user is an employee).

Market response to a surge in demand

- A1.128 The providers of cellular phone recording solutions stated that even if there were to be a sudden surge in demand, there should not be any price-related worries i.e. the suppliers would be able to cope with the increased demand without the need for prices to rise.
- A1.129 The reasons we were presented with for the confidence in the solution providers' answers varied, and include the following:
- The business has been scaled up to be able to accommodate very substantial growth in demand for mobile voice and SMS recording services.
 - The provided service is run on a number of telephony servers which can be scaled very quickly and easily as demand dictates.
- A1.130 One supplier told us that the current capacity on their system is suitable for up to 10,000 additional users. An additional issue to keep in mind is that as demand for such services increases, more providers are likely to enter the market and thereby competition is intensified and the potential for supply constraints reduced.
- A1.131 Therefore, on the basis of our communication with suppliers, we conclude that price increases should not be expected to rise as a result of the FSA making mobile call recording mandatory for financial services firms.

Service for smaller firms in case of demand surge

- A1.132 Respondents to our survey who offer cellular phone call recording do business with small, medium and large companies i.e. their business plan is not oriented towards big clients only. Enquiring about how their service to smaller firms would change as a result of a demand surge, the providers stated that the quality and continuation of the service to smaller firms would be unaffected.
- A1.133 One supplier told us that registration of small firms on the system is largely automated, quick and simple and hence a surge in demand could be easily accommodated. On receipt of registration details the user is sent the handset application software over-the-air (OTA) and within 15 minutes it is possible to use the service.

A1.134 Another supplier told us that small firms are offered a fully hosted web self-service route to call recording – medium and large customers are offered account management and extensive support, as required for a BlackBerry solution.

A1.135 In summary, the services offered to small customers are largely automated, self-service and differs from those offered to larger customers. Based on these observations it is not clear why a surge in demand could disadvantage small firms in terms of the quality of the service they get from providers of mobile call recording solutions.

The cost of the available solutions

A1.136 The solutions presented above are not marketed solely as recording solutions but as a means to save money on mobile bills, carry out mobile conferencing etc. Therefore, according to their providers there are more to these solutions than just the recording capability. However, in getting cost estimates for the solutions they provide, we have asked our contacts to strip out (to the extent possible) any costs that are not associated with call recording.

A1.137 On that basis, we present our findings below. Once again, because the provider of the solution of routing calls to and from company mobile phones via a PBX did not complete our questionnaire, the tables highlight the costs only for the two solutions that route calls to and from a call recording server. In these tables Solution 1 is the low-cost option whilst Solution 2 is the high-cost option.

Table 3.11: Typical cost per user for the cellphone recording options

		Small Company		Medium Company		Large Trader	
		Design/ Install/ Commission Per User (£)	Annual Operational Cost per User (£)	Design/ Install/ Commission Per User (£)	Annual Operational Cost per User (£)	Design/ Install/ Commission Per User (£)	Annual Operational Cost per User (£)
Cellular phones							
Recording	Low cost	0	178*	60**	178	160***	120
	High cost	50	420	600	360	120	300
Storage for 1 year & Retrieval	Low cost	<1	0	0	<1	0	<1
	High cost		Included		Included		
Storage for 3 years & Retrieval	Low cost	<10	0	0	<1	0	<1
	High cost		Included		Included		Included

* For the Small Company, this company supplies a subscription based managed service for mobile phones. The supplier teams with a third-party supplier to provide fixed line recording systems.

The supplier charges a fixed monthly subscription of £10/user/mth plus a per minute licence fee of 4p/minute. Call recording is free of charge. It has been assumed that each user makes 120 minutes of 'relevant' calls from a mobile phone and 600 minutes from a fixed line phone each month.

** For the Medium Company the supplier supplies a fixed line call recording system (from third party supplier) purchased by the customer with an annual maintenance fee. The mobile phone recording is based on the same supplier- managed service as the Small Company but with a set up fee to pay for a partition on the server offering enhanced management call reporting and integration to the fixed line call recording system. This ensures that mobile phone recordings are stored on the same system as fixed line recordings to avoid duplication of systems.

*** For the Large Company the fixed line prices are based on the incremental cost per 100 additional users to upgrade the call recording system from 400 to 500 users. Mobile Call recording is on a system provided by the supplier and purchased by the company, deployed on the company's network and integrated with the existing fixed line call recording system for storage and retrieval.

A1.138 There was no cost variation in one of the options for cellphone recording; the low-cost option. The range of costs per user for the high-cost option is presented in Table 4.12

Table 3.12: Range of costs per user for the high-cost cellphone recording option

	Small Company ¹		Medium Company		Large Trader	
	Design/ Install/ Commission Per User (£)	Annual Operational Cost per User (£)	Design/ Install/ Commission Per User (£)	Annual Operational Cost per User (£)	Design/ Install/ Commission Per User (£)	Annual Operational Cost per User (£)
Cellular phones						
Recording	50-100	420	300-1000	300-400	50-200	250-350
Storage for 1 year & Retrieval		Included in contract		Included in contract		Included in contract
Storage for 3 years & Retrieval		Included in contract		Included in contract		Included in contract

A1.139 Whilst three companies that we contacted provide solutions for recording and storing cellphone conversations, only one of these provides a solution for recording SMS from cellphones. The typical and range of costs per user for this solution are presented in the tables below.

Table 3.13: Typical cost per user for SMS recording from cellphones

	Small Company ¹		Medium Company		Large Trader	
	Design/ Install/ Commission Per User (£)	Annual Operational Cost per User (£)	Design/ Install/ Commission Per User (£)	Annual Operational Cost per User (£)	Design/ Install/ Commission Per User (£)	Annual Operational Cost per User (£)
SMS from cellphone						
Recording	20	80 w/voice	35	60 w/voice	30	50 w/voice
Storage for 1 year & Retrieval		Included in contract		Included in contract		Included in contract
Storage for 3 years & Retrieval		Included in contract		Included in contract		Included in contract

Table 3.14: Range of costs per user for SMS recording from cellphones

	Small Company ¹		Medium Company		Large Trader	
	Design/ Install/ Commission Per User (£)	Annual Operational Cost per User (£)	Design/ Install/ Commission Per User (£)	Annual Operational Cost per User (£)	Design/ Install/ Commission Per User (£)	Annual Operational Cost per User (£)
SMS from cellphone						
Recording	20	80 w/voice	20-50	50-70 w/voice	20-40	40-60 w/voice
Storage for 1 year & Retrieval		Included in contract		Included in contract		Included in contract
Storage for 3 years & Retrieval		Included in contract		Included in contract		Included in contract

A1.140 While we tried to investigate what would be the additional costs (i.e. the extra cost to firms who already have some mobile phone recording capabilities) for financial firms to comply with the FSA proposals in CP 07/9, it should be mentioned that these are, on a market-wide basis, identical to the cost of deployment from scratch. The reason is that very few firms in the financial sector have such recording capabilities and, therefore, full cost and additional cost are very similar.

Summary of Costs and Views of Authorised Firms

A1.141 In this section we present in tabular form a summary of the relevant costs identified by suppliers broken down by means of communication.

A1.142 It should be pointed out that where there are gaps in the data certain assumptions have been made so as to allow the cost estimation. For instance, storage costs data was not available for email and so by analysing the Actica report we assumed that the per user storage cost to be £7 per annum for all types of firm. This assumption is valid because storage costs greatly related to the volume of emails generated or received by each user, a factor that is unlikely to differ solely due to size of firm. Furthermore, where data are unavailable for small firms we assume the cost is equal to that for medium firms.

Table 3.15: Summary of costs of recording as reported by suppliers

	Small Company ¹		Medium Company		Large Trader	
	Design/ Install/ Commission Per User (£)	Annual Operational Cost per User (£)	Design/ Install/ Commission Per User (£)	Annual Operational Cost per User (£)	Design/ Install/ Commission Per User (£)	Annual Operational Cost per User (£)
Fixed telephone						
Recording	79 - 2610	0 - 644	200- 414	20 - 145	160- 216	16 - 74
Storage for 1 year & Retrieval	Included	Included	Included	Included	Included	Included
Storage for 3 years & Retrieval	Included	Included	Included	Included	Included	Included
Email						
Recording	N/A	N/A	£40	£24	£20	£12
Storage for 1 year & Retrieval	N/A	N/A	N/A	N/A	N/A	N/A
Storage for 3 years & Retrieval	N/A	N/A	N/A	N/A	N/A	N/A
Instant Messaging						
Recording	N/A	N/A	84	44	19	12
Storage for 1 year & Retrieval	N/A	N/A	N/A	N/A	N/A	N/A
Storage for 3 years & Retrieval	N/A	N/A	N/A	N/A	N/A	N/A
Cellular phones						
Recording	0 - 50	178 - 420	60- 600	178 - 360	120 - 160	120 - 300
Storage for 1 year & Retrieval	<10	Included	Included	<1	Included	<1
Storage for 3 years & Retrieval	<10	Included	Included	<1	Included	<1
SMS from cellphone						
Recording	20	80 w/ voice	35	60 w/ voice	30	50 w/ voice
Storage for 1 year & Retrieval		Included		Included		Included
Storage for 3 years & Retrieval		Included		Included		Included

It is interesting to note that all suppliers reported that the storage costs for a period of three years to be almost identical to those for storage for one year and included either in the contract/one-off costs or the on-going cost estimates they provided.

The views of authorised firms

- A1.143 As mentioned in the methodology section, the project team also had discussions with a few authorised financial services firms to learn about the views of the industry on the matter. The main points of these interviews are presented below.
- A1.144 First we present a summary of the cost estimates for implementing the recording solutions required as quoted by the authorised financial services firms.

Table 3.16: Summary of costs of recording as reported by authorised firms

	One-off		Ongoing	
	Average	Range	Average	Range
Fixed-line	£788	£500 – £1500	£259.14	£0 – £750
Email	£328	£250 – £500	£81.67	£65 – £100
IM	£112.50	£15 – £210	£125	£10 – £240

The costs reported in this table are based on a storage period of three years

- A1.145 Many of the quotes shown in the table above are in line (i.e. within the range) with the cost estimates provided by suppliers. The two means of communications for which divergence in the two sets of cost data is observed are emailing and IM. The possible reasons behind this divergence are discussed below.
- A1.146 Regarding IM, one of the authorised firms gave us a quote of £210 per user. The quote is higher than the highest supplier quote we got, which is £84 and the underlying reasons for this divergence are not entirely clear. One explanation may be that it is down to the sophistication of the system; other explanations for the discrepancy between the estimates of suppliers and authorised firms are discussed in Chapter 4.
- A1.147 For emailing, these costs are up to £500. This estimate is more than the quotes we got from suppliers, and the reason seems to be that this is to be in line with what the company has done in the US.
- A1.148 Another company quoted the cost of recording emails to be around £550 to £600 per head (includes both one-off and on-going costs). The majority of this refers to the server the company would need to acquire for the storage of the emails. As noted above in the study the cost of the hardware required for storage varies widely (from £5 to more than £500 per user) and there are numerous reasons for this. The main drivers behind the hardware costs are the quantity of emails that needs storing (which is mainly driven by the volume of emails generated per user) and by the average size of each email.
- A1.149 These cost figures are used to estimate the total cost of implementing the proposals of CP07/9 as perceived by authorised firms. In particular, the average of the estimates quoted for each solution is used. There are a number of reasons for the use of averages rather than absolute values:
- It is puzzling that companies of the same size, with similar activities quote such different estimates for deploying recording solutions for the same means of communication. For instance, one authorised firm has quoted a cost per head of £600 for email recording while another player of similar size quoted £32 per head.
 - There is no obvious reason why more expensive options should be used for estimating the incremental cost of regulation when cheaper compliant options are available in the market. It may be the case that the more expensive options have additional functionality, but in principle, estimating the cost of regulation should not account for this extra functionality (and therefore its cost) if this is not resulting from the requirement to comply with the regulation.

- The cost drivers behind the figures quoted may be related with practices of the firms in their operations abroad (and the smooth integration of the two systems) rather than with the requirement of compliance.

- A1.150 On that basis, using the averages helps smooth out the effect of outliers. It should also be mentioned that for the cost estimates of authorized firms, we do not have enough estimates to use medians rather than means. The difficulty is the estimates for IM and email solutions since few firms knew what these costs would be. For methodological consistency we were therefore compelled to use sample means for all methods of communication.
- A1.151 Regarding fixed line recording many authorised firms told us that they are already compliant with the FSA's proposals (even regarding storing of recordings for three years) and, therefore, no associated costs would be incurred if the FSA proposals became mandatory.
- A1.152 Another respondent stated that it costs £500 to extend their existing VOIP system to each additional employee. If the proposals of CP07/9 were introduced, the company believes that it would be necessary to employ three additional individuals simply to manage the system, costing in the region of £120k per annum.
- A1.153 Another interesting issue regards the use of mobile phones and their cost in the context of mandatory recording.
- A1.154 A major investment management firm told us in an interview that the VOIP technology used for recording fixed-line telephones has the capability to record mobiles as well, routing via a PABX. The firm wanted to stress that this is a spillover of the VOIP system, is not currently used and this capability was not considered when determining the system to purchase. To record cellphones there would be a per-user licence fee of £80 to put the software onto the cellphone to link back to the PABX and an annual 25 per cent service charge on top of this. Additional hardware would be required to record the calls but the costs associated with this have not been calculated. Storage costs would be in the region of £30k per annum and there would be some (uncalculated) costs of ensuring that employees that do not currently possess a company cellphone are provided with one.
- A1.155 Other companies we spoke to said that their business practice is that their use is not allowed. They are not intending to use them, irrespective of whether the FSA proposals go ahead or not. As a result, such costs are not relevant for some of the companies we interviewed.
- A1.156 One firm, which does not allow transactions to be made over cellphones (i.e. this applies to traders) told us that fund managers use them (BlackBerrys and PDAs) while on business trips.
- A1.157 On the same issue, a smaller firm stated that even though a few mobile phones are used by fund managers to touch base with the office while on a business trip, they would consider getting rid of mobiles should the FSA proposals were to be implemented. This is to avoid the extra costs of having to incur the costs of recording.

- A1.158 From the discussions we had there is an emerging picture that while some companies would still use mobile phones if the FSA proposals were to be implemented, there are others which would get rid of mobiles. At the same time there are many which do not allow the use of mobiles. On that basis, we seek to produce results (in the next section) even under the assumption that the use of mobiles will be limited to only senior employees and fund managers on business trips — this scenario is in addition to the scenario that all employees use mobile phones and their calls need to be recorded.
- A1.159 A final issue that should be pointed out concerns the scope of the proposals (i.e. which calls should be recorded). Market players are concerned about the extent their communications fall within the scope of the proposals. The concern emanates from their fear of not being compliant rather than the cost side of the matter (even though this is an issue as well).

Calculating costs such that they are comparable with those in CP07/9

- A1.160 To obtain aggregate cost estimates that are comparable with those of CP 07/9 we take the assumptions of that paper as given. In particular we:
- (a) utilise the FSA's upper and lower bounds of the number of individuals that would require recording, 70,000 and 55,000 respectively;
 - (b) retain the assumption that for fixed-line telephones, 90 per cent of those affected by the proposals are already recorded. Based on more recent data collected (after CP07/9 was published) and provided to us by the FSA, in a different scenario we vary this assumption such that we assume that 60 per cent of affected lines are currently recorded within small and medium sized firms and 85 per cent in large firms.
 - (c) account for the fact that even though recording is in place for 90 per cent of fixed lines affected by the proposals, affected companies may have to incur extra storage costs (as they currently store for less than what is required by the proposals). As in (b), we vary the 90 per cent assumption when calculating these costs;
 - (d) assume that for other means of communication a typical firm undertakes zero recording and thus a new solution must be purchased for all staff affected by the proposals;
 - (e) assume that small firms will go for the low cost option, while large firms will opt for the high cost solution;
 - (f) use the proportions of phone lines that would be required to be taped that belong to small, medium and large firms as weights for estimating average per user cost;²⁰
 - (g) estimate one-off and ongoing costs separately, by multiplying the per user one-off and on-going cost estimates with the total number of employees in the sector.

20. The assumed distribution of phone lines that would be required to be taped across firm categories (by firm size) is as follows:
Small: 9%
Medium: 9%
Large: 82%

A1.161 As noted above, the point of departure from CP07/9 is that we include a broader range of cost sources when calculating the overall impact on the industry. Firstly, we estimate the costs of recording mobile telephones, something that had not been considered previously. Secondly, we include the costs of retaining records such that authorised firms would continue to be compliant even in the event of a disaster.²¹ This was one factor that respondents to CP07/9 felt had been omitted from the CBA. Thirdly, we estimated how costs would differ for firms if the storage period were one year rather than three years on which the estimates of CP07/9 were based.

21. We asked respondents to our questionnaires to include in their cost-per-line figures the costs of continuing compliance in the event of a disaster. Therefore, they are automatically included in the aggregate costs.

4 Summary, conclusions and recommendations

The Report's Main Objective

A1.162 The study's three objectives are:

- Assess the accuracy of the estimates made in CP07/9 of the costs to firms of purchasing and maintaining telephone recording systems and the cost of storing recorded conversations.
- Assess the possible additional costs to firms of searching recorded conversations and records of electronic communications for the fixed line telephone recording proposals in CP07/9.
- Assess the feasibility and costs of recording mobile phone conversations.

Discussion

A1.163 Our findings are based on discussions we had with both suppliers of recording solutions and financial services firms. A thorough survey covering the majority of affected companies has not been conducted. However, the people interviewed are aware of the developments in the financial sector regarding communication recording and the availability of relevant solutions.

A1.164 The information we have gathered through these interviews has been valuable in addressing the study's objectives. In addition though, a number of other issues were brought to our attention. While these additional issues are interesting, their analysis falls outside the scope of the study and are therefore, are simply mentioned as comments made by interviewees or observations of our own.

A1.165 The analysis first presents the results in a format comparable to the FSA's estimates in CP07/9 and then proceeds with altering some of the assumptions on the basis of the study's findings.

Main Conclusions

Accuracy of the estimates made in CP07/9

- For those providers who deal with smaller firms, their service to smaller firms is not expected to be affected as a result of the increased demand. However, it is worth mentioning that there are providers of such solutions who, as part of their business plan, choose to deal only with medium and large companies. On the other hand, although a shared services or on demand service model works very well for smaller firms it is feasible to build and pre-provision such services for the medium and smaller size companies. Therefore, there are available solutions even for smaller firms and no serious concerns for the service provided to small firms has been found.
- When considering only fixed line telephony, emailing and IM and assuming 90 per cent of the fixed lines are currently taped (to make results comparable to the FSA's estimates), the results on one-off and on-going costs are broadly similar to the FSA's cost estimates in CP07/9. In particular, the results are as shown in the table below.

Table 4.1: Cost estimates of suppliers based on 90 per cent of fixed lines already taped and zero current recording of email and IM

Communication	Population 55,000				Population 70,000			
	One year storage		Three years storage		One year storage		Three years storage	
	One-off cost (£)	Ongoing cost (£)	One-off cost (£)	Ongoing cost (£)	One-off cost (£)	Ongoing cost (£)	One-off cost (£)	Ongoing cost (£)
Fixed line telephone	1,200,000	1,800,000	1,200,000	4,700,000	1,500,000	2,400,000	1,500,000	6,000,000
Email	1,300,000	1,200,000	1,300,000	1,800,000	1,700,000	1,500,000	1,700,000	2,300,000
IM	1,700,000	0	1,700,000	0	2,200,000	0	2,200,000	0
Total	4,200,000	3,000,000	4,200,000	6,500,000	5,400,000	3,900,000	5,400,000	8,300,000
<i>CP07/9 Fixed line telephone</i>	-	-	<i>2,500,000</i>	-	-	-	<i>3,000,000</i>	-
<i>CP07/9 Electronic Communications</i>	-	-	<i>500,000</i>	-	-	-	<i>1,000,000</i>	-
<i>CP07/9 Total</i>	-	-	<i>3,000,000</i>	<i>3,500,000</i>	-	-	<i>4,000,000</i>	<i>4,500,000</i>

The ongoing cost for IM is zero because three years of storage is included in the one-off cost estimate

Note that CP07/9 also considered web forms in estimating the costs of electronic communications

- The range in the one-off cost and ongoing cost estimates shown in the table above lie above those of CP07/9 and we find a non-trivial difference between the ongoing costs of storing recordings for three years rather than one year. The one-off cost estimates of suppliers are invariant to the storage period considered.
- On the basis of more recent data provided by the FSA, we altered the assumption regarding the percentage of fixed-lines already recoded to 85 per cent for large firms and 60 per cent for small and medium. The results obtained on this basis are shown in Table 4.2.

Table 4.2: Cost estimates of suppliers based on 85 per cent of fixed lines already taped in large firms, 60 per cent in small and medium firms and zero current recording of email and IM in all types of firm

Communication	Population 55,000				Population 70,000			
	One year storage		Three years storage		One year storage		Three years storage	
	One-off cost (£)	Ongoing cost (£)	One-off cost (£)	Ongoing cost (£)	One-off cost (£)	Ongoing cost (£)	One-off cost (£)	Ongoing cost (£)
Fixed line telephone	2,300,000	2,000,000	2,300,000	4,600,000	2,900,000	2,600,000	2,900,000	5,900,000
Email	1,300,000	1,200,000	1,300,000	1,800,000	1,700,000	1,500,000	1,700,000	2,300,000
IM	1,700,000	0	1,700,000	0	2,200,000	0	2,200,000	0
Total	5,300,000	3,200,000	5,300,000	6,400,000	6,800,000	4,100,000	6,800,000	8,200,000

The ongoing cost for IM is zero because three years of storage is included in the one-off cost estimate

- A clarifying remark is worth making regarding the observation that ongoing cost estimates are equal under the assumption that 90 per cent of affected lines are currently recorded to those under the alternative assumption of around 80 per cent. This may seem counter-intuitive, but the explanation lies in the way in which some of the supplier cost estimates were quoted to us. In many cases suppliers quoted zero on-going costs in the case of “newly installed” solutions because this was included in the contract i.e. the one-off cost.
- Using the second set of assumptions and estimating costs on the basis of the average values of the quotes provided to us by authorised firms we obtained the results in the table below.

Table 4.3: Cost estimates of authorised firms based on 85 per cent of fixed lines already taped in large firms and 60 per cent in small and medium firms and zero current recording of email and IM

Communication	Population 55,000				Population 70,000			
	One year storage		Three years storage		One year storage		Three years storage	
	One-off cost (£)	Ongoing cost (£)	One-off cost (£)	Ongoing cost (£)	One-off cost (£)	Ongoing cost (£)	One-off cost (£)	Ongoing cost (£)
Fixed line telephone	6,000,000	3,000,000	8,500,000	6,700,000	7,500,000	3,800,000	10,800,000	8,500,000
Email	13,000,000	2,300,000	18,000,000	4,500,000	16,700,000	3,000,000	23,000,000	5,700,000
IM	6,000,000	6,600,000	6,200,000	6,900,000	7,700,000	8,400,000	7,900,000	8,800,000
Total	25,000,000	11,900,000	32,700,000	18,100,000	31,900,000	15,200,000	41,700,000	23,000,000

- It is clear from Tables 4.2 and 4.3 that there is a considerable difference between the estimates of overall costs constructed on the basis of the information produced by suppliers – some £5m-£7m of one-off costs, and some £3m-£8m of ongoing costs – and those estimates constructed on the basis of information provided by firms – some £25m to £42m of on-off costs and £12m to £23m of ongoing costs. Thus the cost estimates supplied by firms imply aggregate costs some five to six times as much for one-off costs and three to four times as much for ongoing costs.
- It is noteworthy that in respect of fixed lines the ongoing cost estimates of firms is relatively close to that of suppliers – that for firms being £3m-£4m for the case of one-year storage, for example, versus the £2m-£3m estimated based on

supplier figures. The most significant drivers of differences between the estimates relate to the one-off costs of email and IM (e.g. for email the firms' estimate is around ten times that of suppliers).

- In our view, it is likely that, even though our methodology did allow some scope for suppliers to inform us of costs that go beyond the narrow system costs (e.g. training costs) firms will be aware of additional costs that are opaque to suppliers (this is one important reason why it was so useful to consult with firms). In the case of fixed lines, we are content, therefore, to accept the slightly higher estimates of firms.
- In the cases of email and instant messaging, we feel that the limited nature of additional processes likely to be required to comply with a recording requirement means that incremental costs are likely to be low, and find it difficult to provide any plausible rationale for why they should be as high as the estimates provided by firms.
- We would therefore consider that a reasonable procedure would be to assume that the firms' estimates of fixed lines reflect a proportionate additional cost over the supplier estimates that could be applied, also, to the suppliers estimates for email and instant messaging.
- One further complexity, however, is that in the case of IM the supplier estimates for one-off and ongoing costs are not separated. We therefore use the proportionate separation between these given by authorized firms as an additional adjustment.
- This gives us Table 4.4, which reports the consolidated Europe Economics estimate built on the basis of the tables and reasoning above.

Table 4.4: Europe Economics estimates based on 85 per cent of fixed lines already taped in large firms and 60 per cent in small and medium firms and zero current recording of email and IM

Communication	Population 55,000				Population 70,000			
	One year storage		Three years storage		One year storage		Three years storage	
	One-off cost (£)	Ongoing cost (£)	One-off cost (£)	Ongoing cost (£)	One-off cost (£)	Ongoing cost (£)	One-off cost (£)	Ongoing cost (£)
Fixed line telephone	6,000,000	3,000,000	8,500,000	6,700,000	7,500,000	3,800,000	10,800,000	8,500,000
Email	3,300,000	1,800,000	4,800,000	2,600,000	4,300,000	2,100,000	6,300,000	3,300,000
IM	2,100,000	2,300,000	2,900,000	3,200,000	2,700,000	2,900,000	3,800,000	4,200,000
Total	11,400,000	7,100,000	16,200,000	12,500,000	14,500,000	8,800,000	20,900,000	16,000,000

Feasibility and costs of recording mobile phone conversations

- In addition to the means of communication considered in CP 07/9 (fixed line telephones, email and IM), the present study also accounts for the cost of recording, storing and retrieving mobile calls and SMS.
- Recording of mobile phone calls is feasible, has been tested and works in practice. Firms offering such solutions in the UK have clients abroad (although these clients are not necessarily in the financial sector).

- The available solutions for mobile call recording make it feasible to distinguish between business and personal calls.
- For those providers of mobile phone recording who deal with smaller firms, their service to smaller firms is not expected to be affected as a result of the increased demand.
- Increasing demand for recording solutions for mobile phone conversations is not expected to drive prices up.
- Recording of mobile phone calls is not widespread among financial services firms. However, more and more are considering it and contact companies offering such solutions, while many of the financial services firms are awaiting the outcome of the process regarding the FSA's proposals on recording.
- Given that very few companies in the financial services sector currently record mobile calls, the additional cost of such recording solutions is broadly equivalent to the full cost of deployment across the sector. Furthermore, few authorised firms had knowledge of the cost of implementing a solution that would record mobile phones and SMS text messages. Hence, in the tables below we utilise quotes given to us by the suppliers of these solutions. The one-off and on-going costs of the FSA proposals for mobile calls and SMSs is as shown in the table below:

Table 4.5: Cost estimates of suppliers for mobile recording assuming 100 per cent of population are affected

Communication	Population 55,000				Population 70,000			
	One year storage		Three years storage		One year storage		Three years storage	
	One-off cost (£)	Ongoing cost (£)	One-off cost (£)	Ongoing cost (£)	One-off cost (£)	Ongoing cost (£)	One-off cost (£)	Ongoing cost (£)
Cellular phone	7,100,000	15,800,000	7,100,000	15,800,000	9,000,000	20,000,000	9,000,000	20,000,000
SMS from cellphone	1,600,000	3,000,000	1,600,000	3,000,000	2,100,000	3,800,000	2,100,000	3,800,000
Total	8,700,000	18,800,000	8,700,000	18,800,000	11,100,000	23,800,000	11,100,000	23,800,000

- However, it should be pointed out that the costs shown in the table above are not the incremental costs of regulation, which are expected to be much lower. One reason is that for the two estimates to coincide we would need to know that none of the companies would have used mobile call recording in the absence of regulation. As mentioned before, the relevant technology is new to the UK market and it is not clear to what extent companies would use it even in the absence of regulation.
- It should also be mentioned that the view of many firms was that they would typically not authorise the use of mobile phones for the conducting of business even if robust mobile call recording solutions were available. Further, if there were a mobile call recording requirement, some would consider ceasing limiting corporate mobiles to senior employees and fund managers who travel a lot for business purposes, to avoid the cost of recording them. This could have an implication on corporate practices, but accounting for that is outside the scope of this study which is to check the accuracy of FSA's cost estimates in its CB analysis. However, it is worth producing results which account to some extent for

the fact that most of the relevant employees may not be affected by this measure regarding mobile phones, as they are not currently use and/or will not be using them anyway. In the absence of detailed information of how many employees will still be using mobile phones for conducting business/concluding a deal following the introduction of the FSA suggested measures, we make the assumption that 10 per cent of the employees will be affected. On that basis, the cost of mobile calls recording and SMS recording is estimated to be as shown in the Table 4.6.

Table 4.6: Cost estimates of suppliers for mobile recording assuming 10 per cent of population are affected

Communication	Population 55,000				Population 70,000			
	One year storage		Three years storage		One year storage		Three years storage	
	One-off cost (£)	Ongoing cost (£)	One-off cost (£)	Ongoing cost (£)	One-off cost (£)	Ongoing cost (£)	One-off cost (£)	Ongoing cost (£)
Cellular phone	710,000	1,600,000	710,000	1,600,000	900,000	2,000,000	900,000	2,000,000
SMS from cellphone	160,000	300,000	160,000	300,000	210,000	380,000	210,000	380,000
Total	870,000	1,900,000	870,000	1,900,000	1,110,000	2,380,000	1,110,000	2,380,000

- Adding the costs of mobile calls and SMS recording to the costs of fixed line (under the assumption that 85 per cent for large firms and 60 per cent for small and medium firms already tape fixed line calls), email and IM recording results in the following total costs:

Table 4.7: Total cost estimates of suppliers based on 85 per cent of fixed lines already taped in large firms, 60 per cent in small and medium firms and zero current recording of email and IM

Communication	Population 55,000				Population 70,000			
	One year storage		Three years storage		One year storage		Three years storage	
	One-off cost (£)	Ongoing cost (£)	One-off cost (£)	Ongoing cost (£)	One-off cost (£)	Ongoing cost (£)	One-off cost (£)	Ongoing cost (£)
Total if 10 per cent affected by mobiles	6,100,000	5,000,000	6,100,000	8,300,000	7,800,000	6,500,000	7,800,000	10,500,000
Total if 100 per cent affected by mobiles	14,000,000	21,900,000	14,000,000	25,000,000	17,800,000	27,900,000	17,800,000	32,000,000

- Given that firms that record mobile calls will already have adopted infrastructure and adapted systems and processes to deal with additional fixed line recording, we consider it unlikely that additional firm-level costs, opaque to suppliers, would be as great in the case of mobile as in the case of fixed lines. Furthermore, the mobile estimate is intrinsically subject to a very wide margin of error. We therefore do not consider it useful to report a firm-level costs adjustment in this case.

Recommendations

A1.166 In this section we present our recommendations to the FSA. It should be clarified that the recommendations do not take into consideration any impact on business practices but are made solely on the basis of feasibility.

- As stated in previous sections, mobile recording is feasible. Some of the providers of such solutions have only recently started providing their services in the UK. However, their solutions have been tested in other countries and sectors. Hence, we believe there is little reason for an extended moratorium on requiring it.
- On the other hand, the commencement date of a potential enforcement period should account for the time needed for the deployment of the required solutions. The deployment time will depend on the number of affected employees, the sophistication of the solutions used, the existence of systems which require only an upgrade or, in their absence, the deployment of solutions from scratch. While some companies may require only a short time (say a couple of weeks) to deploy the solutions so as to be compliant with the FSA proposals, some others will need substantially more. We have been told by major authorised firms that they are currently in the process of implementing compliant solutions (one player in line with their US business). Given one of the firms has already been through the same process in the US they have a pretty clear picture of how long it will take them. They are confident this process will take one year; a time period also suggested by other players – though it is possible that this exaggerates the time really required. We believe that if a mobile recording requirement is to be introduced at this stage, then adequate notice of the start-date should be provided (perhaps six months to one year), to give sufficient time for preparation.

Appendix 2: Methodology Employed

A2.1 At a high level our tasks, as specified by the methodology we employed, can be characterised as:

- compile a list of contacts (authorised financial services firms and suppliers of recording solutions);
- construct and distribute mini-questionnaires to suppliers of recording solutions and to authorised firms;
- develop a reference system against which to measure costs;
- obtain quotes against the reference system from suppliers;
- conduct interviews with suppliers and authorised firms (telephone and face-to-face);
- determine the cost of recording the various communications; and
- cost analysis, e.g. which costs might have occurred anyway.

A2.2 These are discussed in turn.

Compile a list of contacts

A2.3 The first task in the project was to compile a list of contacts with suppliers of communications recording equipment and authorised financial services firms (see Annex for a list of contacts). Suppliers were contacted regarding the solutions that they offer for firms seeking to record various types of communications. We also asked them to provide quotations for their solutions with regards to our reference technology and asked them to clarify the feasibility of recording mobile phone conversations. Authorised financial services firms were contacted to get their view of how costly it would be for them to implement the proposals of CP07/9 and how feasible they believe these proposals to be. In this way we ensured that we would not reach one-sided conclusions.

A2.4 The list of contacts included companies found through our research and experience and was supplemented with a set of contacts provided to Europe Economics by the FSA.

A2.5 The communication between Europe Economics and the suppliers was accompanied by a letter from the FSA explaining the purpose of the study and ensuring the confidentiality of the responses; the same reassurances were provided for authorised financial services firms.

A2.6 In contacting suppliers, Europe Economics explained that we did not require quotes to which the suppliers might be held at a later date, but simply estimates based on their understanding of what is required from the information contained in the questionnaire. It was also explained that there was not an intention to publish the estimates of individual companies.

Construct and distribute questionnaire

A2.7 At the beginning of the project we designed questionnaires (one for suppliers of communications recording equipment and one for authorised financial services firms) requesting information needed for addressing the study's objectives. Among other things, the questionnaire was designed to examine the ability of the market to absorb a significant increase in demand for equipment within a limited time period, without driving up costs and whilst delivering an effective service to all clients. The questionnaire was sent to all suppliers and financial services firms on our list and deadlines were set for responses.

A2.8 The cost of the recording systems is likely to differ depending on its sophistication and the size of the company. For example, depending on the sophistication of the recording machine it may be simple or difficult to search for the requested recordings and the cost of these searches is likely to depend on the level of sophistication. Given this, the suppliers questionnaire specified in terms of three reference technologies the different set of offerings for which the company should provide us with quotes. The reference technologies specified the minimum capabilities of the recording solutions to be compliant with the requirements outlined by the FSA in CP07/9. This would ensure that when determining the additional cost to firms we have the minimal costs of meeting the requirements. The reference technologies presented in the questionnaires are specified below.

Reference technologies

A2.9 The specification of the systems is as follows:

- Record and store fixed line telephone conversations;
- Store outgoing and incoming emails;
- Store instant message conversations;
- Record and store telephone calls made on company cellular phones;
- Store SMS messages to and from company cell-phones.

A2.10 The questionnaires specified that quotes were sought for the cases where the above communications are stored for one and three years and that the solutions should allow retrieval of recordings within one month.

A2.11 More detail on the reference installations is shown below:

Table A1.1: Reference Installation One – Small Company

Communications Medium	Communications Solution	Users Requiring Recording	No of Users Already Recorded	Existing Storage Period (Months)
Fixed Telephones	Direct Connection to PSTN	2	0	0
Cellular Phones	Standard GSM	2	0	0
Email	Provided by ISP	2	0	0
IM	Yahoo or MSN	2	0	0
SMS from Cellphone	via Mobile operator	2	0	0

Table A1.2: Reference Installation Two – Medium Company

Communications Medium	Communications Solution	Users Requiring Recording	No of Users Already Recorded	Existing Storage Period (Months)
Fixed Telephones	PABX	50	0	0
Cellular Phones	Blackberry	50	0	0
Email	Self Managed with Blackberry Access	50	50	6
IM	Yahoo or MSN	50	0	0
SMS from Cellphone	via Mobile operator	50	0	0

Table A1.3: Reference Installation Three – Large Trader

Communications Medium	Communications Solution	Users Requiring Recording	No of Users Already Recorded	Existing Storage Period (Months)
Fixed Telephones	PABX with UM Capabilty and Address Book Integration	500	400	6
Cellular Phones	Blackberry	500	0	0
Email	Self Managed with Blackberry Access	500	500	6
IM	MS Secure IM plus other non-secure systems	500	500 (secure IM only)	6
SMS from Cellphone	via Mobile operator	500	0	0

A2.12 By explicitly specifying different criteria for small, medium and large authorised firms it is clear that the questionnaire tries to capture any cost variation arising from the size of the firms, or more accurately the volume of calls, emails etc.

A2.13 It should be noted that in some of the reference installations we assume that some (but not all) of the required users already have their communications recorded, and that, where this happens, the data is kept for less than three years. This reflects the information that the FSA has been given on the current prevalence of recording and storage in the industry.

A2.14 Suppliers of communications solutions were asked to provide cost estimates of implementing recording and storage for the types of companies shown above, and for the media of communications shown above.

Obtaining cost quotes

A2.15 Once the questionnaires were finalised and agreed with the FSA, Europe Economics sent them to the suppliers of communication solution and the authorised financial services firms listed in the Annex. Deadlines for responses were set for each group of companies to ensure compliance with the study's time schedule as defined in the Statement of Requirements. An extension to the deadline for the project and responses to the authorised firms questionnaire was subsequently given following several authorised firms contacting Europe Economics and the FSA stating that it would be impossible for them to respond within the initial timeframe.

A2.16 Early in the questionnaire, suppliers of communications solutions were asked to clarify whether their company provides solutions which could meet some or all of the requirements for any of the reference installations – by 'provides solutions', we meant that the companies have provided a solution to at least one corporate customer in Europe or North America, and that technology underpinning the solution is stable and mature.

A2.17 For each of the solutions provided, respondents to the questionnaires were asked to provide the typical price per user of the solution as well as a price range (defined by the minimum and maximum price charged for similar solutions). We further broke down the requested quotes into:

- initial fees, which may include design, installation, commissioning, integration, etc
- ongoing fees, which may include system operation, management, maintenance, usage charges, ongoing licences, upgrades. etc

A2.18 We realise that the cost drivers for such systems may be quite complex, and may encompass many factors other than the number of users. However, Europe Economics noted in the questionnaire that we would like to know the typical price of a solution that a financial company would be expected to require in order to comply with the proposals of CP07/9.

A2.19 The questionnaire further stated that the quoted price should include a level of system redundancy and stand-by capability commensurate with the size of the company and which would ensure that the company can continue to be compliant with the recording requirements shown above in the event of a disaster.

A2.20 Where we indicated that an authorised firm already has some users covered by a recording solution, we asked suppliers to assume that this solution had been provided by their own company.

Telephone and face-to-face interviews

- A2.21 In addition to requesting responses to Europe Economics' questionnaire, we arranged telephone and face to face interviews with suppliers to obtain further cost estimates and authorised firms to get insightful views as to whether firms with existing systems believe they are inadequate to fulfil a regulatory obligation. For these interviews only a subset of the companies listed in the Annex were contacted; time and budget considerations did not allow us to conduct interviews with all companies.
- A2.22 The underlying reason for conducting such interviews is that they are often more informative than responses to questionnaires. However, even the interviews were based on the questionnaires sent to the interviewees in advance of the interviews.
- A2.23 Several authorised firms and their trade associations had responded to CP07/9 with concerns related to the fulfilment of the regulatory requirements specified in that paper and the cost estimates presented. We contacted several authorised firms in order to have in-depth discussions with them on that issue. We ensured that coverage of firms was as broad as possible by taking a stratified sample of the firms for which contact details were provided to the FSA by the trade associations. Discussions with authorised firms were designed to inform Europe Economics as to what degree their concerns are justified.

Determine the overall cost of recordings

- A2.24 Upon receipt of completed questionnaires and following the completion of interviews with suppliers and authorised firms we estimated the costs to authorised firms of implementing the proposals of CP 07/9.
- A2.25 The methodology employed was essentially identical to that employed previously by the FSA. This would ensure comparability between the cost estimates and hence would allow a conclusion to be reached as to whether or not the CBA of CP07/9 was broadly correct. In particular, we:
- utilised the FSA's upper and lower bounds of the number of individuals that would require recording, 70,000 and 55,000 respectively;
 - retained the assumption that for fixed-line telephones, 90 per cent of those affected by the proposals are already recorded; and
 - estimated one-off and ongoing costs separately.

- A2.26 Nonetheless, we did make several additions to the methodology employed by the FSA as we sought to obtain a more accurate picture of the costs to authorised firms of complying with the proposals of CP07/9. Firstly, we estimated the costs of recording mobile telephones, something that had not been considered previously. Secondly, we included the costs of retaining records such that authorised firms would continue to be compliant even in the event of a disaster. This was one factor that respondents to CP07/9 felt had been omitted from the CBA. Thirdly, we estimated how costs would differ for firms if the storage period were one year rather than three years on which the estimates of CP07/9 were based. Finally, we varied the assumption on the proportion of those affected by the proposals that already have their fixed line telephones recorded. This allowed us to determine how dependent on this assumption the cost estimates were.
- A2.27 We present results in terms of cost per user for each of the communications methods for which quotes were sought and aggregate these to give an estimate of overall costs to authorised firms.

Cost analysis

- A2.28 In this section we discuss which of the costs firms may have incurred even without the implementation of a recording requirement. This has a great bearing on the costs of the recording requirement because if, for example, a firm would have installed a mobile phone recording solution even in the absence of an FSA requirement to do so the associated costs should not be counted as an element of the costs of implementing the recording requirement.

Final Handbook text

**CONDUCT OF BUSINESS SOURCEBOOK (RECORDING OF TELEPHONE
CONVERSATIONS AND ELECTRONIC COMMUNICATIONS)
INSTRUMENT 2008**

Powers exercised

- A. The Financial Services Authority makes this instrument in the exercise of the following powers and related provisions in the Financial Services and Markets Act 2000 (“the Act”):
- (1) section 138 (General rule-making power);
 - (2) section 156 (General supplementary powers); and
 - (3) section 157(1) (Guidance).
- B. The rule-making powers listed above are specified for the purpose of section 153(2) (Rule-making instruments) of the Act.

Commencement

- C. This instrument comes into force on 6 March 2009.

Amendments to the Handbook

- D. The Senior Management Arrangements, Systems and Controls sourcebook (SYSC) is amended in accordance with Annex A to this instrument.
- E. The Conduct of Business sourcebook (COBS) is amended in accordance with Annex B to this instrument.

Citation

- F. This instrument may be cited as the Conduct of Business Sourcebook (Recording of Telephone Conversations and Electronic Communications) Instrument 2008.

By order of the Board
28 February 2008

Annex A

Amendments to the Senior Management Arrangements, Systems and Controls sourcebook (SYSC)

In this Annex, underlining indicates new text and striking through indicates deleted text.

8 Outsourcing

8.1 General outsourcing requirements

...

8.1.5 R Without prejudice to the status of any other function, the following functions will not be considered as critical or important for the purposes of this chapter:

- (1) ...
- (2) the purchase of standardised services, including market information services and the provision of price feeds;

[Note: article 13(2) of the *MiFID implementing Directive*]

- (3) the recording and retention of relevant telephone conversations or electronic communications subject to COBS 11.8.

Annex B

Amendments to the Conduct of Business sourcebook (COBS)

In this Annex, underlining indicates new text and striking through indicates deleted text, unless otherwise stated.

Insert the following new section after COBS 11.7. The text is all new and is not underlined.

11.8 Recording telephone conversations and electronic communications

Application - Who?

- 11.8.1 R This section applies to a *firm*:
- (1) which carries out any of the following activities:
 - (a) receiving *client* orders;
 - (b) executing *client* orders;
 - (c) arranging for *client* orders to be executed;
 - (d) carrying out transactions on behalf of the *firm*, or another person in the *firm's* group, and which are part of the *firm's* trading activities or the trading activities of another person in the *firm's* group;
 - (e) executing orders that result from decisions by the *firm* to deal on behalf of its *client*;
 - (f) placing orders with other entities for execution that result from decisions by the *firm* to deal on behalf of its *client*;
 - (2) to the extent that the activities referred to in (1) relate to:
 - (a) *qualifying investments* admitted to trading on a *prescribed market*;
 - (b) *qualifying investments* in respect of which a request for admission to trading on such a market has been made;
 - (c) investments which are *related investments* in relation to such *qualifying investments*.
- 11.8.2 R This section does not apply to the carrying on of the following activities:
- (1) activities carried on between operators, or between operators and depositories, of the same *collective investment scheme* (when acting in that capacity);

- (2) *corporate finance business*;
- (3) corporate treasury functions.

11.8.3 R This section does not apply to the following *firms* or *persons*:

- (1) a *service company*;
- (2) a *non-directive friendly society*;
- (3) a *non-directive insurer*;
- (4) a *UCITS qualifier*.

Application - Where?

11.8.4 R This section applies only with respect to a *firm's* activities carried on from an establishment maintained by the *firm* in the *United Kingdom*.

Recording telephone conversations, etc

11.8.5 R A *firm* must take reasonable steps to record relevant telephone conversations, and keep a copy of relevant electronic communications, made with, sent from or received on equipment:

- (1) provided by the *firm* to an employee or contractor; or
- (2) the use of which by an employee or contractor has been sanctioned or permitted by the *firm*;

to enable that employee or contractor to carry out any of the activities referred to in *COBS* 11.8.1R.

11.8.6 R The obligation in *COBS* 11.8.5R does not apply to:

- (1) telephone conversations and electronic communications (except emails) made with, sent from or received on a mobile telephone or other mobile handheld electronic communication device; or
- (2) a *discretionary investment manager*, in respect of telephone conversations or electronic communications made with, sent to or received from a *firm* which the *discretionary investment manager* reasonably believes is subject to the recording obligation in *COBS* 11.8.5R in respect of that conversation or communication; or
- (3) a *discretionary investment manager*, in respect of telephone conversations or electronic communications made with, sent to or received from a *person* who is not subject to the recording obligation in *COBS* 11.8.5R, provided that such telephone conversations or electronic communications are made with, sent to or received from such *persons* on an infrequent basis, and represent a small proportion of the total telephone conversations and electronic communications

made, sent or received by the *discretionary investment manager* to which *COBS* 11.8.5R apply.

- 11.8.7 G Electronic communications includes communications made by way of facsimile, email and instant messaging devices.
- 11.8.8 R For the purposes of *COBS* 11.8.5R, a relevant conversation or communication is any one of the following:
- (1) a conversation or communication between an employee or contractor of the *firm* with a *client*, or when acting on behalf of a *client*, with another *person*, which concludes an agreement by the *firm* to carry out the activities referred to in *COBS* 11.8.1R as principal or as agent;
 - (2) a conversation or communication between an employee or contractor of the *firm* with a *professional client* or an *eligible counterparty*, or when acting on behalf of a *professional client* or an *eligible counterparty*, with another *person*, which is carried on with a view to the conclusion of an agreement referred to in (1) above, and whether or not it is part of the same conversation or communication as in (1).
- 11.8.9 G (1) *COBS* 11.8.8R(2) includes conversations and communications relating to specific transactions which are intended to lead to the conclusion of an agreement by the *firm* to deal with or on behalf of the *client* as principal or agent, even if those conversations or communications do not lead to the conclusion of such an agreement. It does not include conversations or communications which are not intended to lead to the conclusion of such an agreement, such as general conversations or communications about market conditions.
- (2) The *FSA* would not usually expect the obligation in *COBS* 11.8.5R to include conversations or communications made by investment analysts, retail financial advisers, and persons carrying on back office functions, as such persons will not normally make relevant conversations or communications when acting in those capacities.

Retention of records

- 11.8.10 R A *firm* must take reasonable steps to retain all records made by it under *COBS* 11.8.5R:
- (1) for a period of at least 6 *months* from the date the record was created;
 - (2) in a medium that allows the storage of the information in a way accessible for future reference by the *FSA*, and so that the following conditions are met:
 - (a) the *FSA* must be able to access the records readily;
 - (b) it must be possible for any corrections or other amendments, and the contents of the records prior to such corrections and

amendments, to be easily ascertained;

- (c) it must not be possible for the records to be otherwise manipulated or altered.

Amend the following, as shown.

18.2 Energy market and oil market activity

...

Energy market activity and oil market activity – non-MiFID business

18.2.3 R

...

COBS	Description
...	...
5.2	E-commerce
<u>11.8</u>	<u>Recording telephone conversations and electronic communications</u>
...	...

...

18.3 Corporate finance business

18.3.1 R Corporate finance business - MiFID business

...

COBS	Description
...	...
11.6	Use of dealing commission
<u>11.8</u>	<u>Recording telephone conversations and electronic communications</u>
...	...

...

18.5 Operators of collective investment schemes

Application or modification of general *COBS* rules for *operators*

18.5.2 R ...

Table: Application of conduct of business rules

Application of conduct of business rules

Chapter, section or rule	Description	Modifications
...		
11.6	Use of dealing commission	
<u>11.8</u>	<u>Recording telephone conversations and electronic communications</u>	
...		

Sch 1 Record keeping requirements

...

COBS Sch 1.3G

Handbook reference	Subject of record	Contents of record	When record must be made	Retention period
...				
<i>COBS</i> 11.7.4.R
<u><i>COBS</i> 11.8.5R</u>	<u>Telephone conversations and electronic communications subject to the taping obligation (see <i>COBS</i> 11.8.5R)</u>	<u>Telephone conversations and electronic communications recorded under <i>COBS</i> 11.8.5R</u>	<u>When the conversation or electronic communication is made, sent or received</u>	<u>6 months</u>

<i>COBS</i> 12.4.6R
...				

PUB REF: 001323

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