

4 The market

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Introduction

4.1. CHC's and HSG's activities overlap in the provision of helicopter services. Within the UK (including the UKCS) helicopter services are provided by CHC's subsidiary, Brintel, and HSG's subsidiary, Bond. The bulk of onshore helicopter services (for example, for air ambulance, police and commercial work) are carried out with light single- or double-engined helicopters. Brintel operates light aircraft through its subsidiary, Veritair, although Bond does not (since the sale of BAS to Stephen and Peter Bond in July 1999).¹

4.2. Both Brintel and Bond carry out offshore helicopter services. UKCS offshore work usually requires medium or heavy helicopters and various modifications are required before a helicopter registered for onshore work can carry out offshore work (see paragraph 4.24). Offshore helicopter work may be classified according to the customers:

- (a) Passenger transport to and from oil and gas installations.² Both Brintel and Bond carry out such work for oil and gas exploration and production companies and also occasionally for engineering and drilling services contractors.
- (b) Scheduled passenger services: the only UK example is the Penzance–Isles of Scilly service which has been operated by Brintel since 1964.
- (c) Search and rescue work for the UK Government: the bulk of search and rescue work is done by the military but some is contracted to Bristow. Neither Brintel nor Bond have ever carried out search and rescue work in the UK, although Bond does so in the Republic of Ireland. Helicopters

¹Bond does, however, operate two medium helicopters out of Plymouth providing the Royal Navy with fleet support work.

²Helicopters also carry a small amount of freight to oil and gas installations. Most freight is transported by ship.

require additional modifications, in particular an auto-hover capability, and extra crew with specialized training for search and rescue work.

The remainder of this chapter concentrates on the first of these—work in the offshore oil and gas sector.

4.3. Figure 4.1 shows the UKCS, which can be divided into two main areas:

- (a) The area to the north of 56°N, described as the Northern Zone, where there are predominantly oil and condensate fields. Brintel, Bond and Bristow all operate in the Northern Zone.
- (b) The gas fields to the south of 56°N, including those in the southern part of the North Sea and in Morecambe Bay. We have described this as the Southern Zone. Bond and Bristow operate in the Southern Zone. Brintel has not operated in the Southern Zone since 1995, although it has continued to bid (unsuccessfully) for some southern contracts. A Dutch firm, KLM ERA,¹ operated in the Southern Zone through a UK limited liability company subsidiary between 1995 and 1998: it was subsequently acquired by Schreiner, which we were told has also recently bid for Southern Zone contracts.

The Southern Zone gas fields are nearer to the shore and tend to have smaller installations, with fewer personnel, than those in the Northern Zone. Consequently it tends to be economic for medium helicopters to be used in the Southern Zone and heavy helicopters (which can carry more people a longer distance) in the Northern Zone. However, some medium helicopters are used in the Northern Zone and heavy helicopters may be used in future in the Southern Zone as exploration moves further offshore. The Northern Zone accounts for about 80 per cent of total UKCS helicopter revenue (see Table 4.6).

4.4. Oil and gas activity also takes place in adjoining sectors of the NWECS, particularly Norway but also the Netherlands, Denmark and to a small extent the Republic of Ireland. Heavy helicopters tend to account for most use in the Norwegian and Danish sectors, where conditions are similar to the UKCS Northern Zone, while medium helicopters tend to be used in the Dutch and Irish Republic sectors. Installations in each country's sector of the NWECS are served by bases in that country.

Licensing of helicopters and helicopter operators

4.5. A UK helicopter operator must obtain an AOC and an Operating Licence from the CAA; also each of its aircraft must have a certificate of airworthiness and must be registered with the CAA. The AOC is concerned with safety standards whereas the Operating Licence depends on criteria such as financial fitness and adequacy of insurance; it also incorporates nationality restrictions.

4.6. The AOC approval procedure is completed within a fixed period of either 30 or 90 days (depending on the type of AOC being applied for) from the time at which the CAA receives a satisfactory operating manual from the applicant. Airworthiness regulations have been harmonized by the Joint Aviation Authorities (whose members include Denmark, France, Germany, Ireland, the Netherlands, Norway and the UK).² This may assist operators in those countries to obtain an AOC although the CAA told us that the UK imposes aircraft equipment requirements over and above those specified as JARs.

4.7. Among the requirements for an Operating Licence are that an operator must be majority owned and effectively controlled by EEA nationals. Up to 1992 the legal framework had the effect of restricting entry into the market to UK-controlled companies. On 1 January 1993 the European Commission substantially liberalized air transport with the implementation of its so-called 'third package', whose provisions were subsequently extended to all member states of the EEA. The third package required each EC member state to grant Operating Licences to carriers whose principal place of business was in that state, which were majority owned and substantially controlled by EEA citizens, and which met the other specified criteria.

¹A joint venture between KLM (51 per cent) and the parent of ERA Aviation Inc, a US helicopter operator.

²The harmonized approval is known as a Joint Airworthiness Requirement (JAR) OPS 3.

FIGURE 4.1

North West Europe Continental Shelf



Source: CC.

4.8. The third package also broadly permitted any air carrier with an Operating Licence from one EEA member state to operate throughout the EEA; however, this freedom of access did not apply to certain services including those to offshore installations. Operators of services not covered by such freedom of access must obtain route licences or an exemption from that requirement. The CAA told us that it had granted such an exemption for any holder of a UK Operating Licence providing services in the UK offshore market.

4.9. Helicopter operators which use aircraft not registered in the UK require the permission of the Secretary of State to provide paid-for services in the UK not covered by the freedom of access provisions of the third package. The Department of the Environment, Transport and the Regions told us that it encouraged a liberal climate by giving foreign operators access to the UK market provided that there were reciprocal rights for UK operators and that, in respect of UKCS operations, the foreign operators met CAA safety equipment standards. Such rights had been agreed with the Danish, Dutch, German and Irish authorities.

Types of helicopter used

4.10. Table 4.1 shows the helicopter fleets operated by Brintel and Bond, their average age and utilization. Brintel's projected utilization for 1999 is very low reflecting the loss of its major contract with Shell in 1998 (see paragraph 4.40). All the heavy helicopters are currently used in the Northern Zone and all but three (one Brintel, two Bond) of the medium helicopters in the Southern Zone. Bristow, the other operator, in the main uses the same types of helicopter although it also has some Bell helicopters.

TABLE 4.1 Helicopters operated by Brintel and Bond

		Total number 1999	Number used for UK oil and gas work 1999	Average age 1999 years*	Average utilization 1994-98† %	Average utilization 1999‡ %	
<i>Brintel helicopters</i>							
Eurocopter AS332L	Heavy	10	7‡	15.1	(Figures omitted. See note on page iv.)		
Sikorsky S61N	Heavy	10	3§	23.3			
Sikorsky S76A+	Medium	2	1‡	34.0			
<i>Bond helicopters</i>							
Eurocopter AS332L2	Heavy	3	3	1.0			
Eurocopter AS332L	Heavy	7	7	16.4			
Sikorsky S61N	Heavy	3	0¶				
Sikorsky S76C	Medium	3	3	6.0			
Sikorsky S76A+	Medium	3#	3	19.3			
Eurocopter 365N2	Medium	5#	3#	8.3			
Eurocopter 365N	Medium	4#	3**	14.7			

Source: CHC.

*Of those used for UK oil and gas work only.

†Utilization is based on the actual number of flying hours as a percentage of potential flying hours for helicopters used for UK oil and gas work (excluding Morecambe Bay but including for Brintel in 1999 the three Denmark-based AS332Ls). Potential flying hours are 125 a month which CHC said was realistically achievable on a sustained basis taking into account maintenance and air crew limitations.

‡Brintel has three AS332Ls and one S76A+ based in Denmark.

§Brintel has two S61Ns used for the Isles of Scilly service, two in the Falklands and three in storage.

¶Bond's three S61Ns are used for Irish search and rescue service. These were sold to and leased back from OLOG in September 1999 pending customer consent to assign the contract to OLOG.

#Excludes one S76A+ leased to Bristow from 11 May 1999, one 365N2 leased to Helikopter Service AS from 8 March 1999 and one 365N leased to BAS.

#Two of Bond's 365N2s are used for Plymouth fleet support.

**One of Bond's 365Ns is based in Cork and used in the Irish sector of the NWECS.

4.11. The main type of helicopter used in the Northern Zone is the Eurocopter Super Puma, Mark 1 (AS332L) and Mark 2 (AS332L2). Brintel also still operates an older model, the Sikorsky S61N, in the Northern Zone. Table 4.2 shows the maximum number of passengers and the maximum range of heavy and medium helicopter types used (the actual range in each case depends on the payload and operating characteristics).

TABLE 4.2 Performance of helicopters operated by Brintel and Bond

	Passengers (maximum)	Range (maximum) Nautical miles
<i>Heavy helicopters</i>		
Eurocopter AS332L2	19	490
Eurocopter AS332L	18	451
Sikorsky S61N	19	440
<i>Medium helicopters</i>		
Sikorsky S76C	12	430
Sikorsky S76A+	12	397
Eurocopter 365N2	11	400
Eurocopter 365N	11	400

Source: CHC.

Helicopter bases

4.12. In the Northern Zone only three helicopter bases are currently used:

- (a) Aberdeen Airport (owned by BAA) is the most important base and is popular with oil companies due to its good communications and its proximity to the offices of the major oil and gas companies. Brintel, Bond and Bristow have hangars and passenger terminal facilities at Aberdeen Airport, as shown in Appendix 3.4. Bond's facilities (terminal building and three hangars) are on the east side of the airport: CHC told us [

Details omitted. See note on page iv.

].¹ BAA also told us that suitable sites for additional hangars had been identified in earlier discussions with KLM ERA, which had investigated establishing a base at Aberdeen, although Era told us that it had extreme difficulty in finding an operating location on the Aberdeen Airport. As regards passenger terminal facilities, CHC told us that Elf owned an unused facility which was for sale and Shell's passenger handling facilities were under-used, while BAA told us that, if passenger handling facilities were not readily available, there would be no difficulty in agreeing to helicopter passengers being processed through one of the terminals on the west side of the airport, currently used for fixed-wing traffic.

- (b) Scatsta Airport on the west coast of the Shetland Islands (owned by Shetland Islands Council and leased to an oil company) is used by a consortium of oil companies for accessing the most northerly and westerly installations. Passengers are transferred to Scatsta from Aberdeen by chartered fixed-wing aircraft.
- (c) Sumburgh Airport on the southern tip of the Shetlands is currently used by one company, which is, however, joining the Scatsta consortium from December 1999.

Neither Brintel or Bond currently uses Scatsta or Sumburgh as a base, although they do use Scatsta for refuelling en route to the most distant installations. Longside airfield at Peterhead is also used for refuelling. United Kingdom Offshore Operators Association Limited (UKOOA) projections for 1999 (see Table 4.5) show 78 per cent of Northern Zone helicopter flights from Aberdeen, with the remaining 22 per cent from Scatsta and Sumburgh. UKOOA's 2000 projections show Aberdeen taking 80 per cent, Scatsta 19 per cent and Sumburgh 1 per cent (accounted for by two very small exploration rigs).

4.13. In the Southern Zone, the following bases are currently used:

- (a) Humberside Airport, owned by Humberside Airport Ltd, is used by Bond which leases one hangar and rents space in the heliport terminal. CHC told us that it believed there was space available for additional hangars. The nearby heliport at Strubby is no longer used. Humberside is used for flights to the more northerly installations in the Southern Zone.

¹The third hangar (the former British Caledonian Helicopters hangar) is owned by Bristow and currently leased to Bond.

- (b) North Denes Aerodrome at Great Yarmouth is owned by Bond, and used by Bond (which has one hangar, a terminal building and a large storage shed) and Bristow (which has two hangars and terminal facilities on land leased from Bond).
- (c) Norwich Airport, owned by Norwich City Council, is also used by Bristow.
- (d) Blackpool Airport is used by Bond to service the Morecambe Bay installations. The facilities are owned by Bond's customer.

We estimate that Humberside accounts for about 30 per cent of Southern Zone revenue, Great Yarmouth 45 per cent, Norwich 20 per cent and Blackpool 5 per cent.

Contractual arrangements

4.14. Customers purchase offshore helicopter services through one of two main methods:

- (a) through core contracts which cover expected requirements over a number of years and are described further below; and
- (b) through ad hoc arrangements, which are normally for a single return flight, requested at short notice and provided according to the availability of aircraft and crews. Customers may enter into framework ad hoc contracts, which determine the terms and conditions applicable for ad hoc flights.

Thus a customer may have a core contract with one helicopter operator and framework contracts covering ad hoc arrangements with one or more other operators. Core contracts account for the bulk of the market (see paragraph 4.49).

4.15. An important feature of this market is that an oil exploration and production company wishing to enter into a core helicopter contract will usually invite bids from helicopter operators typically up to six months before the core contract comes into operation. The invitation to tender will specify details such as the base or bases to be used, the expected level of activity over the contract period, for example number of flying hours, and will usually include draft contract terms and conditions. The invitation to tender may also specify such details as the type of helicopter required but we are aware of one invitation to tender that stated:

There are no prerequisite service levels to consider in terms of aircraft type, number of flights, timing of flights etc. We would like you to approach the provision of service from an innovative perspective and propose your ideas based on the most cost efficient timely and safe methods.

Once bids have been received, the helicopter user will evaluate the bids and may well enter into negotiations with a preferred bidder to try to reduce the price or improve the service standards above the tendered level, while retaining the option of going back to the other bidders or indeed retendering the contract.

4.16. The helicopter user may prefer to negotiate with one helicopter supplier and not to have an open tender. We were told by CHC that in recent years only one user, albeit a major one (BP, which renegotiated its contract with Bond rather than go out to tender), had chosen this route. Bristow told us that in the past oil companies had renegotiated contracts with incumbent operators on numerous consecutive occasions without a competitive tendering exercise.

4.17. A number of major contracts have changed hands within the last 18 months as a result of competitive tendering, including, in the Northern Zone, Shell (from Brintel to Bristow), Mobil (Bristow to Bond) and Agip (Bond to Bristow), and, in the Southern Zone, Shell (KLM ERA to Bristow) and Amoco

(Bristow to Bond). CHC suggested that this reflected the intensity of competitive bidding between helicopter operators. Additionally BP, which, prior to the renegotiation mentioned in the previous paragraph, had contracts with both Bristow (for two-thirds of its work) and Bond (for the other one-third), renegotiated with Bond only and, following the completion of the BP Amoco merger, the Amoco Northern Zone contract was also transferred from Bristow to Bond.

4.18. There are three main types of core helicopter contract:

- (a) *Exclusive or sole use contracts*. These specify the number of helicopters of each type the operator makes available to the customer. The customer pays both a monthly standing charge and a flying charge, which is dependent on the number of hours each available helicopter has flown in the month.
- (b) *Part- or shared-use contracts*. These provide for one or more helicopters to be available on specific weekly schedules which are determined in advance; at other times the customer does not have the contractual right to use the aircraft. Remuneration is via an hourly flying charge and in some cases there may also be a monthly standing charge.
- (c) *Pay-as-you-use contracts*. Introduced more recently, these typically provide for one or more helicopters to be available at certain times for scheduled operations and also with notice at other times for unscheduled operations (the notice period for unscheduled operations may, for example, be 4 hours). Unlike in the part- or shared-use contracts, a helicopter may be requested at any time, subject to the notice period. There is no monthly standing charge, only an hourly usage charge (which depends on the actual type of helicopter used): consequently there is no penalty to an oil company which does not require its full schedule of operations (this also applies to part-use contracts where there is no standing charge) and therefore the utilization risk is with the helicopter operator.

The type of contract is usually specified by the customer in the invitation to tender but may be left to bidders to propose and would then depend on the customer's evaluation of the bids.

4.19. Core contracts are usually for between three and seven years, although most contracts give customers (but not helicopter operators) the right to terminate the contract before expiry. The termination period is typically between two weeks and one year. We were told by the helicopter operators that contracts were rarely terminated early (recent examples involved merger of oil companies) but that on occasion oil companies used the termination period to push down the contracted price or number of helicopters. Core contracts may provide for charges to be escalated with one or more of fuel prices, helicopter parts prices and wages although CHC told us that this had become less usual recently.

4.20. Core contracts also usually require the helicopter operator to provide a logistics service and various ancillary services. Logistics includes services such as passenger booking, arranging hotel accommodation and meals in the event of flight delays, travel arrangements and hire car bookings for passengers, check-in, disseminating flight arrival/departure information, ensuring safety briefings are carried out and security checks on personnel and their baggage. Ancillary services may include provision and/or maintenance of survival suits for passengers and provision of safety briefings as required by customers.

4.21. Table 4.3 summarizes current core helicopter contracts. Around 55 per cent of the value of these contracts is accounted for by sole-use contracts, 10 per cent by part-use contracts and 35 per cent by pay-as-you-use contracts. Table 4.3 also shows that following the BP/Amoco merger, two customers (BP Amoco and Shell) account for almost half of the total value of such contracts. The customers also tend to be larger and financially stronger organizations than the helicopter operators supplying them. For example, Enterprise Oil plc, one of the smaller oil companies, has a market capitalization of around £2,000 million which is much greater than the largest helicopter operators, for example OLOG has a market capitalization of about £120 million.

TABLE 4.3 Core helicopter contracts, October 1999

<i>Customer</i>	<i>Approx annual value £m</i>	<i>Contractor</i>	<i>Expiry</i>	<i>Type</i>
Shell	25	Bristow	June 2005	Exclusive
BP	11	Bond	Dec 2004	Pay-as-you-use
BP	9	Bond	Dec 2004	Exclusive
Integrated Aviation Consortium (Scatsta)	7	Bristow	March 2000	Exclusive
Total	6	Bond	March 2003	65% exclusive 35% pay-as-you-use
Mobil	6	Bond	July 2004	Pay-as-you-use
Amoco south sector*	5	Bond	Dec 2004	Exclusive
Centrica	5	Bond	Aug 2000	Exclusive
Elf	5	Brintel	March 2001	Pay-as-you-use
BHPP, BP, BG	4	Bond	Aug 2000	Exclusive
Talisman	4	Brintel	Dec 2000	Pay-as-you-use
Conoco south sector	4	Bond	March 2003	Exclusive
Amoco*	4	Bond	Dec 2004	Pay-as-you-use
Amerada Hess	4	Bristow	March 2001	Pay-as-you-use
Phillips/BG	3	Bristow	Sep 2001	Pay-as-you-use
Marathon	3	Bristow	March 2002	Exclusive
Texaco	3	Bristow	March 2001	Pay-as-you-use
Enterprise	2	Brintel	July 2000	Pay-as-you-use
Kerr McGee	2	Bond	June 2000	Part-use
Chevron	2	Bristow	March 2001	Part-use
Conoco north sector	2	Bristow	June 2003	Part-use
Arco*	2	Bond	Dec 2004	Part-use
BHPP (Liverpool Bay)	1	Bond	Aug 2000	Part-use
Agip	1	Bristow	July 2003	Part-use
<i>Contract type</i>		<i>%</i>		
Exclusive	65	55.5		
Part-use	11	9.7		
Pay-as-you-use	<u>41</u>	<u>34.8</u>		
Total	117	100.0		
<i>Operator</i>				
Bond	58	49.5		
Brintel	11	8.9		
Bristow	<u>49</u>	<u>41.6</u>		
Total	117	100.0		

Source: CHC.

*These contracts have been harmonized into the core BP contract.

4.22. There have been a number of changes in core contracts since the 1992 report:

- (a) At the time of the previous report, most of the larger oil and gas companies had core contracts with more than one helicopter operator. Until July 1992, BP had core contracts with all three helicopter operators. Now, the larger oil and gas companies each have core contracts with only one helicopter supplier.
- (b) Pay-as-you-use contracts have been introduced and now account for about 20 per cent of core contracts. Consequently the share of sole-use contracts has fallen from 85 per cent in 1991 to 55 per cent at the end of 1999 (the share of part-use contracts has remained fairly constant—it was 15 per cent in 1991 and is 10 per cent now). The share of core contracts accounted for by pay-as-you-use increased significantly in August 1999 when Mobil changed from a sole-use basis to a pay-as-you-use basis.
- (c) Helicopter operators now carry out logistics and ancillary services which CHC told us had previously been carried out by the oil companies.
- (d) Oil companies have developed flight sharing (in which passengers of one company are carried on the helicopter under contract to another company) and pooling such as the Integrated Aviation Consortium at Scatsta. This has had the effect of reducing the required number of flights and hence reducing the oil companies' costs.

Entry requirements

4.23. The main requirements to provide helicopter services in the UKCS are:

- (a) obtaining helicopters of the type required by customers;
- (b) access to facilities at onshore bases; and
- (c) satisfying regulatory requirements.

4.24. As regards the first of these, helicopters may either be purchased new or second-hand or may be leased. Approximate second-hand prices of helicopters, which depend on hours flown and component conditions, are shown in a market pricing guide¹ which is updated annually. Just over half of the current world stock of 153 Super Pumas are currently operated either by CHC/Brintel/HSG/Bond or by OLOG/Bristow, with most of the remainder used by onshore helicopter operators (see Appendix 4.1). Helicopters might also have to be modified to meet UK offshore standards: Table 4.4 shows CHC's estimates of the cost of these modifications: the total of £425,000 to £885,000 compares to an approximate cost of a new S76C of £4,250,000 and of a new Super Puma Mark 2 of £8,600,000, in both cases including costs of modifications. However, it should be noted that second-hand helicopters might already have some of the modifications shown in Table 4.4, depending on their previous use. The modifications are subject to intellectual property rights (IPRs): IPRs in the parts will be with the manufacturer while each of the organizations that have created a design will usually own the IPR associated with the design. CHC told us that the physical parts needed for the modifications could be obtained from the relevant manufacturer. Such parts would in most cases require some redesigning to fit with a particular aircraft. The designs might be approved either directly through the CAA or indirectly through one of 30 to 40 CAA-approved design organizations, including Brintel, Bond and Bristow. CHC also told us that, if a new entrant wanted to use a design owned by Brintel or Bond, it would be able to obtain a licence for it at the market rate.

TABLE 4.4 Major modifications required for UK offshore operation

	<i>Approximate cost per helicopter £</i>
Voice warning system (AVAD)	15,000
Locator beacon system (ADELT)	15,000
Integrated health usage monitoring system (HUMS and CVFDR)	200,000
Liferafts (automatic or manual)	20,000–150,000
Emergency escape lighting (HEEL or EXIS)	20,000–150,000
Emergency flotation equipment	50,000–250,000
Positioning system	10,000
High-back seats (four-point harness where possible)	50,000
Trim installation	35,000
Push out and enlarged windows	10,000
Total	425,000–885,000

Source: CHC.

4.25. CHC told us in October 1999 that Eurocopter was quoting a delivery date of August 2000 for a new Super Puma Mark 2, a delivery period of ten months. CHC also told us that Eurocopter was offering three new Super Pumas, which were in the process of manufacture but not yet sold, that Eurocopter had a second-hand Super Puma Mark 1 for sale at FF45 million (about £4.3 million) and that the Thai Royal Flight was selling three Super Puma Mark 2s. Stephen and Peter Bond told us that a second-hand helicopter could be acquired more quickly than a new one: they estimated around three to four months to get hold of the aircraft and a further three to four months to modify it to UK offshore standards. They also said that a further month might be required to bring pilots' qualifications up to date (assuming they were already Super Puma qualified), although CHC said that any such period could run concurrently with the other lead times.

¹The Official Helicopter Specification Book, published by HeliValu \$ Inc.

4.26. Another alternative for an entrant would be to lease helicopters. An entrant could either lease a UKCS-equipped Super Puma from CHC or OLOG/Bristow (which own or control all such aircraft) or lease a helicopter from elsewhere and arrange for it to be modified to UKCS standards.

4.27. We received no evidence that it would be difficult for an entrant to employ pilots with relevant training.

4.28. As regards onshore bases, in most cases an entrant would have to make some commitment to obtaining a hangar and in some cases passenger terminal facilities. The most important base is Aberdeen, where space for additional facilities was difficult to find in 1992. However, rationalization following the merger is expected to lead to surplus hangars and a terminal building becoming available (see paragraph 4.12(a)) at Aberdeen. In the Southern Zone, the North Denes airfield at Great Yarmouth is owned by Bond but an entrant could use Norwich Airport, which is not far away, and from which KLM ERA operated the Shell contract between 1995 and 1998. CHC told us that space was available at all bases in the Southern Zone.

4.29. As regards meeting regulatory requirements, a helicopter operator has to be majority EEA-owned and -controlled. This prevents a non-EEA operator (such as the US operators, PHI and Era) from directly entering but it could do so through a joint venture, such as the former Era joint venture with KLM.¹ An entrant would also have to meet safety requirements: CHC argued that it was more important for the personnel employed by the operator to have the experience than the entity employing them and that such experienced personnel were readily available to a potential entrant.

4.30. As noted above, competition in this market takes place mainly at the time contracts are tendered. Customers do not require aircraft or facilities to be in place at the time of the bid; accordingly, CHC argued that a potential entrant would not have to make commitments to buying or leasing helicopters or to onshore base facilities as an entrant could defer this until after it had won a contract. CHC quoted Brintel's successful Danish tender where Brintel had had sufficient time (three and a half months) between award and operational start date to procure the facilities and licence needed. Brintel's customer (Maersk) postponed the contract's start date by one month to facilitate Brintel's entry and Brintel used the Danish AOC of a Danish fixed-wing operator (DAT) which it purchased. CHC said that the irrecoverable set-up costs of its operation at Esbjerg in Denmark (which it described as a satellite base) were about £200,000, mainly accounted for by payments to DAT for its Danish AOC (£132,000) and legal costs (£40,000), which CHC thought was small compared with the annual contract value of £9 million. CHC also said that of the ongoing costs about 30 per cent was accounted for by pilots and line engineers (employed at Esbjerg), about 20 per cent by the costs of hangars, fuel and other costs of its Esbjerg base, about 10 per cent by overhead costs incurred at Aberdeen and the remaining 40 per cent was the direct maintenance cost of replacement parts.

4.31. In that case Brintel had surplus helicopters available and already had its UK AOC; it also had its underutilized main base at nearby Aberdeen. Following the merger, the only other NWECS offshore operators are Schreiner, which is relatively small and operates mainly medium and not heavy helicopters, and Irish Helicopters, which uses Schreiner helicopters and crew (see paragraph 4.45). Entry into the Northern Zone, and into the Southern Zone by any company other than Schreiner, might require a longer period and greater set-up costs (in particular in acquiring and modifying helicopters unless an entrant was willing to rely at the contracting stage on leasing or buying helicopters from the incumbent operator). However, some oil companies may be expected to assist entry, for example by lengthening the time scale, if performance of the incumbent operators worsened: some individual contracts are large enough to support a new entrant and there is also the possibility that smaller contracts can be pooled together. In this context, Shell told us that if the merger led to higher prices or reduced service it would encourage other operators into the area through participation in competitive tendering processes.

¹Another example was a joint venture between Bristow and PHI in Ireland. Following the loss of its offshore contract in 1996 the joint venture was ended and the company (Irish Helicopters) was sold to its management.

Market size and growth

4.32. Figure 4.2 shows data on the growth of the UK offshore market since 1970. Data on the total hours flown¹ are available from the CAA's Safety Regulation Group and some further data on hours flown for 1986 to 1998 are available from the 1992 report and for subsequent years from CHC's consultants, SREA. Figure 4.2 also shows CAA data on helicopter passengers, which are incomplete as they do not cover all helicopter bases: in particular Great Yarmouth (North Denes) is not covered. All three series show a decline in demand through the 1990s. In relation to capacity, SREA reported that the helicopter operators had been moderately successful in reducing their stock of machines in line with the fall in demand, although SREA also noted that four helicopters were in store in the UK and that Schreiner had also reported a surplus in 1998.

4.33. The demand for oil and gas helicopter operations is driven by the level of exploration and appraisal activity, development drilling and installation, operation and maintenance of production platforms. As shown in Figure 4.2, helicopter operations increased up to 1984/85 as the UK offshore oil and gas sector expanded. Helicopter activity fell in 1986 and 1987 but then recovered to reach a peak in 1990. The trend during 1986 to 1990 is likely to reflect the fall in exploration and appraisal activity in response to the oil price fall in 1986, the subsequent recovery in exploration and appraisal activity and also the effect of the Cullen report² recommendations which increased the required level of maintenance.

4.34. Helicopter activity declined sharply during the early 1990s but was broadly static thereafter up to 1998. These trends appear to reflect the following main factors:

- (a) continued fluctuations in exploration and appraisal activity;
- (b) a tendency for offshore employment levels to decline despite expansion in production facilities and associated construction work. We were told that the reasons for declining offshore employment included increased multi-skilling of the workforce and increasing use of technology leading to unmanned installations (many new gas production platforms are not manned); and
- (c) more effective use of helicopters by oil and gas companies through sharing flights and/or pooling operations (see paragraph 4.22(d)).

Another factor mentioned to us was a lengthening of the average stay offshore (for example, from two to three weeks) which had the effect of reducing helicopter flights. However, we were told by BP that at most of its installations it had moved back to a two-weekly shift pattern.

4.35. The UKOOA, whose members include all significant oil and gas companies, makes forecasts of the number of helicopter rotations (flights to an oil or gas installation and back again) based on returns from its members: see Table 4.5. The UKOOA forecast Northern Zone helicopter traffic in 2000 to be 17 per cent lower than it forecast in 1998, Southern Zone traffic to be 20 per cent lower and total Northern and Southern Zone traffic to be 18 per cent lower. The UKOOA told us that it believed the 1998 out-turn was close to its 1998 forecast, as was also the case in 1997 and earlier years. However, its 1999 forecast had been too high as exploration and appraisal activity had been cut back in response to very low oil prices towards the end of 1998 and beginning of 1999. The UKOOA believed the actual 1999 figure was likely to be halfway between its 1998 and 2000 forecasts, representing a decline of about 10 per cent on the previous year.

¹The figures represent the total hours flown (offshore and onshore) by certain types of helicopter, including those shown in Table 4.1, the Bell 212 and 214 (used by Bristow) and also the Bolkow 105, which is used mainly for onshore work.

²*The public inquiry into the Piper Alpha disaster*, The Lord Cullen, HMSO, Cm 130, 1990.

FIGURE 4.2

Helicopter hours flown and passengers carried UKCS, 1970 to 1998

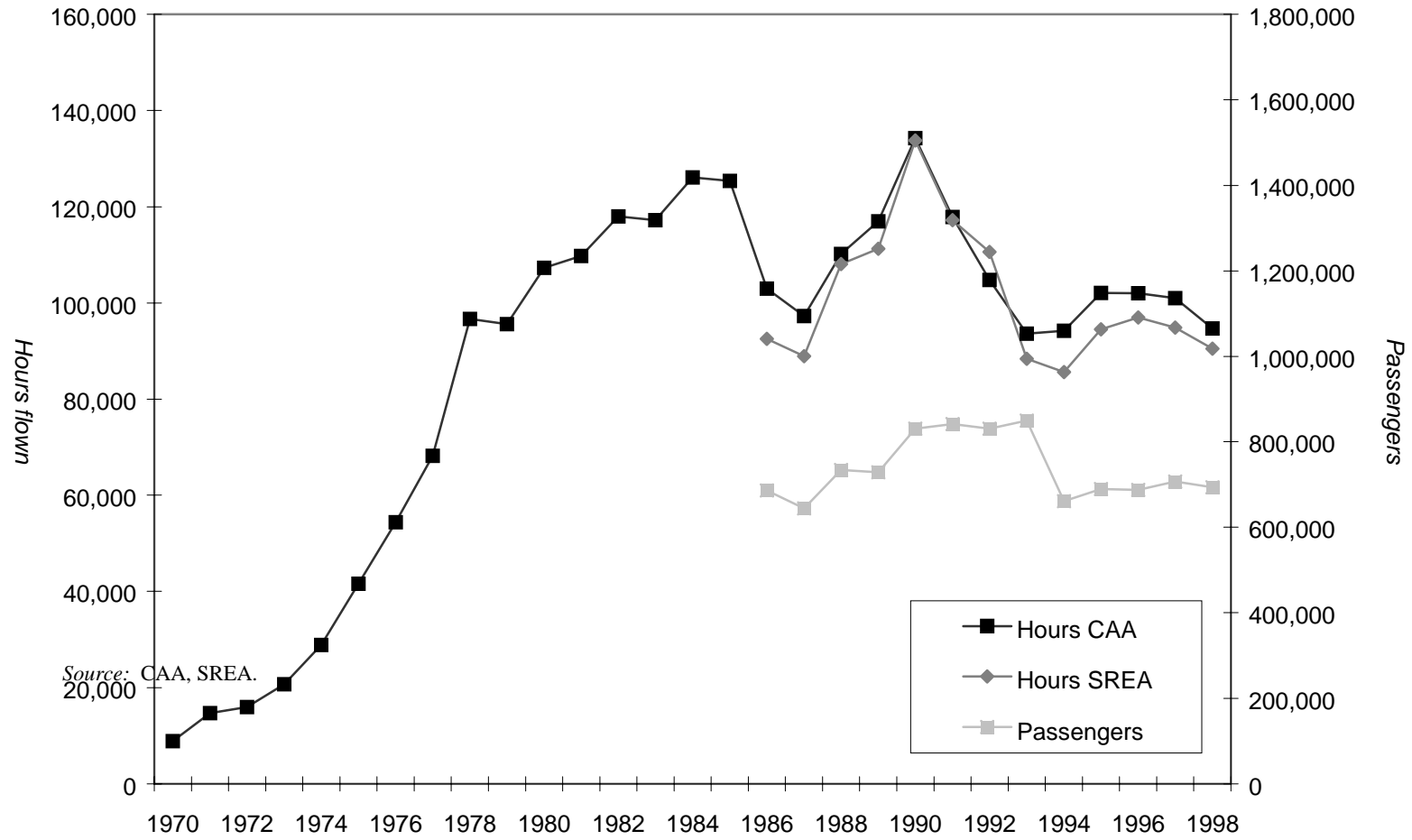


TABLE 4.5 UKOOA forecasts of helicopter rotations

	<i>Northern Zone</i>	<i>Southern Zone*</i>	<i>Total</i>
1997	20,177	12,241	32,318
1998	19,797	11,969	31,766
1999	19,496	10,557	30,053
2000	16,454	9,496	25,950

Source: UKOOA.

*Excluding Morecambe Bay.

4.36. Both CHC and Bristow told us that they expected demand for helicopter services to continue to decline despite the recent firming of the oil price (see Figure 4.3). In this context SREA (CHC's consultants) also reported that surveys of oil companies' planned expenditure¹ showed a decline up to 2002. SREA's report noted that projections from such surveys tended to be low since they revealed only those actions where planning was sufficiently well advanced for estimates to be available and that there had been some recovery in oil prices since the surveys were carried out. Nevertheless, SREA thought that the results reflected downwards revisions to expenditure plans which were likely for the most part to stay valid until the oil price is perceived to have made a significant long-term recovery.

4.37. The total value of helicopter operations for the UKCS oil and gas sector has been about £150 million in recent years (see Table 4.6), which represents about 1 per cent of the UKCS oil and gas sector's income and 2 per cent of its expenditure. The 1998 total of £147 million (excluding £3.5 million for Morecambe Bay) compares to total turnover at 1998 prices² (also excluding Morecambe Bay) of £179 million in 1989, £216 million in 1990 and £207 million in 1991. The value of UK helicopter operations is likely to be lower in 1999 and 2000 than in 1998, reflecting lower demand (see Table 4.5) and falling prices (see paragraph 4.50). The expected total (based on figures for the first eight months) for 1999 is about £124 million.

4.38. Figure 4.3 shows sterling crude oil prices adjusted for inflation. Crude oil prices were very low in 1998 but the average for January to October 1999 showed some recovery and towards the end of our inquiry prices remained above the average for recent years. With the weakness in oil prices during the 1990s, there have been a number of initiatives to control all aspects of the offshore oil and gas industry's costs. These included CRINE, which started in 1992, and LOGIC, a new industry organization which was set up recently to facilitate collaborative initiatives and will become fully operational on 1 January 2000.

4.39. CHC estimated that the UK sector accounts for over half of helicopter operations in the NWECS, with the Norwegian sector being worth about £80 million, the Danish sector £20 million, the Dutch sector £10 million and the Irish sector £1 million.

Market shares

UKCS

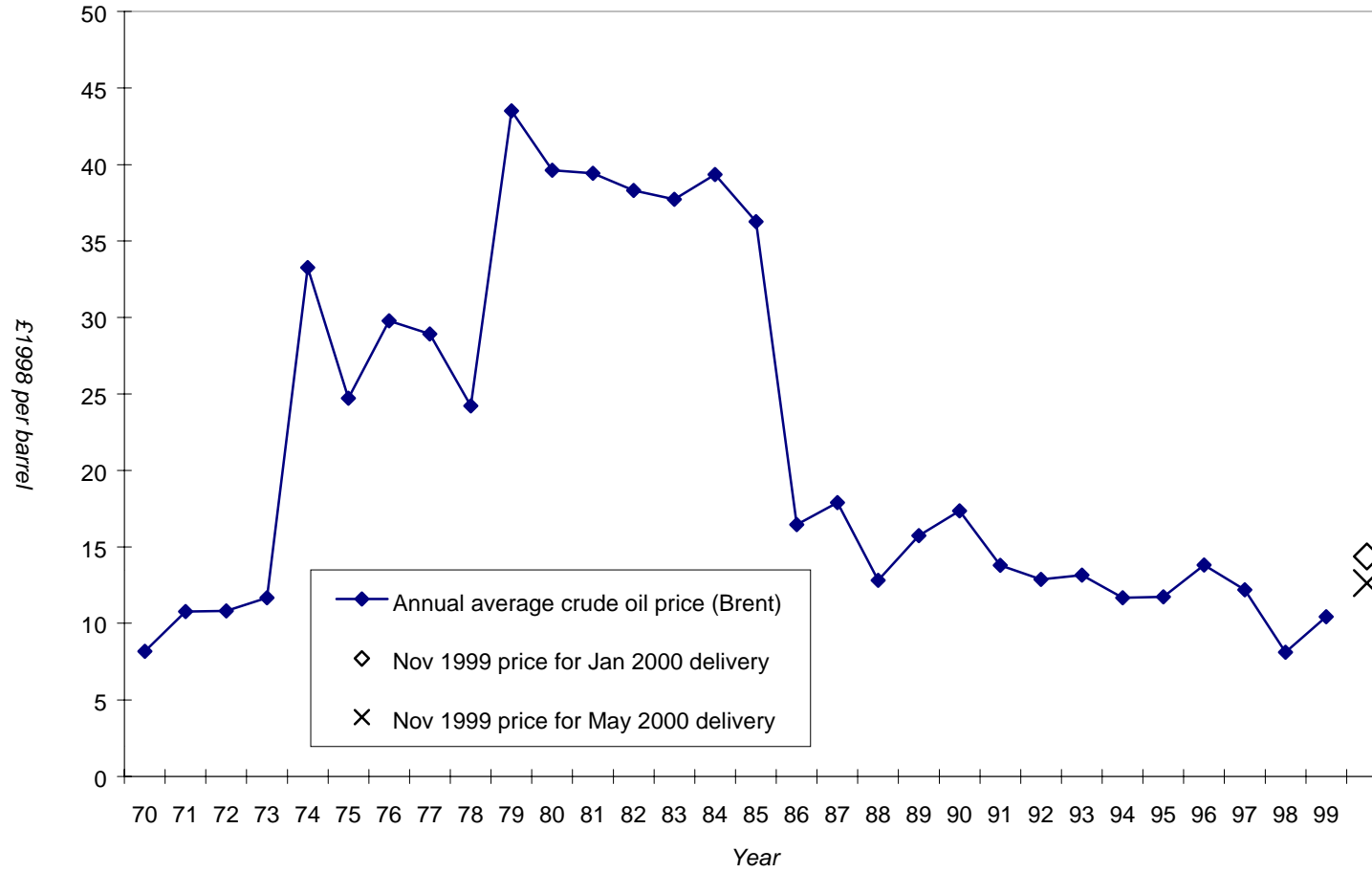
4.40. Market shares reflect helicopter operators' past success in winning contracts. Consequently the gain or loss of a major contract can have a significant effect on an operator's market share. Table 4.6 shows that Brintel's share in the Northern Zone has fallen considerably following the loss of its major contract with Shell in 1998. Bond's share of the Northern Zone has been between 20 and 25 per cent but can be expected to increase following its recent success in winning contracts from Bristow. Bristow had 50 to 60 per cent of the Northern Zone.

¹UKOOA survey of exploration and development expenditure (March 1999), DTI survey of capital expenditure (late summer 1998).

²Figures taken from 1992 report and adjusted by the RPIX index (retail prices excluding mortgage interest rates). The unadjusted figures are £126 million in 1989, £164 million in 1990 and £168 million in 1991.

FIGURE 4.3

Crude oil price in £, 1998



Source: DTI, FT.

4.41. In the Southern Zone, Brintel lost its only contract (with Shell) to KLM ERA in 1995 but KLM lost the contract to Bristow in 1998. Bond has consistently had the largest share of the Southern Zone.

	1994	1995	1996	1997	1998	Jan to Aug 1999
Northern Zone						
<i>Turnover (£m)</i>						
Brintel	33.1	40.9	38	39.3	27.3	8.1
Bond	28.5	27.9	27.3	25.4	27.8	17.4
Bristow	62.8	60.0	61.9	62.3	67.8	40.3
Total	124.4	128.8	127.2	127.0	122.9	65.8
<i>Market shares (%)</i>						
Brintel	27	32	30	31	22	12
Bond	23	22	21	20	23	26
Bristow	50	47	49	49	55	61
Total	100	100	100	100	100	100
Southern Zone						
<i>Turnover (£m)</i>						
Brintel	8.0	3.5	0.0	0.0	0.0	0.0
Bond	13.3	17.2	16.4	16.5	16.5	10.7
Bristow	4.9	7.4	7.3	6.3	8.7	5.9
KLM ERA*	0.0	4.0	5.2	5.0	2.6	0.0
Total	26.2	32.1	28.9	27.8	27.8	16.6
<i>Market shares (%)</i>						
Brintel	31	11	0	0	0	0
Bond	51	54	57	59	59	64
Bristow	19	23	25	23	31	36
KLM ERA*	0	12	18	18	9	0
Total	100	100	100	100	100	100
Total UKCS						
<i>Turnover (£m)</i>						
Brintel	41.1	44.4	38.0	39.3	27.3	8.1
Bond	41.8	45.1	43.7	41.9	44.3	28.1
Bristow	67.7	67.4	69.2	68.7	76.5	46.2
KLM ERA*	0.0	4.0	5.2	5.0	2.6	0.0
Total	150.6	160.9	156.1	154.9	150.7	82.4
<i>Market shares (%)</i>						
Brintel	27	28	24	25	18	10
Bond	28	28	28	27	29	34
Bristow	45	42	44	44	51	56
KLM ERA*	0	2	3	3	2	0
Total	100	100	100	100	100	100

Source: CHC, Bristow.

*51 per cent owned by KLM, 49 per cent by the parent of Era, which sold its shares to KLM in January 1998. The operation was subsequently acquired by Schreiner.

4.42. Figure 4.4 shows market shares for the whole of the UKCS. Bristow's share increased to 51 per cent in 1998 and 56 per cent in January to August 1999 following its gaining the Shell contract from Brintel; correspondingly, Brintel's share fell to 18 per cent in 1998 and 10 per cent in January to August 1999. Following Bristow's loss during 1999 to Bond of part of the BP contract and the Mobil contract, Bristow's share can be expected to fall to about 40 per cent.

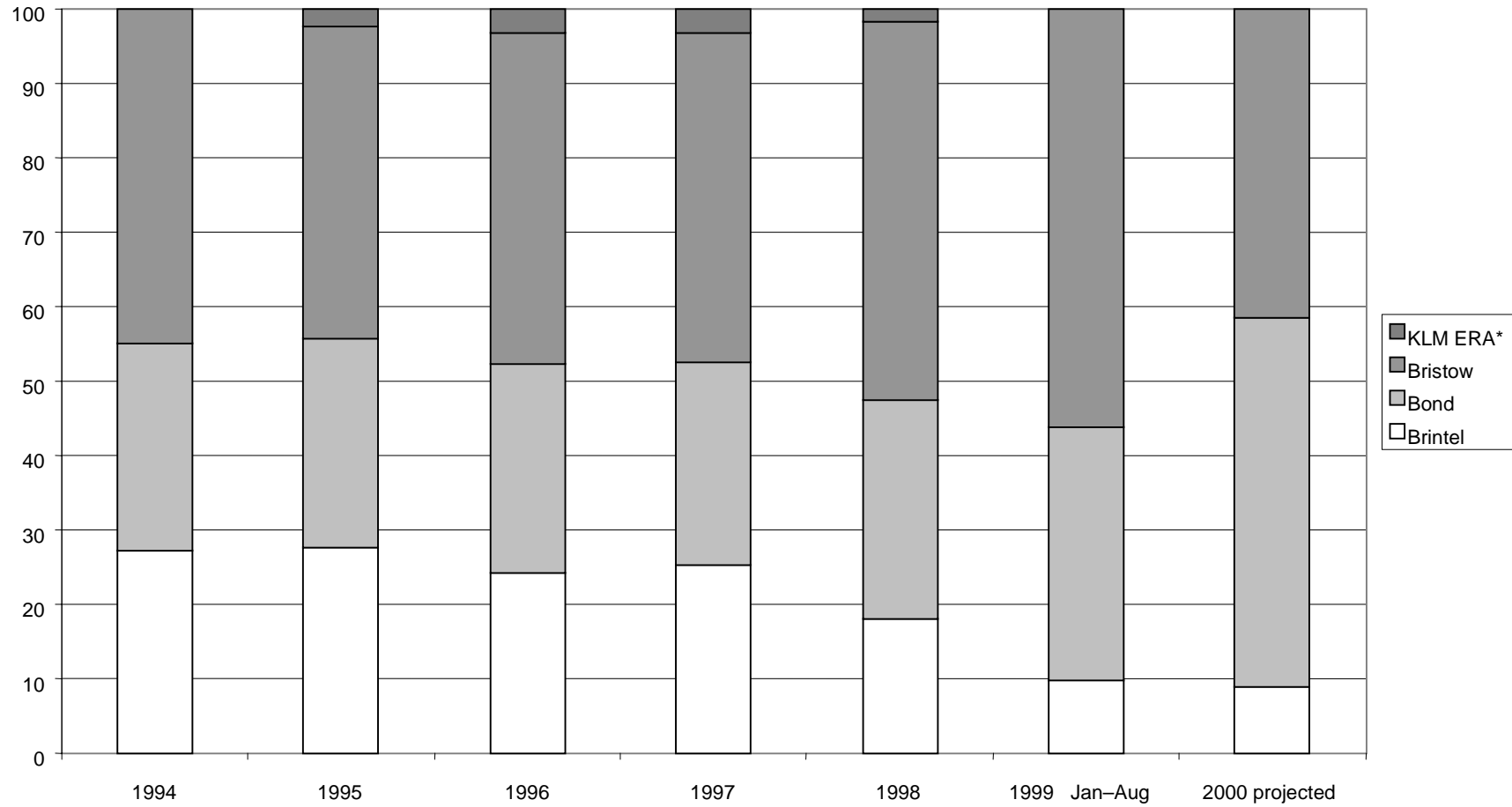
UKCS helicopter services over the longer term

4.43. Over the longer term, the history of the market may be summarized as follows:

- (a) In the early stages of the development of the UKCS, there were two main helicopter operators, BIH (subsequently renamed Brintel) and Bristow.
- (b) Bond entered the Southern Zone offshore market in 1972. In 1973, BIH and Bristow each had a share of about 45 per cent, while Bond had 5 per cent and another small company, British Executive Air Services (BEAS), also had 5 per cent.

FIGURE 4.4

Market shares of UKCS helicopter operators



Source: CC estimates in Table 4.5.

- (c) BEAS was acquired by Bristow in 1976.
- (d) During the early 1980s, Bond expanded into the Northern Zone as did a new entrant, British Caledonian Helicopters (BCH).
- (e) BCH made significant trading losses throughout its period of offshore operation and was acquired by Bristow in 1987.
- (f) BIH's share declined from about 40 per cent in 1982 to 20 per cent in 1991, in particular under the ownership of Robert Maxwell.
- (g) By August 1992 (at the time of the 1992 report) BIH had only one contract (with Shell), which would have accounted for about 15 per cent of the market. Following the management buyout and subsequent acquisition by CHC, it was successful in winning additional contracts and its share increased to 27 per cent in 1994 (see Table 4.6).

4.44. Thus, during the last 20 years there have been two new entrants into the UKCS (BCH and KLM ERA), both of which exited after a few years. The other main change has been the decline in market share of BIH and increase of Bond.

NWECS

4.45. Following the liberalization of the EEA aviation market (see paragraphs 4.7 to 4.9) it has become easier for helicopter operators based in one EEA country to enter other EEA markets. We have therefore also considered market shares for the whole of the NWECS. Table 4.7 summarizes turnover and market shares of helicopter operators in the whole of the NWECS. It should be noted that during 1999 Maersk lost its major Danish contract to Brintel and decided to exit from helicopter operations (see paragraph 4.47). Consequently, following the acquisition by Brintel of HSG/Bond, two companies will between them have about 95 per cent of the NWECS market (with Brintel/HSG/Bond having a larger share than Bristow/Norsk), with the remaining share of about 5 per cent held by Schreiner.¹

TABLE 4.7 Turnover and market shares of helicopter operators in NWECS, 1998

	UK	Norway	Denmark	Netherlands	Ireland	Total
<i>Turnover (£m)</i>						
Brintel	27.3	-	-	-	-	27.3
HSG/Bond	44.3	57.5	-	-	0.7	102.5
Bristow/Norsk*	76.5	20.5	-	2.5	-	99.5
Schreiner†	2.6	-	-	8.2	-	10.8
Maersk	-	-	18.9	-	-	18.9
Total	<u>150.7</u>	<u>78.0</u>	<u>18.9</u>	<u>10.7</u>	<u>0.7</u>	<u>259.0</u>
<i>Market shares (%)</i>						
Brintel	18	-	-	-	-	11
HSG/Bond	29	74	-	-	100	40
Bristow/Norsk*	51	26	-	16	-	38
Schreiner†	2	-	-	84	-	4
Maersk	-	-	100	-	-	7
Total	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>

Source: CHC, Bristow.

*Bristow owns 49 per cent of Norsk Helikopter AS.

†Formerly KLM ERA (see footnote to Table 4.6).

4.46. At the time of the 1992 report, there were three helicopter operators in Norway: the two smaller operators were subsequently acquired by HSG, but Norsk (Bristow's associate) has entered the Norwegian market. HSG acquired Bond in two stages in 1994 and 1996 and this represented a significant concentration in the NWECS.

¹Irish Helicopters recently won a small contract in Ireland with the helicopters and crew supplied by Schreiner.

4.47. Since 1994 helicopter operators with their main base in one country have had increasing success in winning contracts in other EEA countries. In particular, with Norwegian partners, Bristow set up Norsk as an associate and Bristow has also won a contract in the Netherlands; KLM ERA operated for a period in the UK (through a UK limited liability company subsidiary) and Brintel has recently won the major Danish contract (Maersk oil and gas) from Maersk's in-house helicopter operator. We were told also that Brintel has bid for a contract in the Netherlands and that Schreiner has bid for at least one contract in the Southern Zone.

Prices

4.48. The method of charging for helicopter services depends on the contract type (see paragraph 4.18). Sole-use (and some part-use) contracts have both a monthly standing charge (covering fixed costs such as crew costs, depreciation and return on capital) and an hourly flying charge (covering variable costs such as fuel and replacement parts). Pay-as-you-use, and other part-use, contracts have only an hourly charge, which covers all aspects of costs. Logistics and ancillary services may be covered by a separate charge or alternatively may be included in the main charges. The price of ad hoc helicopter services is determined either on the day taking account of market forces operating at the time and the availability of aircraft and crew or under framework agreements. In all cases, landing and navigation charges are passed on separately to the customer.

4.49. Table 4.8 shows the relative importance of the main charges to one operator (Bond). Ad hoc charges account for about [§] to [§] per cent of revenue; the proportion for Brintel was lower in the year to April 1998 (about [§] per cent) but increased considerably in the following year to about [§] per cent, probably reflecting the loss of the Shell contract in 1998 and the consequent increased availability of helicopters for ad hoc work.

TABLE 4.8 Bond's UKCS revenue

	<i>per cent of revenue for helicopter type</i>								
	<i>Medium helicopters</i>				<i>Total</i>	<i>Heavy helicopters</i>		<i>All</i>	
	<i>365N</i>	<i>365N2</i>	<i>S76A+</i>	<i>S76C</i>		<i>AS332L</i>	<i>AS332L2</i>		<i>Total</i>
<i>1998</i>									
Standing charges									
Flying charges									
Pay-as-you-use									
Ad hoc									
Total									
<i>Jan to Aug 1999</i>									
Standing charges									
Flying charges									
Pay-as-you-use									
Ad hoc									
Total									

Figures omitted. See note on page iv.

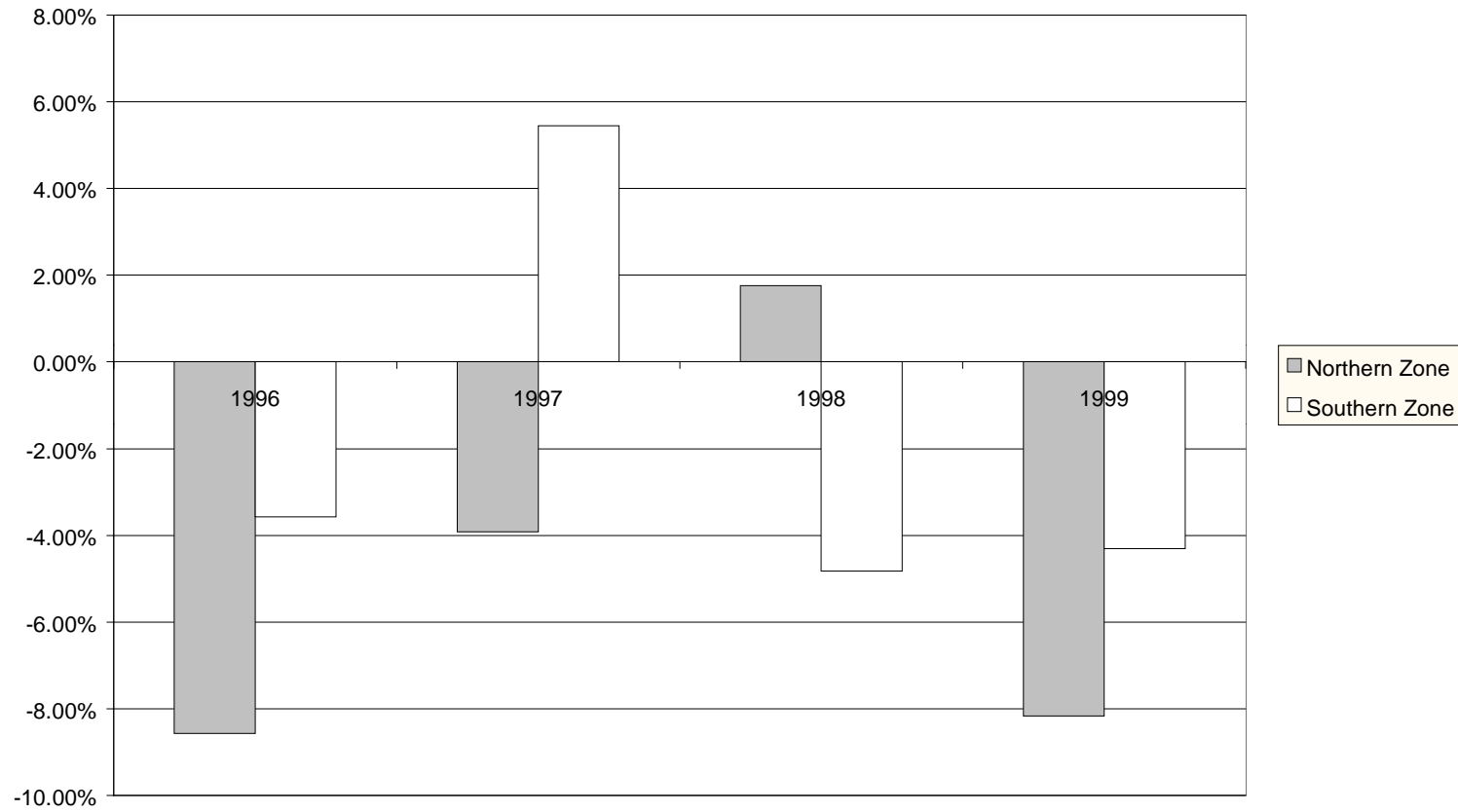
Source: CHC.

4.50. Because of the complexity of the pricing structure in helicopter contracts, it is difficult to measure precisely the change in price from year to year: we have used the change in total revenue per hour (excluding landing and navigation charges) for each customer as a measure. Table 4.9 shows recent trends in real average revenue per flight hour earned from various UKCS helicopter contracts. Revenue has been adjusted to 1998 prices using the retail price index. Table 4.9 suggests that there has been a tendency for revenue per hour to decline in real terms.¹ The trend decline in the last three to four years has been about 4 per cent in the Northern Zone and 2 per cent in the Southern Zone. Figure 4.5 illustrates the unweighted average year-on-year change in revenue per flying hour. It should be borne in mind that revenue per hour may be affected by changes in contract terms and the type of helicopter used as well as the prices charged. As noted elsewhere, recent pay-as-you-use contracts have imposed increased risk on the helicopter operator.

¹In nominal terms (ie before adjusting for the retail price index), revenue per hour was broadly constant, showing neither a trend increase or a trend decrease.

FIGURE 4.5

Average annual change in contract prices (revenue per flying hour)



Source: CC (Table 4.9).

TABLE 4.9 Revenue per hour at 1998 prices from UKCS helicopter contracts

Customer	Comment	£					Annual percentage change		
		1995	1996	1997	1998	1999	Trend 1995–99	Trend 1996–99	1999 on 1998
Northern Zone									
<i>Brintel customers</i>									
Elf									
Enterprise									
Talisman									
<i>Bond customers</i>									
Agip	Lost July 99								
BP									
Kerr McGee									
Phillips									
Rockwater									
Total									
<i>Bristow customers</i>									
Amerada									
Amoco	Lost Sep 99								
BP	Lost July 99								
Marathon									
Mobil	Lost July 99								
Chevron									
Oryx/GMISE									
Shell	Won 1998								
Shell Offshore									
Texaco									
Scatsta									
All Bristow customers									
Southern Zone									
<i>Bond customers</i>									
BP									
British Aerospace									
British Gas									
Conoco									
Phillips									
Rockwater									
<i>Bristow customers</i>									
Amoco	Lost Nov 99								
Arco									
Shell/NAM	Won 1998								
All Bristow customers (weighted average)									
<i>Unweighted average for all customers (%)</i>									
Northern Zone		-8.57	-3.92	1.76	-8.16	-3.72	-3.75	-8.16	
Southern Zone		-3.57	-5.45	-4.83	-4.30	-2.06	-2.34	-4.30	
Retail price index		92.1	94.8	97.4	100.0	102.1			

Figures omitted. See note on page iv.

Source: CHC, Bristow.

Notes:

1. Revenue per hour may be affected by changes in contract terms, type of helicopter used.
2. RPIX used excludes mortgage interest rates. 1999 figure is average for January to September.
3. Trend annual percentage changes calculated using ordinary least squares regression.

4.51. In its 1992 report, the MMC reported that it was told that the price of helicopter services in the UK was significantly lower than prices in other sectors of the North Sea (for example, the Norwegian and Dutch sectors). A comparison of Helikopter Service AS's average revenue per flying hour from its Norwegian contracts with that of Brintel and Bond from their UK contracts for 1995 to 1998 shows that prices were generally higher in Norway than the UK. A study by CHC's consultants (Lexecon Ltd) noted that the average cost of employing a pilot or an engineer was about twice as high in Norway as in the UK, albeit the difference declined from 2.18 times in 1995 to 1.84 times in 1998. Lexecon said that a comparison of prices needed to adjust for such cost differences. Lexecon compared a measure of gross

profits (revenue less salaries, fuel costs and direct maintenance costs) per flying hour and found that the average for Helikopter Service AS was similar to that for Brintel and Bond in the Northern Zone. Lexecon argued that during 1995 to 1998 the one important difference between the Norwegian sector and the Northern Zone of the UKCS was that there were only two operators with established bases in the Norwegian sector and three with established bases in the UKCS Northern Zone and that, as their analysis had found no evidence that gross profits were higher in the Norwegian sector, it was consistent with the view that a reduction in the number of UKCS Northern Zone suppliers with established bases from three to two would not lead to a rise in prices.