APPENDIX 1

(referred to in paragraph 2.17)

European Ferries Ltd's fleet (the fleet in 1981)

	Type of ship	*Speed (knots)*	*Year built*	*Passengers*	*Cars*	*Freight (metres)*
DOVER–CALAIS						
Pride of Free Enterprise	P/VF	23	1980	1,325	350	—
Herald of Free Enterprise	P/VF	23	1980	1,325	350	—
Spirit of Free Enterprise	P/VF	23	1980	1,325	350	—
DOVER–ZEEBRUGGE						
Free Enterprise VIII	P/VF	19½	1974	1,200	320	—
Free Enterprise VII	P/VF	19½	1973	1,200	280	—
Free Enterprise VI	P/VF	19½	1972	1,200	280	—
Free Enterprise V	P/VF	19½	1970	1,200	280	—
European Enterprise	F	19	1977	132	—	930
European Trader	F	19	1975	132	—	930
European Clearway	F	19	1975	132	—	930
SOUTHAMPTON/PORTSMOUTH–CHERBOURG/LE HAVRE						
Viking Valiant	P/VF	21	1974	1,327	300	—
Viking Venturer	P/VF	21	1974	1,327	300	—
Viking Victory	P/VF	19½	1964	940	180	—
Free Enterprise III	P/VF	19½	1966	1,200	250	—
Europic Ferry	F	18	1967	60	—	1,050
Viking Trader	F	17½	1971	12	—	555
FELIXSTOWE–ZEEBRUGGE						
Viking Voyager	P/VF	21	1975	1,200	300	—
Viking Viscount	P/VF	21	1975	1,200	300	—
FELIXSTOWE–ROTTERDAM (EUROPOORT)						
Nordic Ferry	F	18	1978	166	—	1,695
Baltic Ferry	F	18	1978	166	—	1,695
LARNE–CAIRNRYAN						
Free Enterprise IV	P/VF	19½	1969	1,200	280	—
European Gateway	F	17½	1974	320	—	1,095

Source: EFL

Notes:
P/VF Carrying passengers, accompanied tourist vehicles and road haulage freight vehicles (multi-purpose).
F Carrying road haulage freight vehicles only.

APPENDIX 2

(referred to in paragraph 2.31)

European Ferries Limited and its subsidiaries: capital employed

Historic cost basis	*At 31 December*				
	1976	*1977*	*1978*	*1979*	*1980*
	(£ million)				
Fixed assets					
Ships*	82·5	81·2	82·5	94·2	121·9†
Port equipment*	15·8	15·3	17·9	20·6	29·8†
Property—freehold & leasehold	5·2	5·2	8·6	11·4	13·3
Plant and machinery etc	3·4	2·6	2·6	3·3	3·1
	106·9	104·3	111·6	129·5	168·1
Investments	3·0	6·9	7·3	8·1	7·8
Net assets of the Singer and Friedlander Group					27·3‡
	109·9	111·2	118·9	137·6	203·2
Net current assets					
Property developments in progress	1·9	13·3	15·6	25·8	59·3
Other	13·4	19·2	17·6	14·5	9·0
	125·2	143·7	152·1	177·9	271·5
Financed by:					
Share capital	20·8	26·5	26·5	26·5	30·5
Reserves	23·8	49·6	66·5	87·9	126·5
Dividends payable	1·7	3·0	3·3	4·8	6·0
Less: Goodwill	(1·4)	(1·7)	(1·7)	(1·3)	(0·1)
	44·9	77·4	94·6	117·9	162·9
Long-term liabilities	76·0	62·9	53·7	48·4	77·7
Short-term loans and overdrafts				7·7	15·0
Minority interests	0·1	0·4	0·7	1·6	14·0
Investment grants	4·2	3·0	3·1	2·3	1·9
	125·2	143·7	152·1	177·9	271·5
Current cost accounting basis					
Net assets					324·7
Borrowings to shareholders' funds (historic cost) ratio	1·69	0·81	0·57	0·48	0·57

* Including capital work in progress.
†The Group published current cost accounting figures for the first time in 1980. The current cost figures for ships and port equipment at December 1980 were £158·6 million and £38·0 million respectively.
‡In October 1980 the company acquired, with cash raised through a placing of its shares, a 92·5 per cent interest in Ancomass Limited and its subsidiaries (the Singer and Friedlander Group).

APPENDIX 3

(referred to in paragraph 2.31)

European Ferries Limited and its subsidiaries: statement of source and application of funds

	Years to 31 December					
	1976 £m	*1977* £m	*1978* £m	*1979* £m	*1980* £m	*Cumulative 1976–80* £m
Source of funds						
Profit before tax including extraordinary items less minority interests	2·4	22·0	21·8	28·1	28·5	102·8
Depreciation	5·5	5·2	5·7	6·3	8·7	31·4
Exchange loss (profit) provision	12·9	(3·3)	2·2	(3·4)	(3·6)	4·8
Shares issued on acquisitions	6·0	14·6			23·3	43·9
Shares issued to minorities					6·5	6·5
Proceeds on disposal of fixed assets and investments	5·4	4·7	4·4	4·5	8·4	27·4
Other	(3·8)	2·3	1·6	2·0	7·3	9·4
	28·4	45·5	35·7	37·5	79·1	226·2
Application of funds						
Capital expenditure*	19·7	8·4	15·1	28·6	49·7	121·5
Fixed assets acquired on acquisitions	15·9	0·4				16·3
Net banking assets acquired					27·3	27·3
Dividends and A.C.T.	2·4	2·6	4·5	4·7	7·9	22·1
Investments	0·1	6·6	4·0	2·3	5·9	18·9
Working capital	(0·7)	8·8	6·7	14·7	24·0	53·5
	37·4	26·8	30·3	50·3	114·8	259·6
Surplus/(deficit)	(9·0)	18·7	5·4	(12·8)	(35·7)	(33·4)
Financed by:						
Increase in long term loans	26·2	5·1	8·2	14·4	44·8	98·7
Less: long term loans repaid	(10·1)	(14·9)	(19·5)	(16·4)	(11·9)	(72·8)
	16·1	(9·8)	(11·3)	(2·0)	32·9	25·9
Decrease/(increase) in cash and short term deposits	(7·1)	(8·9)	5·9	14·8	2·8	7·5
	9·0	(18·7)	(5·4)	12·8	35·7	33·4

*Net of investment grants.

APPENDIX 4

(referred to in paragraph 3.11)

Sealink routes: frequency and duration

Passenger services	*Approximate number of sailings each way*	*Duration of crossings*
Dover–Calais	12 daily	1½ hrs
Dover–Boulogne	5 daily	1¾ hrs
Dover–Dunkirk	6 daily	2 hrs 20 mins
Folkestone–Calais	3 daily	1 hr 50 mins
Folkestone–Boulogne	3 daily	1¾ hrs
Newhaven–Dieppe	6 daily	4 hrs
Weymouth–Cherbourg (summer only)	2 daily	3 hrs 55 mins (day), 4 hrs 25 mins (night)
Dover–Ostend (ship)	15 daily	3 hrs 20 mins–3 hrs 50 mins
Dover–Ostend (jetfoil)	6 daily	1 hr 40 mins
Folkestone–Ostend	3 daily	4¼ hrs
Harwich–Hook of Holland	2 daily	6½ hrs (day) 7¼ hrs (night)
Holyhead–Dun Laoghaire	5 daily (3 in low season)	3½ hrs
Fishguard–Rosslare	2 daily (1 on winter Sundays)	3 hrs 40 mins
Stranraer–Larne	8 daily (5 in low season)	2¼ hrs
Weymouth–Jersey/Guernsey	2 daily (3 per week in low season)	7 hrs Jersey, 4½ hrs Guernsey
Portsmouth–Jersey/Guernsey	1 daily (no Saturday service in low season)	9 hrs 20 mins Jersey, 7 hrs Guernsey
Heysham–Douglas	2 daily (8 per week in low season)	4 hrs (day) 6¼ hrs (night)
Portsmouth–Fishbourne	28 daily average (24 in low season)	¾ hr
Lymington–Yarmouth	21 daily average (15 in low season)	½ hr
Portsmouth–Ryde	16 daily average (10 in low season)	25–30 mins
Freight services		
Harwick–Zeebrugge (container)	7 weekly	8 hrs
Harwich–Zeebrugge (train ferry)	3 daily	7 hrs
Harwich–Dunkirk (train ferry)	3 weekly	6 hrs 50 mins
Holyhead–Belfast (container)	1 daily	8 hrs 50 mins
Holyhead–Dublin (container)	1 daily	4 hrs 50 mins

Source: Sealink Information 1981

APPENDIX 5

(referred to in paragraph 3.12)

Sealink UK Ltd's fleet (the fleet at September 1981)

	Type	*Service speed (knots)*	*Year built*	*Passengers*	*Cars*	*Freight (tonnes)*	*RHV freight space (metres)*
DOVER/FOLKESTONE–CALAIS/BOULOGNE, FOLKESTONE–OSTEND							
St Anselm	P/VF	19½	1979	1,000	309	—	780
St Christopher	P/VF	19½	1980	1,000	309	—	780
Hengist	P/VF	19½	1972	1,400	217	—	366
Horsa	P/VF	19½	1972	1,400	217	—	366
Vortigern	P/VF/TF	19½	1969	1,400	240	840	366
Caledonian Princess†	P/VF	19½	1961	1,400	120	—	134
DOVER–DUNKIRK							
*Saint Eloi**‡	TF/C/P	19½	1974	1,000	160	—	366
NEWHAVEN–DIEPPE							
Senlac	P/VF	19½	1973	1,400	217	—	366
WEYMOUTH–CHERBOURG (Summer Service)							
Maid of Kent†	P/VF	19½	1959	1,000	180	—	159
HARWICH–HOOK OF HOLLAND							
St George	P/VF	21	1968	1,200	220	—	210
St Edmund	P/VF	21	1974	1,400	252	—	387
HARWICH–ZEEBRUGGE (Container)							
Sea Freightliner I	C	13½	1968	—	—	3,000	—
Sea Freightliner II	C	13½	1968	—	—	3,000	—
HARWICH–ZEEBRUGGE/DUNKIRK (Train Ferry)							
Speedlink Vanguard	TF/C	17	1973	12	—	—	—
Essex Ferry	T/C	13½	1957	12	—	1,770	351
Norfolk Ferry	TF/C	13½	1951	12	—	1,770	351
Cambridge Ferry	TF/C	13½	1963	12	—	879	354
STRANRAER–LARNE							
Galloway Princess	P/VF	18½	1979	1,000	309	—	744
Antrim Princess§	P/VF	19½	1967	1,200	155	593	348
Ailsa Princess	P/VF	19½	1971	1,200	200	600	326
Darnia	VF	17½	1977	75	—	—	915
HOLYHEAD–DUN LAOGHAIRE							
St David	P/VF	19½	1981	1,000	309	—	386
St Columba	P/VF	19½	1977	2,400	334	—	434
FISHGUARD–ROSSLARE							
Stena Normandica	P/VF	17½	1974	1,200	470	—	—
HOLYHEAD–BELFAST/DUBLIN (Container)							
Brian Boroime	C	14½	1970	—	—	2,476	—
Rhodri Mawr	C	14½	1970	—	—	2,476	—
HEYSHAM–DOUGLAS							
Manx Viking	P/VF	18	1976	800	225	—	—
WEYMOUTH–JERSEY/GUERNSEY							
Earl Godwin	P/VF	19	1966	1,000	185	—	165
Earl William	P/VF	18	1964	1,000	180	—	260

APPENDIX 5—*Continued*

(referred to in paragraph 3.12)

Sealink UK Ltd's fleet (the fleet at September 1981)—Continued

	Type	*Service speed (knots)*	*Year built*	*Passengers*	*Cars*	*Freight (tonnes)*	*RHV freight space (metres)*
PORTSMOUTH–GUERNSEY/JERSEY							
Earl Granville	P/VF	19	1973	1,200	233	—	360
PORTSMOUTH/LYMINGTON–ISLE OF WIGHT							
Brading	P	12	1948	1,331	—	—	—
Southsea	P	12	1948	1,331	—	—	—
Freshwater	P/VF	9	1959	620	26	—	68
Fishbourne	VF	9	1961	175	36	—	74
Camber Queen	VF	9	1961	175	36	—	74
Cuthred	P/VF	9	1969	400	48	—	136
Caedmon	P/VF	9	1973	756	76	—	142
Cenwulf	P/VF	9	1973	756	76	—	142
Cenred	P/VF	9	1973	756	76	—	142
WINDERMERE							
Swan	P	11	1938	616	—	—	—
Swift	P	11	1900	724	—	—	—
Teal	P	11	1936	612	—	—	—
Tern	P	11	1891	608	—	—	—
TILBURY–GRAVESEND FERRY							
Catherine	P	9¼	1961	475	—	—	—
Edith	P	9¼	1961	475	—	—	—

Source: BRB

Notes:

P/VF Passenger and vehicle ferry
TF Train ferry
C Container ship
RHV Road haulage vehicle
• Owned by ALA
† Taken out of service end September 1981. The *Maid of Kent* will be replaced by the *Ailsa Princess* for the 1982 summer season
‡ Flies the French flag
§ Currently undertaking annual survey relief work on a number of routes

APPENDIX 6

(referred to in paragraph 3.36)

Sealink UK Ltd and its subsidiaries: capital employed

	At 31 December				
Historic cost basis	*1976*	*1977*	*1978*	*1979*	*1980*
	£m	*£m*	*£m*	*£m*	*£m*
Assets employed					
Fixed assets					
Ships and other craft					
Owned—in service	37·1	60·9	62·0	58·3	53·0
—under construction	15·1				
Leased*—in service			18·3	16·8	44·1
—under construction			17·2	45·6	30·9
Plant and Equipment	2·6	2·5	3·5	6·3	8·5
Buildings and other works	19·3	20·7	23·4	28·4	30·1
	74·1	84·1	124·4	155·4	166·6
Investments	1·4	1·4	1·4	1·6	1·6
Net current assets	(2·2)	1·4	(0·5)	4·9	0·3
	73·3	86·9	125·3	161·9	168·5
Financed by:					
Share capital				34·0	34·0
Reserves		0·9	0·9	6·8	4·0
Amount due to parent body	59·6	55·7	63·5	11·3	17·6
Loan stock†				26·0	26·0
Loans—external	13·1	28·8	28·4	21·7	15·2
Leasing liabilities			30·4	62·1	71·7
Bank loans and overdrafts	0·6	1·5	2·1		
	73·3	86·9	125·3	161·9	168·5

* The capital cost of ships leased for their whole useful lives (including ships under construction where a leasing agreement has been made) is included in fixed assets with a corresponding liability within leasing liabilities.
† The loan stock which is held by BRB is unsecured and bears interest at 9·75 per cent per annum.

APPENDIX 7

(referred to in paragraph 3.36)

Sealink UK Ltd and its subsidiaries: statement of source and application of funds 1976–80

	Years ended 31 December					
	1976 £m	*1977* £m	*1978* £m	*1979* £m	*1980* £m	*Cumulative 1976–80* £m
Source of funds						
Profit (loss) after interest*, extraordinary items and tax	(1·2)	9·1	12·2	6·0	(2·8)	23·3
Depreciation—shipping	4·2	5·4	6·2	7·1	8·0	30·9
—harbours	0·7	0·8	0·8	1·0	1·2	4·5
Other				(0·9)	(1·2)	(2·1)
	3·7	15·3	19·2	13·2	5·2	56·6
Application of funds						
Purchase of fixed assets†						
—shipping	10·8	9·1	35·9	33·8	19·7	109·3
—harbours	2·8	0·9	4·3	4·8	2·7	15·5
Working capital	(5·8)	2·3	(1·9)	7·0	(4·6)	(3·0)
	7·8	12·3	38·3	45·6	17·8	121·8
Surplus (deficit)	(4·1)	3·0	(19·1)	(32·4)	(12·6)	(65·2)
Financed by						
Increase in loans	0·5	20·0	4·5			25·0
„ „ leases			31·8	29·1	14·8	75·7
Less: repayment of loans	(2·7)	(4·2)	(5·0)	(5·6)	(5·7)	(23·2)
„ „ leases			(1·4)	(1·6)	(5·2)	(8·2)
	(2·2)	15·8	29·9	21·9	3·9	69·3
Decrease (increase) in cash	(0·5)	(0·4)	0·7		0·2	
Parent body—increase (decrease)	6·8	(18·4)	(11·5)	10·5	8·5	(4·1)
	4·1	(3·0)	19·1	32·4	12·6	65·2

* Interest not charged in 1976–78.
† Includes capitalised value of leased assets.

APPENDIX 8

(referred to in paragraph 4.6)

The SCPR survey of car-accompanied cross-Channel traffic

The aim of the SCPR survey which was commissioned by the Department of Transport was to provide information on car-accompanied cross-Channel traffic to enable estimates to be made of its likely diversion from existing services to a tunnel or other new facility.

Information was collected in two stages (August–October 1979 and March–April 1980) from travellers departing from all United Kingdom ports between Felixstowe and Plymouth (inclusive) on car carrying services to the Continent with the exception of Ramsgate Hoverport, where the operator, Hoverlloyd, declined to co-operate. The survey aimed at a sampling fraction of 5 or 10 per cent depending on circumstances. Nearly 15,000 usable questionnaires were returned representing a response rate of over 75 per cent. It was estimated that about 40 per cent of the annual total of cross-Channel car-accompanied journeys were made in the two periods covered by the survey.

Amongst the topics covered in the questionnaire were the travellers' origins and destination, their journey purpose and duration, and whether or not they were United Kingdom residents.

We made use of both the published report of the survey and unpublished tabulations made available to us by SCPR with the agreement of the Department of Transport showing the origins and destinations of travellers who passed through certain ports or groups of ports. Their origins and destinations were grouped into zones (in the United Kingdom: Greater London, Southern Home Counties, Northern Home Counties, South West, North and Scotland, East Midlands, West Midlands and Wales, and Northern Ireland; on the Continent: seven regions of France, Belgium, Holland, West Germany and Scandinavia, South Germany, Austria and NE Italy, Switzerland and the remainder of Italy, and Iberia). We correlated the elements of the origin-destination matrices between each pair of ports or groups of ports. We also produced frequency distributions of the shares of total traffic between the eight United Kingdom and 14 Continental origin and destination zones identified (112 zone-to-zone flows in all) gained by each of the ports or groups of ports. The analyses supported conclusions in paragraph 4.6 on the nature of inter-route competition.

APPENDIX 9

(referred to in paragraph 4.23)

Inland origins and destinations of UK international trade

In 1978 a survey of the inland origins and destinations of the United Kingdom international trade was carried out by HM Customs and Excise for the Department of Transport with assistance from the National Ports Council. The survey was concerned with trade through seaports, in goods other than fuel. A sample was taken of some 80,000 of the file of entries made during 1978 on HM Customs and Excise import and export documents for the control and monitoring of international trade. For each sampled item, a copy of the entry was sent to the trader or agent, with a questionnaire seeking data about inland origin and destination, mode of transport used, and foreign port of shipment. A complete description of the movement of the item was obtained by combining the information from the questionnaire with the data already supplied on Customs documents. The sample was designed to provide estimates of flows of over 20,000 tonnes with an acceptable level of precision, and particular emphasis was placed on flows of containerisable goods. The sampling frame excluded those items of no consequence to inland movements of trade, such as sea dredged sand and gravel, ships, boats, and consignments through Channel Islands ports, as well as air trade and trade in fuel. In tonnage terms, the coverage of the sample was 55 per cent of United Kingdom imports and 43 per cent of exports in 1978.

We made use of both the published report of the survey and unreported tabulations (showing trade through Continental ports) made available to us by the Department of Transport, which we used to support the findings in paragraph 4.26. The report, entitled 'Inland Origins and Destinations of UK International Trade', was published in 1980 by the Department of Transport and the National Ports Council.

APPENDIX 10

(referred to in paragraph 5.11)

Foot passengers—shares of the operators in ferry excursion traffic (1980)

Sector	*Operator*	*Route*	*000s passengers*		*% share*	
North Sea	EFL	Felixstowe–Zeebrugge		46		2
	Sealink	Harwich–Hook of Holland	Not available but very small			
Belgian Straits	Sealink	Dover–Ostend (mostly RTM)	Not available			
	P&O Jetferries*	London–Ostend		80		3
	EFL	Dover–Zeebrugge		450† (approx)		15
French Straits	EFL	Dover–Calais				
	Sealink UK	(Dover/Folkestone–Calais/ Boulogne and Dover–Dunkirk)	680		23	
	SNCF	(Dover/Folkestone–Calais/ Boulogne and Dover–Dunkirk)	300		10	
	Sealink total	(Dover/Folkestone–Calais/ Boulogne and Dover–Dunkirk)		980		33
	P&O	Dover–Boulogne		480		16
	Seaspeed	Dover–Boulogne/Calais		240		8
	Hoverlloyd	Ramsgate–Calais		160		5
Brighton/ Newhaven Dieppe	Sealink UK	Newhaven–Dieppe	85		3	
	SNCF	Newhaven–Dieppe	170		6	
	Sealink total	Newhaven–Dieppe		255		9
	Seajet* Brighton–Dieppe			125		4
Western Channel	EFL	Southampton/Portsmouth–Le Havre/Cherbourg)		59		2
	Sealink UK	Weymouth–Cherbourg	25		1	
	SNCF	Weymouth–Cherbourg	25		1	
	Sealink total	Weymouth–Cherbourg		50		2
	P&O	Southampton–Le Havre		35		1
			Total	2,960		

Source: MMC study.

* The figures for the two jetfoil services include a small number of 'through passengers'.
† Estimated by EFL.

APPENDIX 11

(referred to in paragraph 5.36)

Load factor variations on Anglo-Continental ferry services

In this appendix we specify a model of shipping operator behaviour and use it to examine inter-route variations in load factors on Anglo-Continental ferry services. We also examine whether variations in the traffic mix between routes may also contribute to observed inter-route differences in load factors.

The model

A model of shipping operator behaviour which can produce predictions about the relationship between load factors (F) and route length (L) may be specified in the following way:

We may define F_i such that:

(1) $F_i = Q_i/S_i$

where Q_i = quantity of vehicles carried (in PCUs) on route i
S_i = shipping capacity provided (in PCUs) on route i

and assume that:

(2) $Q_i = f(P_i,S_i)$

where P_i = price (or revenue yield) per vehicle on route i.

We further assume that, over the relevant range, demand for route i can be written as:

(3) $Q_i = k_i P_i^a S_i^b \quad (a < o, b > o)$

where k_i is a route specific constant reflecting the accessibility etc of route i. If P_i is fixed exogenously (for example, by the decisions of a shipping harmonisation conference), then:

$$P_i = P_i^*$$

Shipping costs on route i (SC_i) vary with vehicles carried (Q_i) and with capacity provided (S_i). We assume a linear relationship of the form:

(4) $SC_i = X_iQ_i + Y_iS_i$

With P_i determined, the operator seeks to maximise profit on route i, equal to:

(5) $PR_i = P_i^*Q_i - X_iQ_i - Y_iS_i$

by choosing the amount of shipping capacity on offer.

The first order condition for a maximum may be expanded to give:

(6) $$F_i = \frac{1}{b}\left(\frac{Y_i}{P_i^* - X_i}\right)$$

Expression (6) tells us that the profit maximising load factor is inversely related to b, the elasticity of demand with respect to shipping capacity on offer (which we may take as a proxy for sailing frequency), and to the difference between revenue yield per vehicle (P_i^*) and marginal vehicle-related cost (X_i). F_i also varies directly with the marginal cost of providing shipping capacity.

Inter alia, the presence of the second term $Y_i/(P_i^* - X_i)$ helps to explain why the load factors of hovercraft services are higher than those of shipping services on Anglo-French short-sea routes, since the revenue yields per vehicle differ little between the two modes, but the hovercraft operators face higher marginal costs per unit of vehicle carrying capacity.

The presence of the first term $(\frac{1}{b})$ also suggests that load factors will tend to be lower the larger the number of operators on a route (if we further assume that the responsiveness of total demand to changes in capacity is less than the responsiveness of each operator's share to changes in his capacity). This is because unless each individual operator assumes that any increase in capacity will be instantly matched by his competitors, a unilateral increase in capacity will enable him to gain traffic from other operators, as well as increasing total traffic by raising the total capacity on offer. The existence of a larger number of competing services on Anglo-French short-sea routes than on other Anglo-Continental routes is therefore one factor which may explain some of the observed differences in load factors.

Expression (6) may also be used to examine how variation in route length (L_i) may affect load factors. As shown in paragraphs 5.33–5.35, shipping capacity costs (Y_i) and revenue (P_i^*) per vehicle vary systematically with route length. A major element in the cost related to vehicles carried (X_i) is the harbour dues and charges which are usually levied on a per vehicle basis; we assume that X_i is independent of route length.

The derivative of F_i with respect to L_i can be expanded to yield the condition that:

$$(7) \qquad \frac{dF}{dL_i} \gtrless o \text{ as } e(Y_i: L_i) \gtrless e\{(P_i^* - X_i): L_i\}$$

where $e(Y_i : L_i)$ = elasticity of unit shipping cost with respect to route length

$e((P_i^* - X_i): L_i)$ = elasticity of vehicle revenue minus vehicle related costs with respect to route length.

The estimates in paragraph 5.34 suggests that $e(Y_i:L_i)$ may be of the order of 0.6–0.75. It follows that if, as is almost certainly the case, X_i is small relative to P_i^*, then the derivative in expression (7) will be strongly positive. In effect the stronger competitive position of the short-sea routes puts less pressure on the operators to achieve high load factors.

Load factors and the traffic mix

Other things being equal, we would expect operators on routes where traffic was seasonal to achieve lower annual load factors, if the operators were unable to match fully the variations in demand over the year in their schedules. We examined the relationship between the ratio of traffic levels in two peak summer months (July and August) to the levels in two low season months (December and January) and the ratio of ship crossings in the two periods. In general we found that the higher the degree of seasonal variation of traffic, the greater is the variation in the number of crossings. However, the data suggest that the adjustments are insufficient to match large seasonal variational in traffic. This may be because there is a minimum sailing frequency if a service

is to be provided at all; this would affect longer routes with a low summer peak sailing frequency in particular.

As accompanied tourist vehicle traffic is much more seasonal than freight traffic, a route with a higher proportion of tourist vehicle traffic might be expected to have a lower load factor, other things being equal. However, differences in traffic mix may also affect intra-seasonal traffic patterns and hence load factors. The operators told us, for example, that road hauliers prefer to use night crossings so as to leave their origin and arrive at their destination during day time and thus reduce the cost of loading/unloading. The daily pattern of freight traffic is also uneven. Outward crossings to Germany, for example, are rarely made on Friday nights because of restrictions on road haulage movements at weekends. In contrast, tourist vehicle traffic peaks at weekends and, other things being equal, day time crossings are preferred (at least on the shorter routes). Since ship ferry operators rarely vary their sailing patterns within seasons, differences in traffic mix might account for variations in intra-season load factors. In general a more even mix, in PCU terms, between tourist vehicles and commercial vehicles should make possible a higher overall seasonal load factor. Routes where night sailings are the premium crossing for both tourist and freight traffic can be expected to have lower load factors, although development of more differentiated fare structures may significantly modify this tendency.

In aggregate we do not believe that variations in the traffic mix *per se* contribute significantly to the systematic variation in load factors between Anglo-French short-sea and longer routes shown in Table 5.12. However, variations in traffic mix may account for some of the variations in load factor within the group of longer routes. We would judge that, in general, differences in the number of operators and in the competitive strengths of different routes are the major sources of observed variation in load factors on Anglo-Continental routes rather than variations in traffic mix.

APPENDIX 12

(referred to in paragraph 6.3)

Other ferry operators

Operator	*Route*	*Type of service*
British and Irish Steam Packet Co Ltd	Liverpool–Dublin	MP & Jetfoil
	Pembroke–Cork	MP
	Pembroke–Rosslare	MP
Bell Lines Ltd*	Newport–Radicatel	LO/LO
	Teesport–Radicatel	LO/LO
	London–Rozenburg	LO/LO
	Newport–Rozenburg	LO/LO
	Teesport–Rozenburg	LO/LO
	Newport–Waterford	LO/LO
Bretagne Angleterre Irlande SA (Brittany Ferries)	Portsmouth–St Malo	MP
	Plymouth–Roscoff	MP
British Rail Hovercraft Ltd	Dover–Calais	Hovercraft
	Dover–Boulogne	Hovercraft
Cobelfret (UK) Ltd	Harwich–Antwerp	RO/RO
Containerway and Roadferry Ltd*	Garston–Belfast	LO/LO
	Garston–Dublin	LO/LO
Geest North Sea Line Ltd	Ipswich–Rotterdam (Europoort)	LO/LO
Hoverlloyd Ltd	Ramsgate–Calais	Hovercraft
Hovertravel Ltd	Southsea–Ryde	Hovercraft
Isle of Man Steam Packet Company Ltd	Liverpool–Douglas	MP
Irish Sea Ferries Ltd	Garston–Belfast	LO/LO
Lovell Line Ltd	Ipswich–Flushing	LO/LO
Norfolk Line Ltd*	Great Yarmouth–Scheveningen	RO/RO
North Sea Ferries Ltd	Hull–Zeebrugge	MP
	Hull–Rotterdam (Europoort)	MP
	Ipswich–Rotterdam (Europoort)	RO/RO (Joint service with P&O European Transport Services)
Olau Line	Sheerness–Flushing	MP
P&O European Transport Services Ltd*	Ardrossan–Belfast	RO/RO
	Fleetwood–Larne	RO/RO
	Liverpool–Larne	RO/RO
	Fleetwood–Dublin	RO/RO (Joint service with British and Irish Steam Packet Co Ltd)
P&O Ferries Ltd	Dover–Boulogne	MP
	Southampton–Le Havre	MP
	Liverpool–Belfast	MP
Southampton, Isle of Wight and South of England Royal Mail Steam Packet Co Ltd ('Red Funnel' Line)	Southampton–Cowes	MP and Hydrofoil
ROTO Line Ltd	Hull–Zeebrugge	RO/RO (Joint services with
	Immingham–Zeebrugge	RO/RO Cobelfret)
Sally Line Ltd	Ramsgate–Dunkirk	MP

APPENDIX 12—*Continued*

(referred to in paragraph 6.3)

Other ferry operators

Operator	*Route*	*Type of service*
Societe d'Armement et de Navigation Charles Schiaffino	Dover–Ostend	RO/RO
	Shoreham–Dieppe	RO/RO
Tor Lloyd Ltd	Immingham–Rotterdam (Europoort)	RO/RO
Truckline Ferries France S.A.	Poole–Cherbourg	RO/RO
The Continental Sealink Partners		
Societe Nationale des Chemins de Fer Francais	Dover/Folkestone–Calais/Boulogne	MP
	Dover–Dunkirk	MP
	Newhaven–Dieppe	MP
	Felixstowe–Dunkirk†	RO/RO + LO/LO
Regie des Transports Maritimes	Dover/Folkestone–Ostend	MP, Jetfoil and passenger only
Stoomvaart Maatschappij Zeeland	Harwich–Hook of Holland	MP

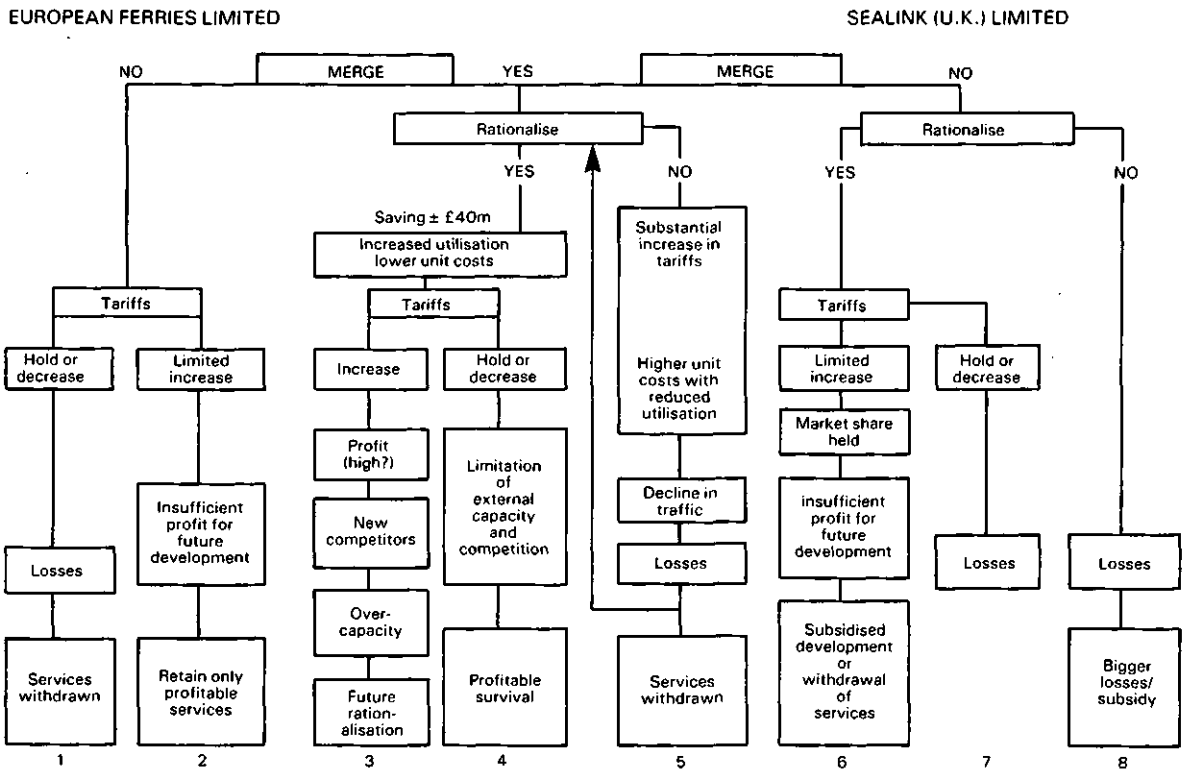
Source: Monopolies and Mergers Commission.

Notes:
MP—Multi-purpose.
RO/RO—Roll on/Roll off freight only.
LO/LO—Lift on/Lift off freight only.
*Integrated door to door service.
†Route not pooled with Sealink UK.

APPENDIX 13

(Referred to in paragraph 7.4)

European Ferries Ltd's flow chart: merger v alternatives



Source: EFL.

Printed in England for Her Majesty's Stationery Office by Brown Knight & Truscott Ltd. London and Tonbridge
Dd 164028 C20 12/81 3361