COMMISSION OF THE EUROPEAN COMMUNITIES

COM(85) 548 final

Brussels, 22 October 1985

Report from the Commission to the Council

ON THE STATE OF THE SHIPBUILDING INDUSTRY IN THE COMMUNITY

(Situation at the beginning of 1985)

COM(85) 548 final

REPORT ON THE STATE OF THE SHIPBUILDING INDUSTRY IN THE COMMUNITY

(Situation at the beginning of 1985)

1. Introduction

The Council Resolution of 19 September 1978¹ calls on the Commission to submit periodic reports on the state of the shipbuilding industry. This is the Commission's seventh such report. Like the previous ones², it seeks to outline the current situation in, and prospects for, the shipbuilding market.

As expected, the situation in the shipbuilding industry was just as unfavourable in 1984 as it had been in 1983. Although the recession in shipping came to an end, the improvement was not enough to generate any growth in orders. The persistent and substantial overcapacity in virtually every sector of the world fleet continued to disrupt the market.

The industries of the world's two leading shipbuilding countries slightly relaxed their pressure on the market; the Community's industry was able to win back part of the market share lost in 1983. Nonetheless, price levels remain the crucial problem since the pressure from the Japanese and Korean shipbuilders as market leaders keeps prices extremely low, and this constitutes the biggest worry for the European shipbuilding industry.

¹OJ N° C 229, 27.9.1978.

²Supplement 7/79 to the Bulletin of the European Communities; COM(8D)443 final; COM(81)432 final; COM(82)564 final; COM(83)483 final; COM(84)550 final. Against this background, Community yards were forced to continue with the adjustments which they have been making for almost ten years. The new wave of reorganization, closures and redundancies that began in 1983 continued throughout 1984, and in many cases the authorities were forced to keep up their aid in order to prevent the consequences becoming too serious. Social criteria thereby continued to prevail at times over economic criteria, depending on the circumstances.

These conditions also played a part in the decision, at the end of 1984 to extend the EEC Directive on aid to shipbuilding¹ for a further two years and to defer phasing out such aid. Another consequence of this phenomenon is that the efforts to concentrate on making the industry more efficient and to spread the burden of the crisis more evenly worldwide must continue.

2. General economic background

The general improvement in economic activity which took place in 1983 was further consolidated in 1984. GDP in the OECD countries grew by 4.5%, for example. Production volume followed much the same pattern.

According to the latest Commission forecasts, the recovery is likely to slow down in 1985, when GDP is expected to rise by 3.1% in the OECD countries and perhaps by slightly more worldwide. World trade (based on imports) is set to grow by 5.6% in 1985, slowing down from the 9.5% increase in 1984. 「からこうないない」のないというないできないというできないできょうでいいいいいいい

¹0J L 2, 3.1.1985

This revival of economic activity was less strong in the Community than in the rest of the OECD. GDP in the Community grew by 2.4% in 1984, the same as expected for 1985.

Consequently, growth rates have been relatively modest when set against the assumptions on which the decisions to expand fleets so substantially were based. Although some improvement of market conditions is expected, the resulting overcapacity is still putting so much pressure on the shipping market that it will take time to restore the balance.

3. Trends in shipping

The post-1980 decline in virtually every sector of the shipping market finally ended in 1984, but the market remained stagnant, mainly because shipping capacity was still substantially above demand. Despite a 5.7% increase over the 1983 levels, the tonnage carried by sea in 1984 was still 12% below the record levels achieved in 1979; fleet utilization rate in tonne-miles rose by no more than 3.8% in 1984, remaining 25% lower than in 1979 and 15% lower than in 1973. Voyage distances were shorter, partly because of lower oil imports from distant sources of supply and partly because much of the increase in demand for shipping services was due to greater trade between the industrialized countries. At the same time, fleet tonnage levels remained the same which, generally, made it impossible to raise freight rates from the disastrous levels of 1981-1983. The table below gives an idea of the main indicators.

1	Oil prod	ucts	ſ		0ther	cargo		1
	Seaborne	trade	Fleet*		 Seaborne	trade	Fleet*	
 ·	 '000	%	 million	%	'000	%	 million	%
	million	1	dwt		million	I	dwt	
1	tonne-mil	es		Ľ	tonne-mil	es		
<u> </u>					<u> </u>			
1973	10 217	100	234 3	100	5 187	100	205 6	100
1974	10 621	104	275 4	118	5 766	111	218 6	106
1975	9 730	95	313 0	134	5 636	109	230 7	112
1976	11 149	109	343 9	147	5 874	113	247 7	120
1977	11 403	112	356 1	152	6 050	117	268 5	131
1978	10 546	103	353 0	151	6 388	123	279 8	136
1979	10 497	103	350 9	150	7 016	135	287 0	140
1980	9 239	90	348 4	149	7 372	142	292 9	142
1981	8 193	80	342 9	146	7 469	144	305 9	149
1982	6 282	62	322 5	138	7 217	139	320 6	155
1983	5 558	54	301 4	129	7 022	135	331 0	156
1984(p)	5 500	54	284 8	122	7 560	146	342 6	167
1	l	1	1				-	

TABLE 1 WORLD SEA BORNE TRADE AND CARGO FLEET

*as at the end of the year. p = provisional

Source: Fearnleys, Oslo.

These figures also show how trends varied from one sector of the market to another. Oil tankers, for instance, carried 33% less in tonne-mile terms in 1984 than in 1981, bringing the total contraction of trade in this sector over the last eight years to 52%.

.

調査を見て

The two main reasons for this state of affairs are the efforts to save energy and the increase in supplies from the fields closest to the centres of consumption - a development which has shortened voyages. Although the oil tanker fleet, increasingly over-tonnaged for some years, was trimmed by a further 6% in 1984 this was not enough to halt the market deterioration.

Tonnage withdrawn from the freight market in 1984 was lower than in 1983: , both the tonnage scrapped (34.7 million dwt in 1984) and the tonnage laid up (58.2 million dwt at the start of 1985) were 6% lower than in 1983. Recovery in shipping failed, therefore, to absorb even part of the overcapacity of operational tonnage. Tanker sales to breakers fell by almost 20% to 21.3 million dwt in 1984, whereas bulk carrier sales for scrapping rose by over 20% to reach 4 million dwt.

Some experts put surplus tanker capacity at still close to 40%, part of it due to failure to make full use of the potential of the vessels, and in particular to slow steaming and part loading.

All concerned broadly agree that the overcapacity in the tanker fleet is likely to persist for several years, with oil movements expected to remain stagnant in the short, and possibly even medium, term. The largest crude oil carriers seen to have been the hardest hit, products carriers less so.

Although the statistics cannot tell the full story, the table below sets out some of the figures behind these developments.

- 5 -

	Tonr	nage la	aid up		т	onnage	broken	up	Ton	nage	used 1	or
					<u> </u>					stor	age	
	Month	No	grt	dwt	1	No	grt	dwt		Mont	h No	dwt
1978	VII	765	29.65	1 55.289		l	1	1	1	1		
	X	737	25.48	6 47.507	7 1978	1.088	12.840	21.703				
1979	I ·	595	16.67	8 30.290) ·		1		1979	I	40	7.856
1	VII	417	11.20	6 20.063	5 1979	904	6.997	11.137		VII	37	6.668
	x	353	7.49	0 12.518	8			1		X	37	6.672
1980	I	298	6.20	4 10.603	3	ŀ		1	1980	I	39	7.112
	VII	268	6.76	7 12.249	1980	887	9.184	15.940	1	VII	45	9.199
·	x	233	5.37	1 9.512	2	1	1	1	1	x	67	14.266
1981	I	229	4.84	0 8.288	31				1981	I	74	16.866
	VII	246	8.61	8 15.562	2 1981	824	9.789	17.517	ł	VII	77	15.668
I	X I	287	10.39	9 19.014	•			1	1	x	149	35.950
1982	I	353	14.11	1 26.391			1		1982	I	120	28.757
ł	VII	624	25.43	7 49.122	2 1982	1.081	18.086	32.160	1	VII	79	18.295
Ì	x j			3 67.260		1			1	x	64	13.860
1983	I	1.292	40.657	7 77.168	 				1983	I	58	11.812
I	VII	1.403	45.093	3 85.755	1983	1.323	20.299	36.881		VII	70	13.482
	X I			1 80.959	-	1	1	ĺ		x		14.868
1984	I			5 77.274				<u> </u>	1984	I		13.450
1	VII			9 66.841	•	1.500	19.661			VII		19.672
ĺ	x į			2 61.693						x		21.164
1985	I I			3 58.194			'	<u>'</u>	1985			17.847

Sources: Institute of Shipping Economics, Bremen; Howard Houlder Chartering Ltd.

Despite the difficult conditions, the operators concerned have not been trying very hard to improve this sector of the market. However, there is no denying that resolute action could help remedy the situation. According to some estimates, 40% of the oil tanker fleet is surplus to requirements and much of it is destined for the breaker's yard sooner or later. Moves to speed up the process would help redress the balance of the market earlier.

- 6 -

Traffic in the dry bulk sector has risen by roughly 5% over the last five years. Nonetheless, the bulk carrier market remained just as depressed as in 1983, since the increase in demand was more than counterbalanced by deliveries of new vessels, which left the over-capacity unchanged. The circles concerned estimate that there is now some 10 million dwt of bulk-carrier capacity surplus to requirements, 5 million dwt of it laid up. Other estimates suggest that slow steaming too has absorbed an extra 50 million dwt or so which, in effect, constitutes "mothballed" capacity.

As for the chief commodities in the dry bulk sector, iron ore and coal shipments picked up, whereas there was generally no more than a modest rise in other raw materials. This recovery is expected to falter in 1985.

The over-capacity in the bulk-carrier fleet is unlikely to be absorbed in the short term, especially as newly ordered vessels continue to join the fleet. Some shipowners, Japanese in particular, have placed massive orders for these bulkers but are now finding it difficult to operate them profitably, which, in turn, inevitably weakens their financial base. Conditions in this sector of the market are therefore still under the influence of a number of large operators who have opted for speculation rather than for managing their fleet in such a way as to encourage a return to a balanced supply and demand situation.

The gap between supply and demand in more specialized sectors and the liner trades narrowed in 1984. There was a slight reduction in the over-capacity in the liner fleets. However, substantial over-capacity still created problems for operators of some types of specialized vessels, notably gas carriers and chemical carriers. A mixture of moderate optimism and

- 7 -

uncertainty is the outlook for 1985.

The decline in the fleet flying the flag of a Community Member State over the last few years continued. On 1 July 1984 only 20.9% of the world merchant fleet was registered in the Member States. There was a marginal reduction in the world fleet, though the open registry and Far East fleets continued to expand. The Community's fleet had the highest proportion of vessels laid up or broken up in relation to the size of the fleet in service. The average age of the Community's fleet is now above the world fleet average.

Shipowners, and above all those operating tankers and bulk carrier operators, have continued to face freight rates which generally fail even to cover their operating costs and which, therefore, have made it harder for them to balance their books. Many of the Community's shipowners, having exhausted their limited scope for diversification, either had to slim down their fleet or had to transfer part of it to flags imposing less demanding operating conditions in order to survive in an industry where capital employed and indebtedness are generally high and the margin for manoeuvre small. No comprehensive data on movements by the Member States' fleets are available, but the statistics below amply illustrate how much the Community fleet has shrunk. TABLE 3: WORLD AND COMMUNITY FLEETS

			e as S
A. Fleet	as at 1 July (in million grt)		·
	1960 1970 1975 1977 1979 1980 1981 1982	1983 198	34 `
		1	1
World	129.8 227.5 342.2 393.7 413.0 419.9 420.8 424.7	422.6 418	.7
EEC	48.1 68.3 96.8 105.9 110.4 111.1 109.9 104.5	95.9 87	.7
EEC as % of			I
world figure	e 37.1 30.0 28.3 26.9 26.7 26.5 26.1 24.6	22.7 20	7

B. Mem	ber States' fleets (in '000 grt) b	by flag		
.₽	Fleet as at 1 July	Broken up	1	Laid up
1			Dec.	Dec. Dec. Dec.
	1981 1982 1983 1984 19	981 1982 1983	1984 1981	1982 1983 1984
Germany	7.708 7.707 6.897 6.242 '	143 185 250	176] 17	409 501 318
Belgium	1.917 2.271 2.274 2.407 -	- - 58	- -	- - -
Denmark	5.048 5.214 5.115 5.211	110 144 -	- 144	793 843 993
France	11.455 10.771 9.868 8.945 3	397 479 658	464 297	519 1.343 1.536
Greece	42.005 40.035 37.478 35.059 1.0	691 3.027 2.931 4	4.061 2.308	10.248 9.9375.902
Ireland	268 239 223 221 -	- - -	- -	- - -
Italy	10.641 10.375 10.015 9.158 2	210 259 705	348 206	1.610 1.635 1.136
Netherlan	ds 5.468 5.393 4.940 4.586	65 548 394	421 -	- 462 290
United			I	
Kingdom	25.419 22.505 19.122 15.874 1.0	026 1.107 932	501 770	2.591 2.272 2.084

Sources:

Existing fleet: Lloyd's Register of Shipping.

Other data: Institute of Shipping Economics, Bremen.

It is clear from the figures that the erosion of the fleet has been less severe in certain Member States, generally in those where shipowners take a tangible share of the support for shipping activities, for example in the form of public-financing facilities for investment or credit purposes. In any event, the overall deterioration in the position of shipowners in the Community reduces their vessel-purchasing power, which in turn depresses the order intake at the Community's shipyards.

.

4. Situation in the shipbuilding industry

4.1 General trends

5

The over-capacity at the shipyards continued to completely dominate market conditions in 1984, perpetuating the "crisis within a crisis" into which the industry plunged in 1983. In some ways, the situation has even deteriorated, with demand worldwide contracting by 17% in 1984, while the industry's desperate efforts to win orders only further eroded prices and heightened the insecurity at even the most competitive shipyards. Japanese and Korean shipyards - which hold 60% of the world market - have been pushing the consequences of this over-capacity to the extreme, since they are better able to absorb them.

Consequently, following the feverish hunt for orders at even derisory prices in 1983 in particular, Japanese shipyards had no qualms about boosting their output by 36% in 1984, whilst output from European shipyards fell by almost 20%, in line with the general downward trend in all the other leading shipbuilding countries. This surge in activity at Japanese shipyards is completely out of line with the situation in the market and only helps to sustain the imbalance between supply and demand. What is more, this failure to get a grip on capacity, and on capacity utilization, has been felt all the more since the Japanese industry holds 50% of the world market, and seriously calls into question the sincerity of the Japanese authorities' recommendations to limit capacity utilization rates at their shipyards, which the Japanese have always portrayed as proof of their willingness to share the burden of the crisis.

¹See the Appendix to this report for a guide to understanding and interpreting the units and sources of information used in this section. Note in particular that the observations made are based on the cgrt figures supplied by Lloyd's Register of Shipping (LRS). Also, to avoid distorting the figures, the comparisons between 1984 and 1983 are based on the measurement system used in 1983, even though a new system was introduced in 1984. Greece is included in the Community figures for 1981 and there after, but not in the figures provided by the OECD, which has no data for that country.

Japanese and Korean shipyards' attempts to undercut each other to win orders further eroded prices. They encouraged speculative orders which only added to the over-capacity in the fleet and thwarted the efforts, in Europe in particular, to help the industry adjust whilst at the same time phasing out aid to it. These developments are also harming the shipbuilding supply industries. In Europe in particular, equipment suppliers are experiencing growing difficulties as a result of the decline in their shipbuilding business and in prices. The European industry has virtually no say on price levels.

TABLE 4 - CONTRACT PRICES FOR ORDERS OF NEW VESSELS, 1976-84

(Prices at th	ne end of	the year in USD	million as	charged by Ja	panese and
		. Korean y	ards)	·	

l	.							
l · · · ·	1976	1978	1979	1980	1981	1982	1983	1984
l	<u>l.</u>	<u> </u>		1	<u> </u>	<u>, </u>	·	<u> </u>
1	I	1	Ι.	. .	l	ŀ		I
30 000 dwt product carrie	er 15.0	16.0	23.0	26.0	25.0	17.0	16.0	14.5
87 000 dwt oil tanker	16.0	20.0	30.0	36.0	40.0	25.0	24.0	22.0
210 000 dwt oil tanker	'-	38.0	45.0	57.0	68.0	48.0	46.0	42.0
96 000 dwt oil/bulk/ore	1	1	I	1	1	1	1	
(obo) carrier	23.0	24.0	35.0	47.0	44.0	30.0	28.0	26.0
30 000 dwt bulk carrier	11.0	12.0	15.5	20.0	19.0	13.0	12.0	11.0
70 000 dwt bulk carrier	16.0	19.0	26.0	30.0	29.0	19.0	18.0	16.5
120 000 dwt bulk carrier	24.0	26.0	33.0	44.0	42.0	26.0	25.0	24.0
125 000 cbm LNG carrier	105.0	115.0	125.0	150.0	175.0	150.0	150.0	130.0
75 000 cbm LPG carrier	42.0	45.0	60.0	75.0	75.0	53.0	50.0	45.0
5 000 dwt roll-on/roll	Ι	1	Ι	1	1	Ι	1	1
off ship	10.0	12.0	14.0	16.0	20.0	15.0	12.0	10.0
l· · · ·	. .	1	T.	I	ł	1 .	1 I	1 -

Source: Fearnleys.

4 10 - 11 -

4.2 Situation in the Community

4.2.1 Production

In 1984 Community production contracted by 15% compared with 1983 to reach 2.3 million cgrt (56% less than in 1976.) It was only logical that activity should decline in 1984, as a result of the 21% drop in new orders in 1983. The reasons for this were analysed in last year's report. Despite the further capacity-shedding in the Community in 1984, bringing the total contraction between 1976 and 1984 to over 40%, the average capacity utilization rate in the Community was still only roughly 60%. Although the work shortage varies from one Member State to another, very few shipyards in the Community have managed to avoid further cuts in their employment levels.

TABLE 5 - PRODUCTION (completions) in '000 cgrt

	1976	5	198	0	1982	2	1983	5	1	1984	
	LRS	OECD	LRS	OECD	LRS	OECD	LRS	OECD	LRS	LRS	OECD
	coeff.	coeff.	coeff.	coeff.	coeff.	coeff.	coeff.	coeff.	coeff	. coeff.	. coeff
I 1	AWES	1967	1978	1978	1978	1978	1978	1978	1978	1984	1984
!			l		I				1	(CGT)	(CGT)
Germany	1468.0	1630 .0	596.2	618.5	757.3	763.5	811.3	925.5	673.8	694.7	703.4
Belgium	139.8	141.0	129.6	126.7	83.0	85.5	173.2	153.3	102.2	102.6	86.6
Denmark	560.6	425.0	382.4	267.9	329.2	313.3	338.5	405.9	389.1	379.3	503.0
France	672.4	1117.0	267.8	301.8	353.3	319.0	356.8	376.8	363.1	372.5	360.6
Greece	**	**	**	**	61.8	-	35.7	-	32.8	42.1	-
Ireland	20.3	14.0	3.0	<u> </u>	-	-	19.2	17.7	I -	-	-
Italy*	353.9	314.0	345.5	287.4	156.2	176.6	217.0	128.8	183.1	193.0	209.5
Nether-			I	1	l				1		
lands	940.0	507.0	249.5	239.6	390.0	366.0	415.8	406.5	248.8	264.8	295.0
UK	985.1	824.0	458.6	513.2	394.0	420.8	319.3	349.2	295.9	311.7	287.6
<u> </u>							1				
TOTAL			1				1		1		
EEC I	5140.1	4972.0	2432.7	2355.1	2524.8	2444.7	2686.8	2763.7	2288.9	2360.7	2445.7
			1		İ		1		1		

*The OECD figures for 1976 cover only the main yards.

**Not available.

4.2.2 New orders

New orders placed with the Community's shipyards picked up slightly in 1984 to finish 11% higher than in 1983. However, this must not be mistaken for a sign of recovery, since the 1983 level was so low (1.6 million cgrt) that the 1984 level (1.8 million cgrt) was still some 20% below the average for the pre-1983 crisis years. This state of affairs is the direct result of the slump in demand and of the pressure of competition from the countries dominating the market, as described in Section 4.1.

The new orders won by the Community in 1984 added up to no more than 79% of 1984 production levels. Consequently, there could well be a further contraction of activity in 1985. However, the situation is healthier in Germany, Denmark and the Netherlands than in the other Member States in this respect, partly due to the different pace of restructuring and partly due to improvements in competitiveness. Very often better results are obtained in Member States where direct aid to shipyards plays a less prominent part in public support schemes for the maritime sector.

Consequently, the deterioration, which is generating uncertainty and tension at all levels, but in particular on the social front, has meant that the adjustment schemes must be kept under constant review in wide areas of the Community.

TABLE 6: NEW ORDERS (in '000 cgrt)

. 1	197	6	19	980	19	982	19	283	1	984(CGT)	1
	LRS	OECD	LRS	OECD	LRS	OECD	LRS	OECD	LRS	LRS	OECD
	coeff.	coeff.									
	AWES	1967	1978	1978	1978	1978	1978	1978	1978	1984	1984
Germany	726.1	511.0	613.0	619.0	716.7	844.3	550.4	561.4	716.7	722.0	728.5
Belgium	75.0	54.0	53.8	138.0	43.3	56.2	58.7	63.2	80.7	74.9	49.6
Denmark	317.1	220.0	284.6	349.0	250.6	265.8	428.9	344.0	433.1	446.5	416.4
France	63.6	37.0	556.4	353.0	175.9	180.6	136.4	135.7	95.6	122.7	93.0
Greece	XX I	XX	XX	XX	10.3	XX	4.6	-	7.7	10.6	-
Ireland	19.2		1.3	-	1.3	-	-	-	-	- 1	- 1
Italy*	301.5	281.0	231.2	285.0	243.2	218.8	57.1	68.0	70.0	89.8	75.4
Netherlands	626.4	259.0	373.3	323.0	309.0	296.8	237.3	446.6	303.6	293.8	288.5
UK	627.6	421.0	350.2	384.0	301.5	282.2	150.4	226.5	108.3	118.4	228.5
EEC	2756.6	1783.0	2463.8	2451.0	2051.8	2144.7	1623.8	1845.4	1815.7	1878.8	1879.9

* The OECD figures for 1976 cover only the main yards. ** Not available.

In 1984, Community shipyards' share of all new orders placed throughout the world picked up slightly to 14.8%, compared with 11% in 1983. But before 1983 it had never been lower than 17%, which implies that the Community's relative share was still declining even in 1984. Other Western European countries have been following more or less the same pattern. Japan's share of new orders fell somewhat, but by less than the worldwide reduction, thus further strengthening Japan's relative position on the world market, of which it took a record 50,8% in 1984.

÷.

ういたから、「ないないない」

In 1984 the Korean industry's position weakened in both absolute and relative terms, with its market share falling to 10.1% compared with 14.4% in 1983. The People's Republic of China and Taiwan stood out amongst the countries building up their shipbuilding industries, doubling their output in 1984 and it seems that further increases for the next few years are being considered. This will not help the efforts to redress the balance between supply and demand - especially as some of these shipbuilders are reported to have been charging 10% or so less than the Japanese and Korean yards.

All these factors heightened the tension, unease and, in particular, the recriminations within the European industry concerning the low price policy of its Japanese and Korean rivals and the unconvincing capacity adjustments by the Japanesey. A number of European yards are unable to maintain normal operating levels because they have failed to win enough work to exploit their resources rationally, a state of affairs posing an increasing threat to the survival of the industry in some cases.

	19	76	1980		19	82	19	83		19	84	
	'000 cgrt	X	'000 cgrt	x	'000 cgrt	%	'000 cgrt 	*	'000 cgrt coeff.		COD CGT coeff.	x 1984
Production	i		1		l	لايوسينين وسيد ان	j		1		<u> </u>	
EC* 1	5 140.1	23.3	2 432.7	19.2	2 524.8	17.3	2 686.8	19.8	2.288.9	15.5	2.360.7	14.8
Rest of AWES	3 145.7	14.2	1 499.0	11.9	1 760.2	12.1	1 688.8	12.5	1.220.3	8.3	1.249.2	7.8
Total for all	1.				1		1		1		1	
Western Europe	8 285.8	37.5	3 931.8	31.1	4 285.0	29.4	4 375.6	32.3	3.509.2	23.8	3.609.9	22.6
Japan	8 348.8	37.8	5 207.2	41.2	5 811.1	39.8	4 908.2	36.2	6.704.3	45.5	7.337.9	46.0
Rest of the	1		ĺ				j		1		1	
world of which	5 444.4	24.7	3 496.3	27.7	4 491.7	30.8	4 268.5	31.5	4.531.6	30.7	4.995.3	31.4
Eastern bloc	2 755.4	12.5	1 213.5	9.6	1 678.4	11.5	1 634.8	12.1	2.062.4	14.0	2.408.1	14.9
South Korea	-		445.7	3.5	880.3	6.0	985.5	7.3	1.072.2	7.3	1.049.7	6.6
Total	22 078.2	100.0	12 635.2	100.0	14 587.8	100.0	13 552.3	100.0	14.745.1	100.0	15.943.1	100.0
New order intake	1		I		ĺ		[1		T	
EC* 4	2 756.6	17.2	2 463.8	17.2	2 051.8	17.0	1 623.8	10.9	1.815.7	14.8	1.878.8	14.7
Rest of AWES	1 903.0	11.9	2 049.5	14.3	913.7	7.9	780.7	5.3	926.0	7.5	921.6	.7.2
Total for all	1				1		1		1		1	
Western Europe	4 659.6	29.1	4 513.3	31.5	2 965.5	25.7	2 404.5	16.2	2.741.7	22.3	2.800.4	21.9
Japan	7 337.5	45.9	6 708.3	46.7	4 859.4	42.1	7 389.1	49.8	6.240.3	50.8	6.458.1	50.4
Rest of the	1				1		1		1		1	
world of which	3 985.3	25.0	3 136.1	21.8	3 708.3	32.2	5 056.5	34.0	3.308.6	26.9	3.548.9	27.7
Eastern bloc	1 896.0	11.9	467.9	3.3	1 069.0	9.3	1 544.0	10.4	1.012.3	8.2	1.265.7	9.9
South Korea	-		939.3	6.5	1 002.5	8.7	2 147.1	14.4	1.236.6	10.1	1.215.6	9.5
Total	15 982.4	100.0	14 357.5	100.0	11 533.2	100.0	14 850.1	100.0	12.290.5	100.0	12.907.4	100.0

TABLE 7: TREND IN THE MARKET SHARE OF THE MAJOR SHIPBUILDING REGIONS

The 1976, 1978 and 1980 figures do not include Greece. Source: Lloyd's Register of Shipping AWES: Association of West European Shipbuilders. Members from outside the European Community include the shipbuilders associations of Finland, Sweden, Norway, Spain and Portugal.

The Community's shipowners ordered 2.2 million cgrt in 1984, average for recent years. They ordered 1.4 million cgrt (roughly 70%) of that total from shipyards in the Community. This too matched the average for the years before 1983, when the figure slumped to just 1.1 million cgrt or 51% of the total tonnage ordered by Community based shipowners. The situation varies considerably from one Member State to another. Greek shipowners placed roughly 5% of their orders with Community yards in 1984, compared with 63% for owners in Belgium, roughly 80% for the United Kingdom and the Netherlands and over 95% for all the other Member States. These figures do not include orders from Community shipowners' subsidiaries registered outside the Community and, generally, operating under open registry flags as there are still large gaps in the information for evaluating this kind of order.

At the same time the Community's shipyards suffered a substantial slump in their exports to non-Community countries, which accounted for no more than 15% of all their orders in 1984. The figure had never been below 25% before. Consequently, in contrast to 1983, in 1984 it was mainly on these export markets that the Community shipbuilding industry lost ground.

TABLE 8: BREAKDOWN OF ORDERS BY FLAG (IN '000 cgrt)

	<u> </u>	1976	5	19	78 [×]		198	0		198	2		1983		1	984 (C	GT)
	T	1	1 : 1	Vatio	nal m	arket	t	B :	Othe	er El	COL	untries	С	: Thire	d coun	tries	í
	A	В	C	A+B	C	A	В	C	A	В	C	A	В	C	A	В	C`
Orders* placed by Community		F	74	80				70		4	22	(0.0				7.0	,
shipowners TOTAL	64	5 027 3 027	31		20 063	İ	7 2 38'	30 1		1 870			1.3 2 222.4	İ	67.1	2.246	29.0
TOTAL								·	· · · · · ·					-	<u> </u>		
Orders* received by Community shipyards	70	5	25	.74	26	61	7	32	73	1	26	68.3	1_8	29.9	80.1	4.6	15.3
TOTAL		2 756	5	2	233	-	2 470	6	•••••	988	3		623.			1 878.	

Source: LRS. * % of total

No breakdown within the Community is available for 1978.

Note: Greece is included in the Community figures from 1981 onwards; there may be slight differences in the totals compared with similar data in other tables.

Y

5

The tendency for each Member State's yards to receive remarkably few orders from owners in the other Member States persisted in 1984. Community-based shipowners thus still almost always turned either to one of the shipyards in their own country or else to one in a non-Community country. The fact that the Community's shipowners placed less than 4% of their orders with yards in Community countries other than their own is evidence that very little has yet been achieved in opening up the common shipbuilding market.

Worldwide, the most prominent feature of the demand for individual types of vessel was the significant slump in orders for bulk carriers. Tanker and cargo-ship orders also slipped back somewhat. Over 80% of the orders for bulk carriers were placed with Korea and Japan. Community shipyards' share of this sector of the market remains very small (only 4%). Over half the orders placed in the Community were for cargo-ships, though even these orders were down. Non-cargo carrying vessels¹ accounted for a quarter of the orders, an increase in volume terms and as a share of total orders. In other words, over three-quarters of the Community market is made up of rather sophisticated vessels, which helps to explain why the slump in orders for bulk carriers has not hit the Community's yards as hard as it has hit Asian yards.

¹For example, fishing vessels, passenger liners, ferries, tugs, dredgers, etc.

'000 cgrt	l. Tank	ers	Bulk c	arriers	Cargo	ships	Non-	cargo	Ι ΤΟΤΑ	L
			I		I		l ve	ssels	(includi	ng
	1		<u> </u>				<u> </u>		unspecif	ied)
		(%)	1 .	(%)	I	(%)	1	(%)	I	(%)^_
<u>1977</u> world	790.6		1783.2		8497.3	•	2969.8		14040.9	1
EEC	30.9	(3.9)	75.1	(4.2)	1764.4	(20.8)	670.5	(22.6)	2540.9	(18.1)
<u>1978</u> world	1185.4		534.8		6163.8		2912.7		10796.7	I
EEC	56.2	(4.7)	23.6	(4.4)	1341.3	(21.8)	591.5	(20.3)	2012.6	(18.6)
<u>1979</u> world	3364.8		2744.9		5148.4		2949.8		14207.9	1
EEC	168.1	(5.0)	466.5	(17.0)	1172.6	(22.8)	747.6	(25.3)	2554.8	(18.0)
<u>1980</u> world	2960.2		4325.3		4780.1		2291.9		14357.5	1
EEC	273.7	(9.2)	425.9	(9.8)	1023.4	(21.4)	740.8	(32.3)	2463.8	(17.2)
<u>1981</u> world	1166.7		4934.9		4967.9		2433.0		14053.1	
EEC	75.1	(6.4)	487.9	(9.9)	1342.7	(27.0)	606.4	(24.9)	2525.2	(18_0)
<u>1982</u> world	662.6		2335.3		5679.9		2135.4		10813.2	I
EEC	70.3	(10.6)	197_5	(8.5)	1093.2	(22.0)	628.0	(29.4)	1989.0	(18.4)
1983 world	1682.1		5370.3		5910.8		1886.9		14850.1	1
EEC	92.3	(5.5)	110.7	(2.1)	1039.9	(17.6)	380.9	(20.2)	1623.8	(10.9)
<u>1984</u> world	1176.2		3890.6		4742.2		1956.8	·	12088.7	· ·
EEC	179.3	(15.2)	165.6	(4.3)	944.2	(19.9)	448.8	(22.9)	1757.4	(14.6)
- -	1				1		1		1	
1000 CGT			I		1		1		ł	I
1984 World	1888.7		4109.9		4361.9		2446.0		12807.4	I
dont EC	269.8	(14.2)	164.2	(4.0)	949.1	(21.8)	495.7	(203)	1878.8	(14.7)

TABLE 9: TREND OF NEW ORDERS BY TYPE OF VESSEL

Source: LRS.

Within the Community, there were no significant changes in the pattern of types of vessel ordered in 1983 compared with 1982, with the Community's shipbuilders continuing to concentrate on turning out vessels of a high technological level.

- 20 -

4.2.3 Order books

0

After the abrupt drop in 1983, Community shipyards' order books thinned out further still in 1984. By the end of 1984 orders on the books had shrunk to 2.9 million cgrt. They had never been less than 4.7 million cgrt from the the onset of the crisis until 1982. These figures reveal the full scale of the recent deterioration of the Community's shipyards position more clearly than the new order intake, which is subject to cyclical variation.

TABLE 10 - ORDER BOOKS (in '000 cgrt

	31.12	.78	31.12	.80	31.	12.82
÷	LRS	OECD	LRS	OECD	LRS	OECD
EC	5087.2	4870.0	4911.0	4799.6	4738.3	4358.2
Rest of AWES	3957.2	3834.0	4398.1	3975.1	3474.3	3185.7
Western Europe	(9044.4)	(8704.0)	(9310.0)	(8774.7)	(8212.6)	(7543.9)
Japan	5464.6	4938.0	7297.8	6541.0	6640.2	6622.6
Eastern bloc	2121.7	1	1964.9		2206.2	1
South Korea	615.1	1	1320.3	ł	1854.9	1
Other regions	6172.8	1.	5699.2		4817.6	1
Total	23418.6	<u> </u>	25592.2	+	23731.5	+

Table 10 (continued)

	31.	12.83	31.	.12.84	
	LRS	OECD	LRS		OECD
	ļ	!	'000 cgrt		
			coef.1978	coef.1984	
EC	3418.9	3313.5	2932.0	2977.4	3082.0
Rest of AWES	2481.9	2407.3	2125.8	2252.5	1784.0
Western Europe	(5900.8)	(5720.8)	(5057.8)	(5229.9)	(4866.0)
Japan	8477.9	8389.1	7969.6	8502.8	7832.0
Eastern bloc	2546.0		2318.6	2645.1	
South Korea	2898.4		3203.9	3292.1	
Other regions	4295.4	- -	3942.3	4103.7	
Total	24118.5	 	22492.2	23773.6	

The slump in the order books sharpened particularly in some Member States (France, Italy and the United Kingdom) but remained more or less stable in others. These differences reflect the varying degrees of success in attracting new orders, as outlined in Section 4.2.2. At any event, more and more yards are having to cope with interrupted work programmes. As a result, much of the effort that has gone into improving competitiveness has been nullified by the productivity losses incurred through longer idle periods for production facilities and work force alike, even though many Community yards also shed further capacity in 1984. Those affected are increasingly disputing whether these measures are acceptable, since up to now the Far Eastern shipyards have proved extremely reluctant to bear their share of the slump on the market and have actually been perpetuating instability on it.

	LRS ('000 cgrt) coeff. 1978					LRS ('000 CGT) coeff. 1984				
· · ·										
	Prod.	Total	For del		. 7	Prod.	Total	For de	livery	in
	1984	order	1985	1986	1987	1984	order	1984	1986	1987
		book at					book at			
		31 Dec.					31 Dec.			1
1		1984					1984			
Germany	673.8	680.9	543.1	118.8	-	694.7	695.6	559.7	117.5	- 1
Belgium 🛛	102.2	138.1	96.0	42.3	-	102.6	141.5	106.6	35.1	-
Denmark	389.1	747.2	417.1	255.5	49.5	379.3	750.8	412.4	267.1	46.7
France	363.1	331.9	249.6	82.3	-	372.5	311.5	207.6	103.9	1 -
Greece	32.8	121.7	104.9	11.2	5.6	42.1	142.4	125.5	11.3	5.6
Ireland	-	-	-	-	-	-	-	-	- 1	-
Italy	183.1	230.4	200.5	38.5	0.9	193.0	251.1	211.6	45.3	1.7
Netherlands	248.8	379.0	314.7	64.1	-	264.8	378.2	315.6	62.3	- 1
United King-	′ 2 95 .9	302.7	251.9	59.3	-	311.7	306.3	255.0	51.0	-
dem		İ					i i		ĺ	
Community	2288.9	2932.0	2177.8	672.0	56.0	2360.7	2977.4	2194.0	693.5	54.0
		· ·		·						1

TABLE 11 - ORDER BOOKS IN THE EUROPEAN COMMUNITY

(Table 11 continued)

Q

1.2.2.2.2

I		OECD	"000CGT))	
1	Prod.	Total	For de	livery	in
.	1984	order	1985	1986	1987
		book at			
		31 Dec			
		1984			
Germany	704.0	825.4	699.0	126.0	- 1
Belgium	81.0	135.1	102.0	33.0	-
Denmark	503.0	856.6	460.0	289.0	98.0
France	339.0	276.0	192.0	74,0	10.0
Greece	-	-	-	-	-
Ireland	-	-	-		-
Italy	193.0	226.3	111.0	61.0	-
Netherlands	295.0	400.2	65.0	249.0	86.0
United King-	288.0	394.4	309.0	63.0	22.0
dem					
Community	2403.0	3114.0	1938.0	895.0	216.0

4.2.4. Employment

The numbers employed at the Community's shipyards fell appreciably - by almost 15% - in 1984 as a result of the situation outlined above. Following the almost equal contraction in 1983, the shipbuilding industry has now shed roughly 26 000 workers (23% of its workforce) over the last two years alone. No Member State has been spared from this contraction, which is likely to persist in some.

	1975	1978	1979	1980	1981	1982	1983	1984
Belgium *)	7467	6614	6258	6523	6347	4680	4104	4060
Denmark	16630	12000	9900	11400	11350	11800	11200	10300
France	32500	25300	23000	22200	22200	21600	21000	16940
Germany	46839	31113	27369	24784	26521	27600	25966	22189
Greece	-	-	-	-	3393	3696	<u> </u>	2000
Ireland	869	840	750	750	762	882	550	-
Italy	25000	20000	19000	18000	16500	13750	12800	12800
Netherlands **	22662	17540	14540	13100	13100	12800	11250	10330
United Kingdom	54550	41050	31200	24800	25345	25000	20486	14655
Sub-total							I	
without Greece	206517	154457	132017	121551	122125	118112	107356	91274
Total					125518	121808	-	93274

TABLE 12 : EMPLOYMENT IN SHIPBUILDING IN THE COMMUNITY (newbuilding)

(Table compiled from national sources)

*) Revised series.

**) Including building of naval vessels, estimated at 1 800 in 1975, 3 200 in 1978 and 1979, 3 400 in 1980, 3 200 in 1981 and 1982 and 2 800 in 1983 and 1984.

The figures for 1981 onwards include Greece, based on an estimate by the Greek shipbuilding industry itself. According to them, the Greek workforce numbered 2 316 in 1975 and 2 616 in 1980.

1

Thus, employment in the Community's shipbuilding industry has fallen by almost 56% since the onset of the crisis, i.e. by the same order of magnitude as production. It is becoming increasingly difficult to adjust to the new employment levels since every opportunity to redeploy the workforce or for early retirement was exhausted long ago.

Despite all these endeavours, the problems of keeping the workforce occupied are still far from resolved. Short-time working is still very common in a number of yards, affecting up to 50% of the remaining workforce. This precarious position is the main reason which prompted the Commission to propose a number of changes in the arrangements for making payments from the European Regional Development Fund and from the European Social Fund. These are outlined in Section 5.

4.3. Prospects The table set out below sums up the updated 1984 market forecasts by AWES¹:

million cgrt	New tonr	age comple	Contracting requirements			
· · ·	for a	lelivery du	iring	for delivery during		
	1.1.1984 mid 1987	mid 1987 mid 1990	mid 1990 mid 1995	1.1.1984 mid 1987		
Oil tankers Bulk carriers Cargo ships Non-cargo carrying vessels	7,4 8,8 11,4 11,4	5,4 6,0 18,8 10,6	16,0 21,3 39,2 17,5	3,7 0,0 1,8 4,9		
Total	39,0	40,8	91,0	10,4		
Annual average	11,1	13,6	18,2	3,0		
Annual average (low case)	10,6	10,2	15,5	2,4		
		, i				

TABLE 13 : FORECAST WORLD SHIPBUILDING REQUIREMENTS (Source: 1984 AWES study; medium case)

NB: New tonnage requirements have already been partly covered by orders placed. Contracting requirements represent orders yet to be placed.

¹Association of West European Shipbuilders.

- 25 -

inter de la companya de la companya de la companya de la companya de la companya de la companya de la companya La companya de la companya de la companya de la companya de la companya de la companya de la companya de la comp

ñ

On the low assumption, therefore, some 11.1 million cgrt can be expected to be completed each year between 1984 and 1987, 19% less than in the previous five years. Average annual completions are likely to rise to 13.6 million cgrt, corresponding to the 1979–1983 level, over the period from 1987 to 1990. Finally, the annual average should rise to 18.2 million CGT for the final period considered (1990–95).

These forecasts confirm that the drastic contraction of the market will continue for several more years, bringing with it the problem of reconciling the expansion of the shipbuilding industries in certain developing or newly industrialized countries with the efforts to restore normal activity levels in those countries which have cut back their industries in line with the market over the last eight years. There is a real danger that the second group of countries will have great difficulty in capitalizing on the recovery expected in the early 1990s. In other words, there is a danger that the general trends in these countries, which include the Community countries, could lag well behind the world forecasts. There are even grounds for thinking that shipbuilding has not yet reached the bottom of the trough where it is likely to remain for the next few years.

5. Guidelines for action at Community level

In response to the worsening situation at the Community's shipyards, at the beginning of 1983 the Commission reconsidered its approach as regards the policy for restructuring the industry.¹ Together with the parties concerned, the Commission has tried to boost the efforts to implement the measures called for in these guidelines.

The following measures in particular should be noted:

(i) the extension of the Fifth Directive on aid to the shipbuilding industry until the end of 1986;²

¹ com(83)65 final. ²0J L 2, 3.1.1985

- (ii) the aid from the European Regional Development Fund towards conversion schemes in several shipbuilding regions. The quota section has provided considerable support for investment projects in these areas in recent years. The non-quota section of the Fund has also sponsored specific. Community regional development measures including conversion schemes in certain areas particularly hard hit by the restructuring of the shipbuilding industry. At the end of 1984 the Commission proposed extending these schemes to other regions.³ The Council is now considering this proposal;
- (iii) the new guidelines for the management of the European Social Fund⁴ which give priority to industrial restructuring in regions which the Commission has been assisting or has proposed for aid under the non-quota section of the ERDF;
- (iv) continuation of the contacts with industry to identify how R&D could be usefully co-ordinated and in particular to identify Community R&D programmes like BRITE and ESPRIT to which R&D projects, essential for the shipbuilding industry, could be submitted. These industrially oriented R&D programmes contain areas like CIM, CAD/CAM, testing, welding, laser applications and reliability which are of potential interest to the shipbuilding industry.
- (v) further feasibility studies to enhance the authorities' efforts to support maritime activities and promote synergy of actions by shipowners and shipyards in the Community.

One other point which must be added to these measures is that in 1984 the Commission submitted a maritime transport policy plan, which the Council is now studying.⁵ At all events it is continuing to make every effort to tighten up port control and thereby improve shipping safety, two moves which could indirectly help to strike a better balance between supply and demand and to keep substandard vessels off the seas.

COM(84)715 final. OJ n° L 133, 22 may 1985 COM(85)90 final.

As for external policy, as is clear from the above analysis, the Commission still feels that one of the most important aspects is that every shipbuilding country with an influence on the market should avoid any action likely to disrupt it any further. With this in mind, the Commission has been stepping up its efforts to promote international cooperation in this sector, notably within the OECD and through bilateral consultations, all with a view to spreading the burden of the crisis more evenly.

- 28 -

APPENDIX

GLOSSARY .

1. Tonnage Measurement

The word "tonnage" is a term used to give an indication of a ship's size. It can have widely differing meanings depending upon the purpose of the assessment, e.g. measuring the vessel'svolumetric capacity or its weight carrying capacity.

Measurement systems have, therefore, been laid down in tonnage regulations for specific purposes but, due to differences in national criteria used, the outcome is not necessarily the same for similar vessels registered under different flags.

On 18 July, 1982 the 1969 IMO Convention on Tonnage Measurement for Ships entered into force, affecting all ships built after that date for registration in signatory countries. Thus, a uniform system for the calculation of two of the most important notions, viz. "gross tonnage" and "net tonnage", is now being applied to an increasing number of ships of the world fleet.

2. Types of Tonnage

- <u>Displacement_tonnage</u>

A ship's displacement is the weight of water displaced by the ship; the displacement tonnage equals the sum of the ship's actual weight (lightweight) and its maximum allowed contents (deadweight).

Lightweight_Tonnage

The lightweight is the weight of the ship as built (hull, outfit and machinery) including boiler water, lubricating oil and the cooling water system's contents.

(Commercially it is almost only employed when considering the scrapping value of a ship).

- <u>Deadweight_Tonnage_(d.w.t)</u>

Deadweight is the total sum of the weight of the cargo which a ship can carry and the weights of its fuel, stores, water ballast, fresh water, crew and passengers plus baggage. It represents the difference between the loaded ship displacement and the lightweight. (Commercially it is the notion most commonly used by shipowners in order to assess the transport capacity of a vessel in relation to heavy and/or bulk cargoes).

../..

- <u>Gross_register_tonnage_(g.r.t)</u>

g.r.t. is a valued calculated according to various national regulations in order to indicate the volumetric internal capacity of the ship, certain spaces being, however, exempted; it is expressed in gross register tons of 100 cubic feet or 2.83 m².

茶人

1111

(Before the coming into force of GT regulations it was widely used for registration purposes, levying of harbour fees and duties, etc.)

- <u>Net_register_tonnage_(n_r_t_)</u>

n.r.t. is equally a calculated value supposed to represent the earning capacity of the ship; it is obtained by deducting certain non revenueearning spaces from the g.r.t. and it is accordingly expressed in 100 cubic feet units or 2.83m³.

(its use is similar to that of g.r.t. but less frequent and mainly as the basis for port charges).

- <u>Gross_tonnage_(GI)</u>

GT is the tonnage calculated according to the 1969 Tonnage Measurement Convention. It is a dimensionless value now gradually replacing g.r.t. for all official purposes concerning vessels under flags of signatory countries. (The commercial and legal applications of GT will make it the most

widely used parameter).

- <u>Net_tonnage_(NT)</u>

Net tonnage is likewise calculated according to formula laid down by the 1969 Tonnage Measurement Convention. It is also a dimensionless value and not to be taken as less than 0.30 GT. (It replaces n.r.t. in many of its former applications but there is

a tendency towards a more universal use of GT for harbour and canal duties)

3. Compensated gross register tons (cgrt)

Compensated Gross Tons (CGT)

The volume of work that goes into building a vessel is not directly related to its size but also depends on its type, degree of technical sophistication etc. For statistical purposes, regarding the output and order intake of the shipbuilding industry, the AWES as well as the OECD developed in the late sixties a series of special coefficients, for different ship types and sizes, by means of which the work content involved in the building of homogeneous groups of vessels could be assessed from their grt values (grt x coefficient = cgrt).

../..

Initially the AWES and the OECD coefficients diverged markedly, but in 1977 new coefficients for cgrt calculations were developed by the AWES, which were subsequently also agreed upon by the OECD. This explains why certain 1976 (or earlier) OECD statistics in cgrt are not. or not always, comparable with other series.

With the coming into force, in 1982, of the IMO Convention it became again necessary to modify the compensated tonnage calculation system, in order to take into account that for certain ship types (in particular RoRo-vessels, carferries and vehicle carriers) GT values have increased considerably as compared with grt values. Moreover, recent ships of these types tend to be of more complex build and new coefficients have, therefore, been adopted. They are applicable as from 1 January 1984.

For the sake of continuity the 1984 values in the present report have been calculated and presented according to both methods (cgrt and CGT).

Compatibility of OECD and LRS statistics

The data in the tables giving the trend of completions, new order intake and order books in the Member States' shipyards are taken from two different sources : OECD and Lloyd's Register of Shipping (LRS).

The data for the OECD statistics are supplied by the OECD member governments. Where the Member States are concerned they constitute, therefore, an official source, but since the data only refer to the situation in the OECD member countries they cannot be used for making worldwide comparisons. Moreover, the calculation of CGT (or cgrt) values is carried out by the respective administrations so that discrepancies may sometime arise as to when an order is regarded as being definite, in the classification of vessels and as to what coefficient should be used for establishing CGT for certain vessels of a hybrid type.

The data produced by LRS are not infallible either, but because they are gathered worldwide by LRS'own outposts according to uniform criteria, they constitute a more homogeneous source of information allowing comparisons on a global level to be made.

LRS supplies information to the Commission under a contract and the basic data only contain GT (or grt) and dwt references. The CGT (or cgrt) values are calculated at the Commission's Joint Research Centre in Ispra by computer processing of the LRS input, using the OECD calculation coefficients.

Despite certain differences which can sometimes arise from the different procedures for establishing the OECD and the LRS/Commission series of statistics, the two sets of data show trends which generally point in the same direction. Since the divergence between the two sources are only random, and the present report is essentially concerned with indicating the main trends, the reference to only one source is generally of no consequence.

- 3 -