INSROP WORKING PAPER
NO. 100 - 1998, III.08.1

The NSR in Japanese Views of Trade

By Koichi Shikano and Hiromitsu Kitagawa

INSROP **International Northern Sea Route Programme**

INSROP WORKING PAPER NO. 100-1998

Authors: **Koichi Shikano(1) and Hiromitsu Kitagawa(2)**

Addresses: (1)Green Line Express Co.
Ikeda Building, 2nd Floor
5-5, 4-chome, Tsukiji, Chuo-ku,
Tokyo 104, Japan
(2)Hokkaido University,
Graduate School of Engineering,
Ice and Snow Technology Laboratory,
North 13 West 8, Sapporo 060-8628, Japan

What is an INSROP Working Paper and how to handle it:

INSROP is a five-year multidisciplinary and multilateral research programme, the main phase of which commenced in June 1993. The three principal cooperating partners are **Central Marine Research & Design Institute (CNIIMF)**, St. Petersburg, Russia; **Ship and Ocean Foundation (SOF)**, Tokyo, Japan; and **Fridtjof Nansen Institute (FNI)**, Lysaker, Norway. The INSROP Secretariat is shared between CNIIMF and FNI and is located at FNI.

INSROP is split into four main projects: 1) Natural Conditions and Ice Navigation; 2) Environmental Factors; 3) Trade and Commercial Shipping Aspects of the NSR; and 4) Political, Legal and Strategic Factors. The aim of INSROP is to build up a knowledge base adequate to provide a foundation for long-term planning and decision-making by state agencies as well as private companies etc., for purposes of promoting rational decisionmaking concerning the use of the Northern Sea Route for transit and regional development.

INSROP is a direct result of the normalization of the international situation and the Murmansk initiatives of the former Soviet Union in 1987, when the readiness of the USSR to open the NSR for international shipping was officially declared. The Murmansk Initiatives enabled the continuation, expansion and intensification of traditional collaboration between the states in the Arctic, including safety and efficiency of shipping. Russia, being the successor state to the USSR, supports the Murmansk Initiatives. The initiatives stimulated contact and cooperation between CNIIMF and FNI in 1988 and resulted in a pilot study of the NSR in 1991. In 1992 SOF entered INSROP as a third partner on an equal basis with CNIIMF and FNI.

The complete series of publications may be obtained from the Fridtjof Nansen Institute.

SPONSORS FOR INSROP

- Nippon Foundation/Ship & Ocean Foundation, Japan
- The Government of the Russian Federation
- The Norwegian Research Council
- The Norwegian Ministry of Foreign Affairs

- The Norwegian Ministry of Industry and Trade
- The Norwegian Ministry of the Environment
- The Central and Eastern Europe programme
- State Industry and Regional Development Fund, Norway

- Norsk Hydro
- Norwegian Federation of Shipowners
- Fridtjof Nansen Institute
- Kværner a.s.
- Phillips Petroleum Company Norway

PROFESSIONAL ORGANISATIONS PERMANENTLY ATTACHED TO INSROP

- Ship & Ocean Foundation, Japan
- Central Marine Research & Design Institute, Russia
- Fridtjof Nansen Institute, Norway
- National Institute of Polar Research, Japan
- Ship Research Institute, Japan

- Murmansk Shipping Company, Russia
- Northern Sea Route Administration, Russia
- Arctic & Antarctic Research Institute, Russia
- ARTEC, Norway

- Norwegian Polar Institute
- Norwegian School of Economics and Business Administration
- SINTEF (Foundation for Scientific and Industrial Research - Civil and Environmental Engineering), Norway.

PROGRAMME COORDINATORS

- Yury Ivanov, CNIIMF
Kavalergardskaya Str.6
St. Petersburg 193015, Russia
Tel: 7 812 271 5633
Fax: 7 812 274 3864
Telex: 12 14 58 CNIMF SU

- Willy Østreng, FNI
P.O. Box 326
N-1324 Lysaker, Norway
Tel: 47 67 11 19 00
Fax: 47 67 11 19 10
E-mail: sentralbord@fni.no

- Ken-ichi Maruyama, SOF
Senpaku Shinko Building
15-16 Toranomon 1-chome
Minato-ku, Tokyo 105-0001, Japan
Tel: 81 3 3502 2371
Fax: 81 3 3502 2033
Telex: J 23704

Contents

ABSTRACT

To present a survey of actual and potential cargoes for transportation through the NSR, the general features of present cargo transportation between Japan, Russia and Eastern and Northern Europe were studied, mostly by making use of data and documents published in Japan. Unhappy historical relations and the present unstable mutual economic dependence between Japan and Russia have had a depressing influence on shipping and cargo transportation between the two countries. Most of the cargo transport remains local along the NSR. A few operations were observed to and from China and North Korea via the NSR, where the freight commodities were mostly chemicals, chemical fertilizers, metals and foodstuffs. The major marine transportation today is provided across the Sea of Japan and partly around the Sea of Okhotsk. Typical commodities are lumber from Siberia and crabs and other kinds of fish of a high market price from Sakhalin and the Russian Far East. For the moment, cargo transportation via the NSR is found to be too small-scale to make a reliable prediction of potential cargo to and from Japan via the NSR.

Since other INSROP projects, such as projects III .5.2 by Dr.Ramsland, III .7.2 by Dr.Buchan and some others, discuss the present situation and future prospects of cargo movements via the NSR in general, the potential economic activity along the route, rough transportation costs, etc., our attention here is limited to a study of the interests and intentions of the Japanese trade and marine community concerning the present and future NSR. In addition, a preparatory study was made of trading potential in the Japan-Sea Rim countries and the Russian Far East, which is attracting the attention of local governments and business communities in the northern regions of Japan.

The preparatory interview revealed that most economists in Japan have little interest in the NSR, without any substantial information about it. Some basic information about the NSR was prepared for them, including some statistics on the freight commodities between Japan and Europe, and interviews with questionnaires were conducted with economists and engineers at the shipping and the shipping and trading companies in Japan. The report then focuses on the results of the questionnaires and interviews and the interviewers' views and suggestions concerning the perspectives for the NSR and requirements to the NSR operational environment.

1. INTRODUCTION

As Mikhail Gorbachev expressed it, "the Common European Home" can be extended as far as Vladivostock. Although there have been discussed alternative definitions of Europe, in Eastern Asia one could imagine that the eastern border of Europe could be the eastern rim of the Eurasian continent. In Asia, Russia has been regarded more as a European power than an Asian one. Russia has belonged to Europe, religiously and culturally, and her demographic and economic situation indicate that Russia is mainly a European country.

Political and ideological disputes have isolated the Soviet Union from most of the northeastern Asian countries. A relatively low level of economic cooperation has existed between the Soviet Union and the Comecon countries. Economic cooperation with the northeastern Asian countries has been extremely limited.

The changes induced by Gorbachev's perestroika and novoe myshlenie were welcomed by the countries in northeast Asia. The relationship between Japan and Russia, particularly their political one, however, however, has not changed dramatically, due to the dispute over the Kurile Islands. On the other hand, the normalization of the relationship between Russia and South Korea(Republic of Korea) and the newly established economic cooperation between them have produced a marked change in the market framework in northeast Asia. The present high instability of Russia in terms of economy, politics and social structure is threatening the closer cooperation between Russia and the northeast Asian countries, and they have attentively been following the Russian economic reforms. All these facts have failed to arouse the interest of Japanese economists for the NSR. The preliminary interviews with staff members of the secretariats of freight conferences, such as the Japan/United States Eastbound Freight Conference, Japan/Europe Freight Conference, Far East/Riverplate/Far East Freight Con-ference, etc., regrettably confirmed this fact. However, the interviews also established that the NSR was located on the Russian side of the international border as far as their present knowledge went and that they had no particular data or information about the NSR. The second interviews and questionnaires were then planned and conducted with a brief guidance on the NSR.

The extremely high trade dependency in the Japanese economy has resulted in the present Japanese trend in trade and would not allow them to survey any other risky trade and sea route.

2

2. THE NORTHERN SEA ROUTE AND INTERNATIONAL TRADE

2.1 International Sea-borne Trade

The patterns and quantities of the international commodity flow are data for a discussion of potential cargo trade and accounts for over eighty per cent in volume.

The major commodities transported by sea-borne trade to from Japan are crude petroleum and petroleum products, iron ore, coal and grain. General cargo is mostly carried by liner vessels, container ships, roll-on/roll-off ships. The commodity flow was analyzed using the statistics data of traded between Japan and Europe published by the Ocean Commerce, Ltd., from 1988 to 1993 [1] [2] [3] [4] [5] [6]. Typical examples of the average commodity flow from 1988 to 1993 are shown in Figs. 2.1 through 2.4. The digits show the volume of commodities of major sea lanes in per cent of the total. Commodities by sea-borne trade travel over increasingly large distances , contrary to the trend of crude oil transportation where a reduction in total distance is apparent due to more use of pipelines and new production areas to the market areas.

The patterns and volumes of sea-borne trade reflect the world's distribution of resources and intensities of industry and social activity, such as population, characteristics of markets, economic growth, political and military situations.
The present trade statistics may change quickly, when even one of the situations change dramatically.

The density of shipping is another important factor for a discussion on the NSR. It is rather difficult to obtain accurate data on the distribution of ships at sea. Modern remote sensing technology and obligating of ships' positions, however, show us rough density mapping of shipping at sea. A density pattern for the merchant ship operations accumulated from 1987 to 1992 is illustrated in Fig. 2.5 [7] [8]. High density areas are naturally located on typical trade routes. It should be noted that the incidence of collisions has a direct correlation with the high density of shipping.

In addition to merchant ships, fishing vessel density is a factor to take into account in a discussion on the possible distribution of merchant ships in future, because the distribution and the patterns of the fishing market and fishing industry are changing rapidly. Compared to the merchant vessel density, the fishing vessel density is more difficult to obtain, but several published statistics of fishing zones and fish catches can roughly indicate the density. Fig. 2.6 shows a pattern of the density of fishing vessel operations accumulated from 1987 to 1992 [9] [10]. The density has changed in several years, however, in the North Atlantic, North Sea, Southern Ocean, South Atlantic and Indian Ocean. Due to poor

catches and the need to explore new fishing areas, the fishery trade route might change dramatically in future.

2.2 Sea-borne Trade and NSR

Containerization has been a predominant trend in marine cargo transportation in the world, particularly in Japan. Containerization has accelerated due to the trend of minimized storage of materials and parts in most industries, which requires delivery of goods and materials strictly on schedule even in marine transportation. It has been generally recognized that the ice-infested waters in the Arctic are insurmountable obstacles to operating cargo vessels on schedule. In the case of marine transportation between Russia and Northern Europe and Far East Asia, the marked benefit of a shortened shipping route by about a week via the Northern Sea Route can be well understood. Punctuality, however, is a general rule in the Japanese community. The delivery of marine cargoes shall be made on a scheduled day, and in the absence of this, a shortening of the shipping route itself would not have a vital effect on the selection of sea route in the international and particularly the Japanese shipping market.

International trade is highly dependent on the economic, social and political conditions of the countries involved, as mentioned above. The present instability of Russian society and economy has decreased marine cargo transportation between Russia and the Far East Asian countries. It might therefore be difficult to predict a potential marine cargo transportation via the NSR in future with reasonable accuracy, based on present data and information. It must be a first step, however, to collect present data and analyze them to obtain an understanding of the potential cargo transportation via the NSR, even for a rough understanding of the subject.
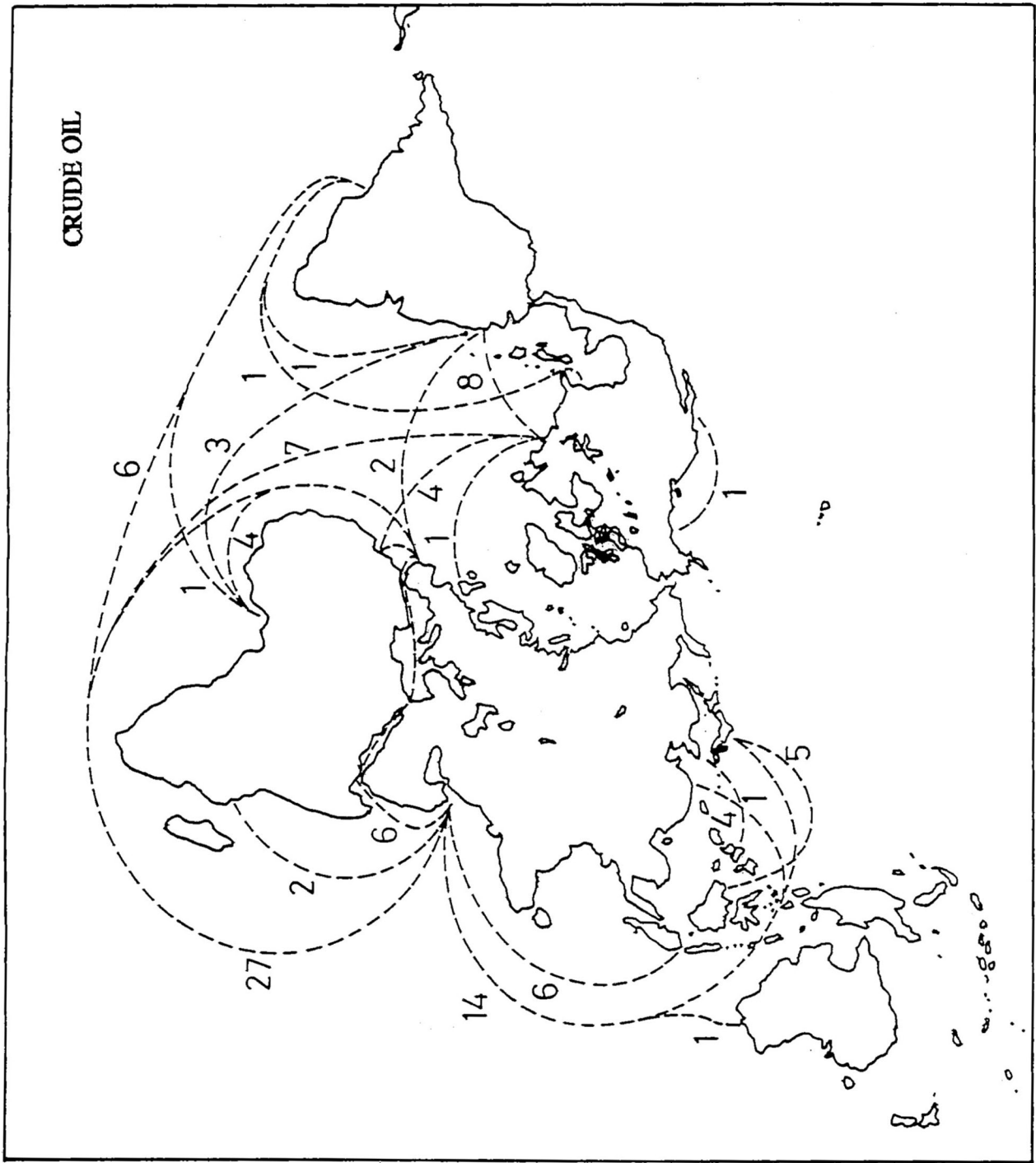
CRUDE OIL

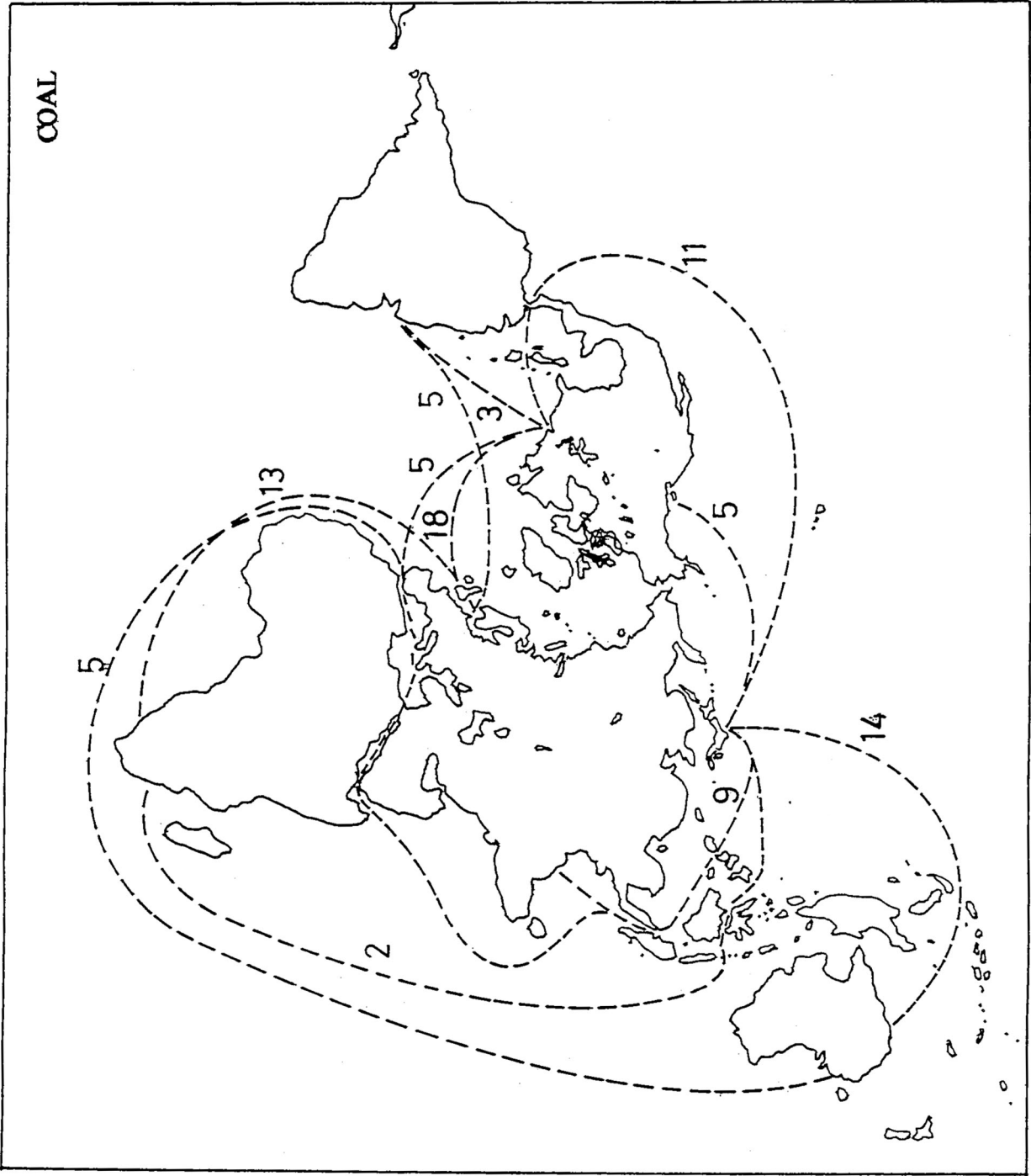Fig. 2.1 Inter-area Trade Pattern (% in Total)

COAL

Fig. 2.2 Inter-area Trade Pattern (% in Total)

IRON ORE
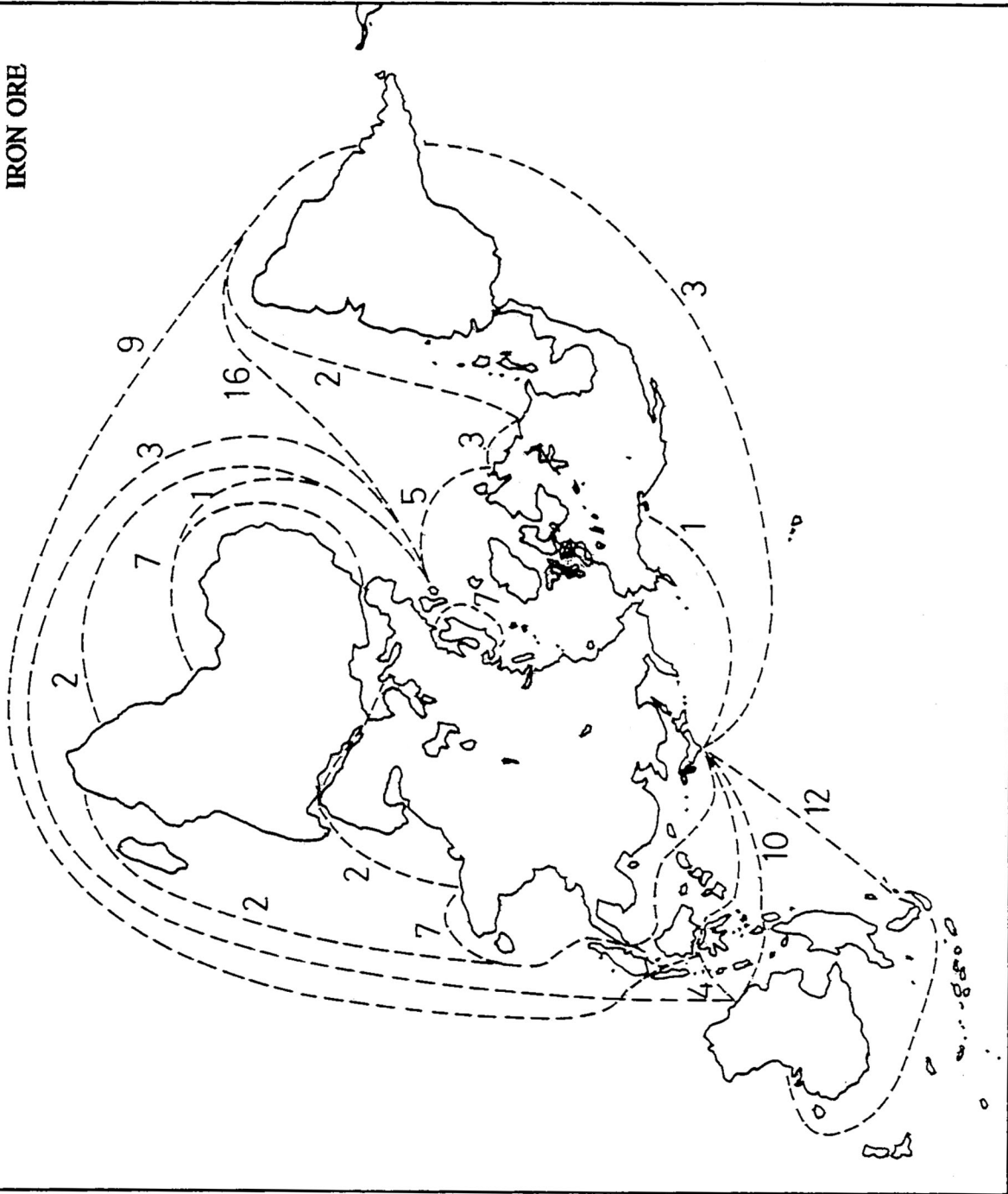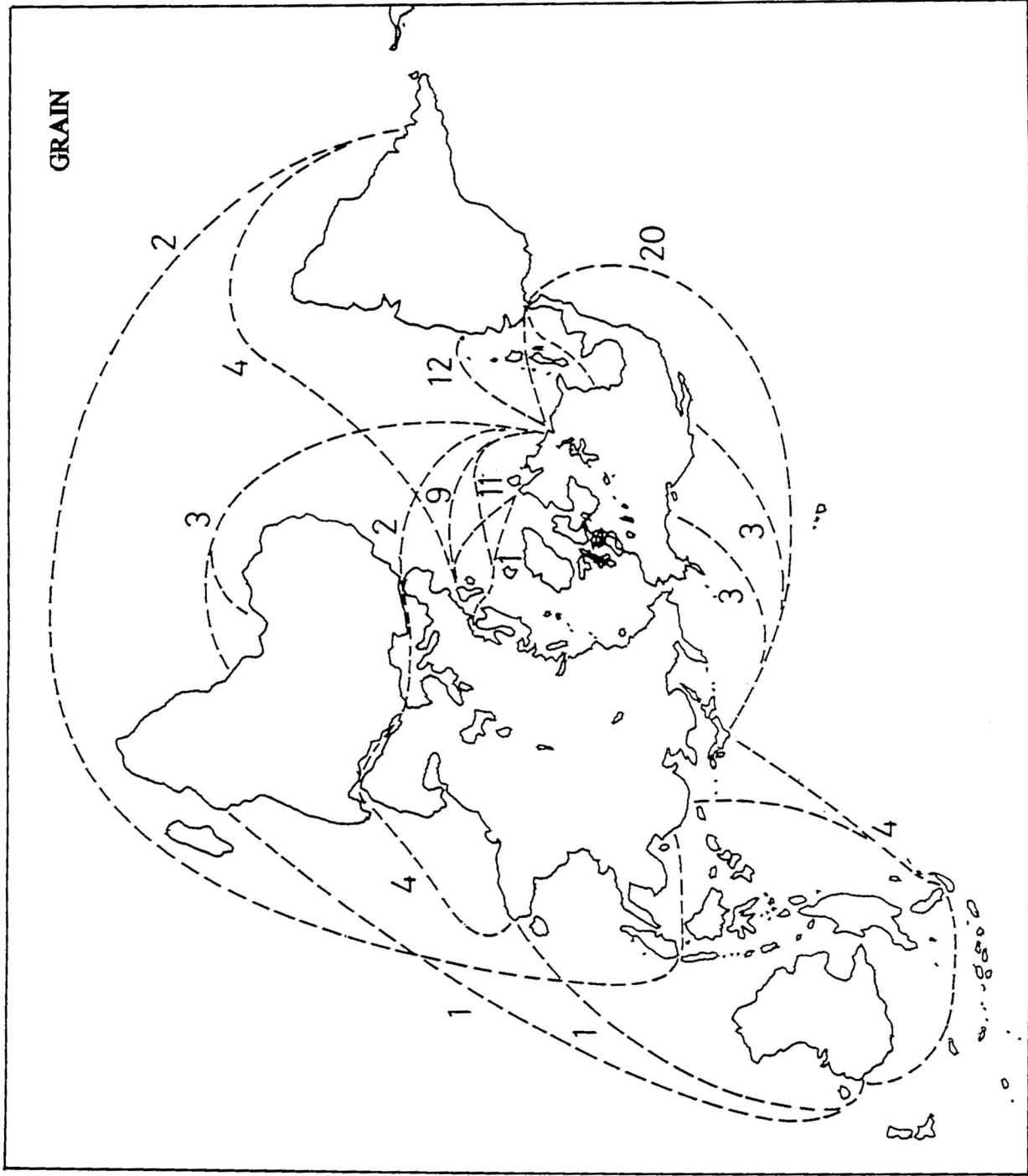
Fig. 2.3 Inter-area Trade Pattern (% in Total)

Fig. 2.4 Inter-area Trade Pattern (% in Total)

MERCHANT SHIPS
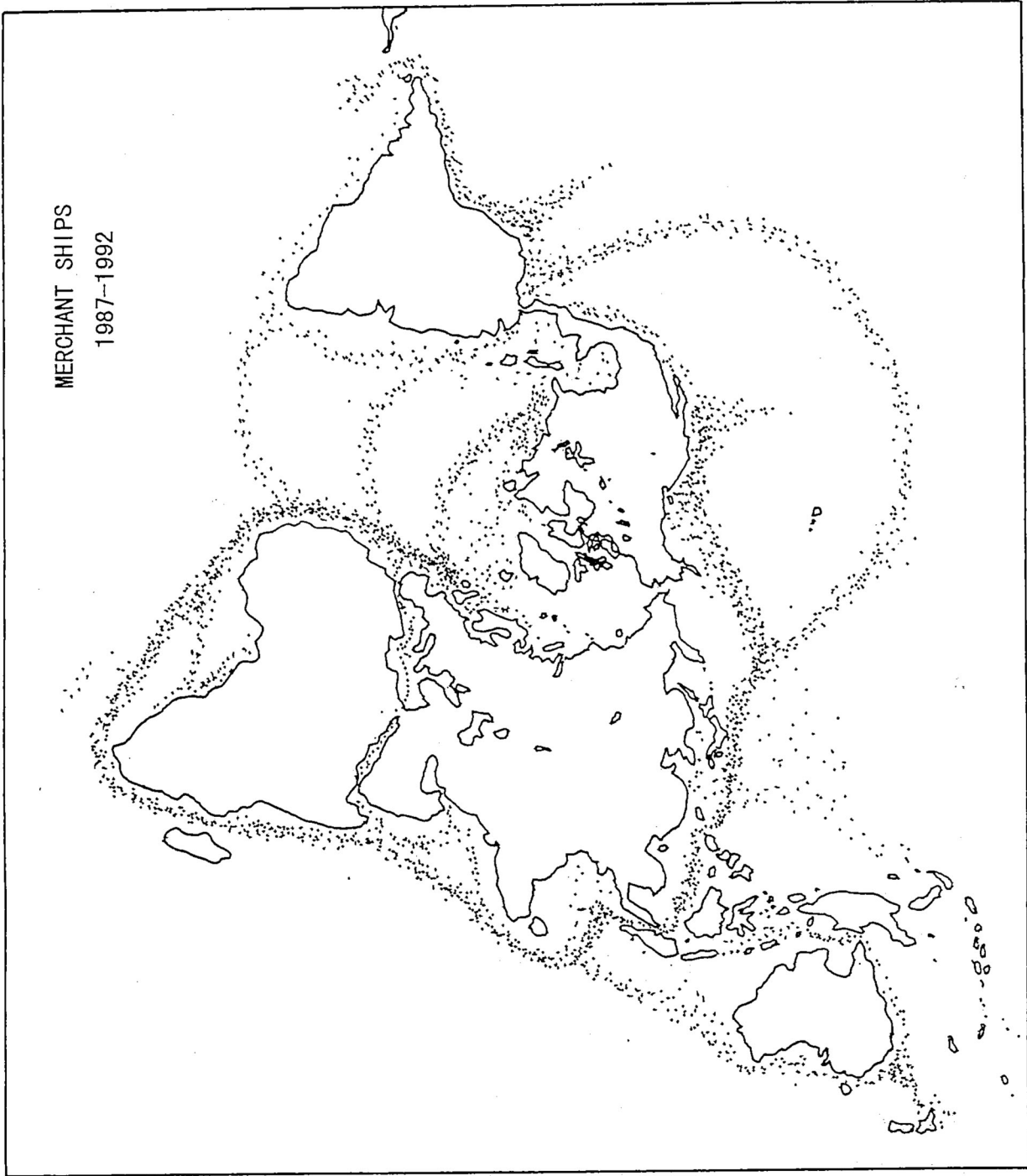
1987–1992

Fig. 2.5 Operation Pattern of Merchant Ships

FISHING VESSELS
1987-1992
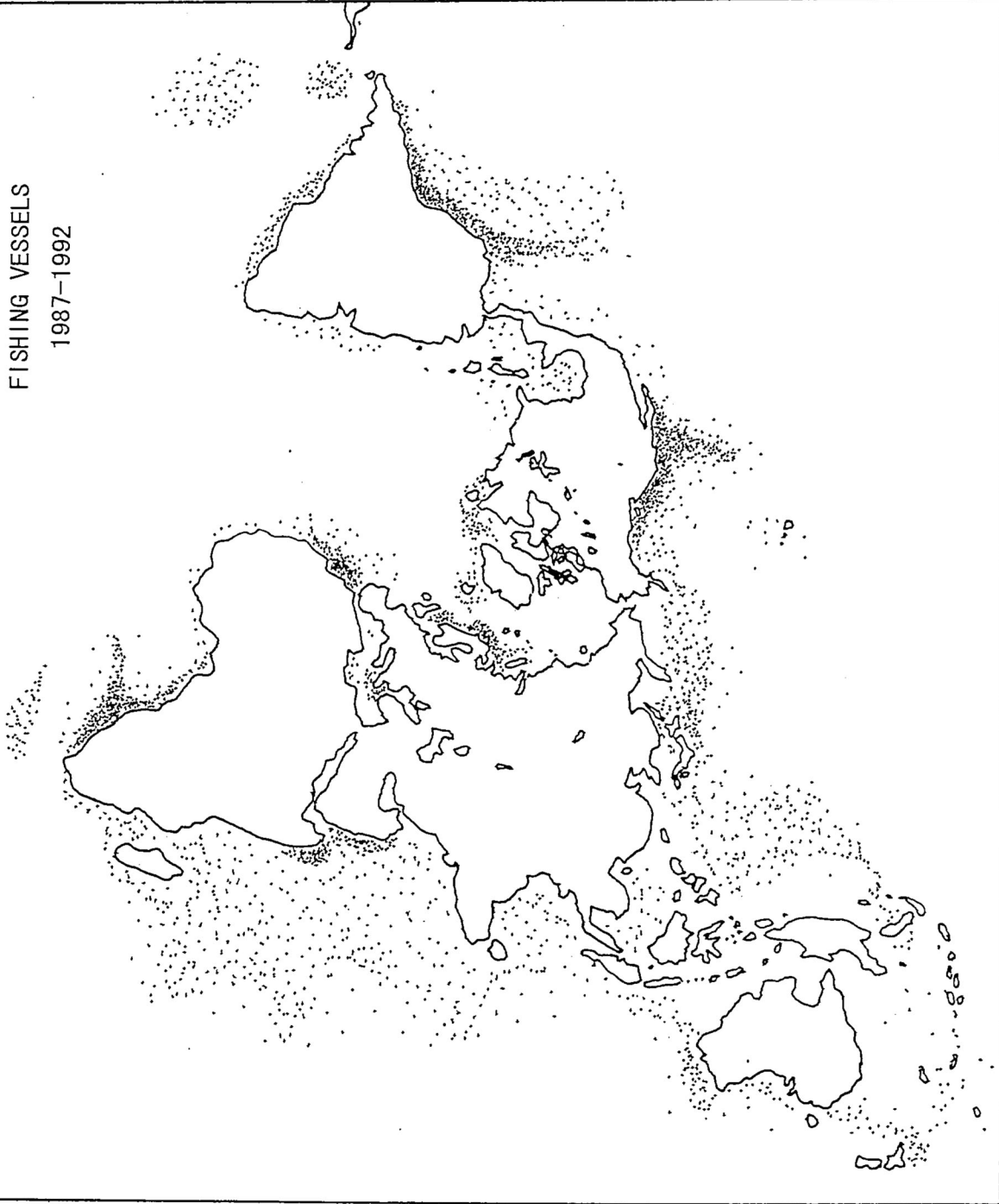
Fig. 2.6　Operation Pattern of Fishing Vessels

3. STATISTICS OF PRESENT TRADE BETWEEN NORTHERN EUROPE AND JAPAN

3.1 Statistics

Japanese exports in 1993 increased slightly on a US dollar basis and decreased to some extent on a yen basis. The import price index shows a trend of decline not only on a yen basis due to the yen appreciation but also on a dollar basis. This trend will be due to a shift in demand to cheaper products.

Classified by item, raw material, intermediate goods and capital goods occupy a large share because of substantial domestic mining and manufacturing. Imports of certain goods in which production has shifted overseas naturally increased, while imports of natural resources decreased, mostly due to the depressed economy.

Naturally trade statistics vary from year to year. No significant difference in trade statistics was found, however, in the data for five years from 1990 to 1994 [11] [12] [13] [14] [15] [16] [17]. The trade statistics of Japan with Northern Europe in 1994, for example, are shown on a dollar basis in Tables 3.1 through 3.4, where the unit for the dollar basis is 1,000$.

(1) Trade with Norway

The predominant export commodities are heavy and chemical industry products and machinery, while foodstuffs and manufactured goods are imported, as shown in Table 3.1.

(2) Trade with Sweden

Similar to trade with Norway, major export commodities are heavy and chemical industry products and machinery, and manufactured goods and machinery are imported, as shown in Table 3.2.

(3) Trade with Denmark

Predominant commodities are heavy and chemical industry products and machinery in exports and both foodstuffs and manufactured goods in imports.
Table 3.3 shows the statistics.

(4) Trade with Finland

Heavy and chemical industry products are major commodities in exports, while manufactured goods are predominant in imports, as shown in Table 3.4.

Table 3.1 Trade with Norway

COMMODITY	VALUE	SHARE, %
EXPORT		
Total Exports	1,574,569	100.0
Foodstuffs	1,689	0.1
light industry goods	41,701	2.6
textile goods	3,182	0.2
nonmetallic mineral products	2,272	0.1
other light industrial products	36,248	2.3
heavy and chemical industry products	1,527,281	97.0
chemical goods	6,896	0.4
metal goods	223,497	14.8
machinery	1,286,888	81.7
re-exports, the other commodities	2,560	0.2
IMPORT		
Total Imports	801,139	100.0
Foodstuffs	385,780	48.2
raw materials	21,315	2.7
manufactured goods	387,690	48.4
chemical goods	140,607	17.6
Machinery	54,643	6.8
metal goods	133,793	16.7
other manufactured goods	58,291	7.3
re-imports, the other commodities	5,856	0.7

Table 3.2 Trade with Sweden

COMMODITY	VALUE	SHARE, %
EXPORT		
Total Exports	1,292,986	100.0
raw materials and fuels	3,610	0.3
light industry goods	113,455	8.8
textile goods	7,398	0.6
nonmetallic mineral products	10,711	0.8
other light industrial products	95,346	7.4
heavy and chemical industry products	1,150,869	89.0
chemical goods	47,368	3.7
metal goods	87,816	6.8
machinery	1,015,685	78.6
re-exports, the other commodities	23,689	1.8
IMPORT		
Total Imports	1,542,671	100.0
Foodstuffs	9,714	0.6
raw materials	56,817	3.7
other raw materials	56,625	3.7
manufactured goods	1,466,870	95.1
chemical goods	366,661	23.8
Machinery	819,207	53.1
metal goods	154,972	10.0
textile products	12,881	0.8
other manufactured goods	113,149	7.3
re-imports, the other commodities	8,503	0.6

Table 3.3 Trade with Denmark

COMMODITY	VALUE	SHARE, %
EXPORT		
Total Exports	783,282	100.0
raw materials and fuels	2,633	0.3
light industry goods	56,292	7.2
textile goods	3,813	0.5
nonmetallic mineral products	3,515	0.4
other light industrial products	48,964	6.3
heavy and chemical industry products	669,299	85.4
chemical goods	43,190	5.5
metal goods	17,025	2.2
machinery	609,084	77.8
re-exports, the other commodities	53,072	6.8
IMPORT		
Total Imports	1,556,308	100.0
Foodstuffs	941,530	60.5
raw materials	51,017	3.3
manufactured goods	560,563	36.0
chemical goods	240,849	15.5
Machinery	195,938	12.6
textile products	14,457	0.9
metal goods	10,972	0.7
other manufactured goods	98,347	6.3
re-imports, the other commodities	3,022	0.2

Table 3.4 Trade with Finland

COMMODITY	VALUE	SHARE, %
EXPORT		
Total Exports	685,835	100.0
raw materials and fuels	599	0.4
light industry goods	15,208	10.1
textile goods	2,759	1.8
nonmetallic mineral products	2,010	1.3
other light industrial products	10,400	6.9
heavy and chemical industry products	134,520	88.9
chemical goods	12,654	8.4
metal goods	5,452	3.6
machinery	116,414	76.9
re-exports, the other commodities	590	0.4
IMPORT		
Total Imports	96,210	100.0
Foodstuffs	48,388	50.3
raw materials	13,216	13.7
manufactured goods	34,408	35.8
chemical goods	12,030	12.5
Machinery	2,744	2.9
textile products	2,478	2.6
metal goods	11,096	11.5
other manufactured goods	6,061	6.3
re-imports, the other commodities	194	0.2

3.2 Discussion

Judging from the present trade statistics, it can be said that heavy and chemical industry products might be transported via the NSR, if the NSR can offer reasonable cost savings. Seasonal operation and weakness in maintenance of the schedule as well as the resultant irregularity threaten the NSR potential.

Similar to the Barents Sea regions, regional developments and activities in particular involving natural energy resources, could prove to be the first definite step toward establishing a commercial sea lane in the Arctic, eastern half of the NSR.

4. STATISTICS OF PRESENT TRADE BETWEEN RUSSIA & EASTERN EUROPE AND JAPAN

4.1 Statistics [11] [12] [13] [14] [15]

Most of the countries in Eastern Europe, such as Bulgaria and Rumania will rely on the southern conventional sea lanes due to the geophysical conditions for their international trade. Poland and the Baltic states will have a possibility of using the NSR as shipping route. For the moment, however, trade between Japan and the Baltic states is at an extremely low level.

(1) Trade with Russia

Heavy and chemical industry products, metal goods and machinery are predominant commodities in exports and manufactured goods, metal goods foodstuffs and raw materials in imports.

Table 4.1 shows the trade statistics.

(2) Trade with Poland

Heavy and chemical industry products and machinery are major commodities in exports, while foodstuffs, raw materials are predominant in imports, as shown in Table 4.2.

16

Table 4.1 Trade with Russia

COMMODITY	VALUE	SHARE, %
EXPORT		
Total Exports	1,500,792	100.0
Foodstuffs	15,117	1.0
raw materials and fuels	25,774	1.7
light industry goods	98,041	6.5
textile goods	15,799	1.1
nonmetallic mineral products	4,831	0.3
other light industrial products	77,410	5.2
heavy and chemical industry products	1,332,347	88.8
chemical goods	375,825	7.3
metal goods	375,825	25.0
machinery	847,284	56.5
re-exports, the other commodities	29,513	2.0
IMPORT		
Total Imports	2,769,226	100.0
Foodstuffs	728,030	26.3
raw materials	678,071	24.5
textile raw materials	11,598	0.4
metallic raw materials	31,864	1.2
other raw materials	634,608	22.9
mineral fuels	292,439	10.6
manufactured goods	994,805	35.9
chemical goods	40,749	1.5
Machinery	6,812	0.2
metal goods	879,817	31.8
other manufactured goods	66,775	2.4
re-imports, the other commodities	75,882	2.7

Table 4.2 Trade with Poland

COMMODITY	VALUE	SHARE, %
EXPORT		
Total Exports	151,317	100.0
raw materials and fuels	599	0.4
light industry goods	15,208	10.1
textile goods	2,759	1.8
nonmetallic mineral products	2,010	1.3
other light industrial products	10,400	6.9
heavy and chemical industry products	134,520	88.9
chemical goods	12,654	8.4
metal goods	5,452	3.6
machinery	116,414	76.9
re-exports, the other commodities	590	0.4
IMPORT		
Total Imports	96,210	100.0
Foodstuffs	48,388	50.3
raw materials	13,216	13.7
manufactured goods	34,408	35.8
chemical goods	12,030	12.5
Machinery	2,744	2.9
textile products	2,478	2.6
metal goods	11,096	11.5
other manufactured goods	6,061	11.5
re-imports, the other commodities	194	0.2

4.2 Discussion

It is extremely difficult to predict future trade between Japan and Russia and Eastern Europe via the NSR, based on the present trade statistics. Russia and the countries in Eastern Europe surely have a great potential for trade with Japan via the NSR. Russia, undoubtedly one of the most promising trading partners with Japan via the NSR in future, has tremendous natural resources to be exported. The trading community of Japan emphasizes that this potential can only be realized with an improvement of the economic and social situation of these countries.

5. REGIONAL DEVELOPMENT OF THE NSR [18] [19] [20] [21]

5.1 Introduction

Most of the rim countries the Sea of Japan, such as Japan, Korea, North Korea, China and Russia, have their potential interests in development of the Northern Sea Route, in particular their eastern regions. Compared with the western half of the NSR, there have been less activities even in exploitation of natural resources in this region. Recent activities in the Barents Sea will provide a good example for understanding and planning the development of the eastern half of the NSR. Natural energy resources such as oil and natural gas will surely be one of the most effective products to stimulate activities in the eastern half of the NSR. Most of the Japan-Sea-Rim countries have long been dependent on imported energy resources.

5.2 The Eastern Half of the NSR

The eastern half of the NSR consists of the Laptev Sea, the East Siberian Sea, the Bering Straight, the Bering Sea, the North Pacific Ocean, the Sea of Okhotsk and the Japan Sea. The region includes countries such as Japan, Korea, North Korea, China and the Russian Far East. Nine territories along the NSR, which have a similar political structure under the jurisdiction of Russia, make up the Russian Far East, in addition to three inland territories; the Buriatjia Republic, Chitinskaia Oblast and Amurskaia Oblast. The nine territories along the NSR are East Sibelia, Sakha, Chukotskaia AO, Koryakskii AOK, Kamchatkaia Oblast, Magadanskaia Oblast, Khabarovskii Krai, Sakhalin-skaia Oblast and Primorskii Krai.

The potentially highest economic activity in the eastern half of the NSR is found in the Japan-Sea-Rim countries.

19

5.3 Japan-Sea-Rim Countries [22] [23] [24] [25]

A stable, steady development of the eastern half of the NSR will be dependent on the social and economic development of the Japan-Sea-Rim countries and the Russian Far East. Otherwise the NSR will remain being a narrow, vulnerable sea lane, even in future. Trade and shipping developed between the Japan-Sea-Rim countries could stimulate them to extend the economically active regions further northwards and then to incite interest in exploitation of natural resources in the northern regions along the coastline of the East Siberian Sea. Recent activities of an oil production scheme in Sakhalin can be also expected to have a positive effect on the development of the NSR. As far as production of energy resources and transportation of them are concerned, regional development and industrial activities in Sakhalin will constitute a considerable contribution to the NSR, as the region is close to the economically developed area in the Japan-Sea-Rim countries and ultimately a prosperous marine transportation of natural energy resources can confidently be expected between Sakhalin and these countries. Furthermore, icebreaking vessels, or at least ice-strengthened vessels will be required to transport the natural resources, which could afford an incentive to the NSR vessels and the NSR itself.

Among the Japan-Sea-Rim countries, Japan, Korea and China will have the largest potential for shipping along the NSR. For the moment Japan and China dominate the Russian Far East trade, and Korea will rapidly increase its trade. Japan and China together account for 75% of the Russian Far East trade. Japan's trade is particularly significant in the regions of Yakutiia, Magadan and Khabarovsk. On the other hand, China is the leading trading partner in Primorye and Amur. Japan and the USSR drew up the contracts in the 1970s which were designed to finance development of the Russian Far East in logging, coal mining, and oil and gas development.

As compensation trade, local industry generated about 30 million cubic meters of timber exports to Japan over the years that followed. The coal project in Southern Yakutiia obtained about US$ 1 million from Japan to secure 5.5 million tons of annual export of coking coal. The similar compensation trade between Japan and Russia had been set up for offshore oil and gas in Sakhalin.

Another type of trade in this region is barter trade, in which China is the major trading partner with the Russian Far East. In exchange for consumer goods and foodstuffs from China, the Amur, Khabarovsk and Primorye regions return fertilizer, fish products, rolled steel, and timber.

For the moment, air transport is vital, particularly in the northern region. Permafrost is a hindrance to the construction of roads, while rivers and coastal waterways remain important

means of transport when waters are ice-free. The poor railroad-seaport inter-modal link has represented a barrier to increases in international trade flows.

Seasonal dependence is one of the marked features of freight transportation in the Russian Far East. Maximum turnover is recorded in May to October, when the Arctic regions receive supplies. This seasonal dependence of transportation and social activities is a great hindrance to regional development and can be overcome only with development of the regions involved. Gradual, sustainable development in social activities and transportation is vital to solve the problem.

The Russian Far East is geographically very close to Japan, but in the political and economic sense it is very distant. In Japan very few persons engaged trade understand the Russian Far East or its political, economic and social conditions.

(1) Amur Oblast

The area is 363, 700sq.km and its population counts around 1,100,000.

Blagoveshchensk is the administrative centre, where the major industries are construction, textiles and food-processing. Amur Oblast contributes half of the Russian Far East's grain and flour output and a third of its dairy production, and has the largest hydropower generator in the Russian Far East. Soybean production covers almost 80% of domestic consumption. Large coal and iron-ore deposits in the oblast will provide the most suitable site for an integrated iron/steel complex in the Russian Far East.

The oblast has been unknown to most of the foreign business market, but the possible construction of a bridge across the Amur could change the Northeast Asian business interest for the continent.

(2) Kamchatka Oblast

The area is 472,300 sq.km and the population counts about 470,000.

The administrative centre is Petropavlovsk-Kamchatskii, which was established in 1740. The oblast is second to Primorye as centre for the Russia Far East fishing industry. Almost 75% of the industrial output in the oblast is produced by the fishing industry. The fish catch accounts for one third of the total catch of the Russian Far East.

Adventure tourism is a growing business of the oblast, especially visits to the Valley of the Geysirs.

The oblast is fully dependent on imported fuel, although rich in marine resources, particularly crab and salmon. The abundance of crab and salmon in Kamchatka will attract trade activity from the countries in Far East Asia, such as Japan and Korea.

(3) Khabarovsk Krai

Khabarovsk Krai has an area of 824,000 sq.km and about 1,800,000 in population.

The administrative centre is located in the city of Khabarovsk, founded in 1858. The city is the largest centre for civilian machine construction in the Russian Far East, turning out lathes, turbines, diesel engines, ships, cable, fish-processing equipment, etc. Machine building dominates industry by as much as 30%. Another leading business in the Krai is the timber industry.

The Krai has the biggest energy deficit in the Russian Far East.

The prospective development of the railroad/seaport complex at Vanino will considerably improve the transportation infrastructure of the region.

(4) Magadan Oblast

The area of the oblast is 1,199,100sq.km, which the population counts about 551,000.

The city of Magadan is the centre of administration, founded in 1933. The port of Magadan, Nagayevo, has a large fishing fleet and remains open year/round with icebreaker assistance.

The oblast has been one of the leading producers of gold, silver, tin and tungsten. Foreign tourism, in particular from Alaska and the West Coast of the United States is gaining in importance.

The mineral resources of the region could be a target for foreign investment.

(5) Primorye

Primorye is 165,900sq.km in area and has about 2,300,000 in population. Vladivostok, the administrative centre of Primorye, is one of the most well-known ports of the Russian Far East to Asian countries and is home of the Russian Pacific Fleet and the Far Eastern Sipping Company (FESCO).

Primorye has the most balanced economy in the Russian Far East, and is composed of the four dominating industries of fish-processing, defence industry, ship repair and machine building, with half of the output geared toward the fishing and ship repair industries. Construction materials produced in Primorye supply the whole Russian Far East.

The krai lies about 400 miles from Japan, bordered by the Sea of Japan, China and North Korea, where the railroads connect with both countries. Vladivostok is the eastern terminus of the Trans-Siberian Railway. In terms of total foreign trade, Primorye is the leader of the Russian Far East.

(6) Republic of Yakutiia-Sakha

The republic has a population of 1,074,000 in an area of 3,103,200 sq.km.

Yakutsk, the capital of the republic, was founded as a fort on the Lena River in 1632. Sakha has the most extreme temperature conditions in the Northern Hemisphere. The entire republic is covered in permafrost and the city of Yakutsk is famous as being the city fully built on permafrost. Major industries are construction-materials production, meat, timber and fur. Coal and natural gas production are other important industries.

Mirnyi is the centre of one of the world's richest diamond-mining areas, and Aldan is located in a large gold-mining region.

(7) Sakhalin Oblast

The population of the oblast is about 714,000 in an area of 87,100 sq.km.

Yuzhno-Sakhalinsk, administrative centre of the oblast, was founded in 1881 and ruled by Japan from 1905 to 1945. The economy of the oblast is dependent firstly on fish and processing and secondly on timber, pulp and paper productions.

Off-shore oil and gas exploitation promises a new economic development of the oblast, and several foreign firms are active in trying to obtain contracts in offshore drilling. The United States plays an active, major role in the exploitation of oil and gas. The proximity to Japan, however, will be an advantage in trade, investment and travelling for foreign countries. Particularly in Hokkaido, the most northerly island of Japan, trial undertakings have been promoting to support the oil and gas production industry in Sakhalin and to establish much closer relations between Japan and Sakhalin.

5.4 Concluding Remarks

(1) Transportation in General

To date, seasonal dependence has been one of the distinct features of freight transportation in the Russian Far East. In most cases, freight transportation has been carried out from May to October. The recent general slow-down in economic activity has caused disruption in transport. A possible new trend in transportation between the Pacific countries could gradually make changes in the general features of freight transportation in the Russian Far East.

(2) Marine Transportation

The structure of cargo traffic by territory in 1990 was as follows.

Marine	13%
Fresh Water	12% (rivers and lakes)
Railway	35%
Motor	40%

Cargo transportation was mostly by railway and by road. Railway transportation is dependent on the Trans-Siberian and Baikal-Amur railroads, which are connected by north-south trunk lines.

Marine transportation has a 13% share of the total cargo transport. The Russian Far East has about 300 operational ports and mini-ports, most of which are small and specialize in certain cargo, such as fish, timber, minerals and oil.

The exploitation and production of oil and natural gas in the Sakhalin region in the near future and possibly in the East Siberian Sea in future will ensure the development of marine transportation in the Russian Far East.

(3) Trade

The Russian Far East has always produced export commodities for Russia, and at the moment, most of the Russian Far East exports go to the Pacific Rim countries, as shown in Tables 5.1 to 5.4.

Japan, China, and probably Korea dominate and will continue to carry on the Russian Far East trade. Japan's share of trade is significant in four regions; Yakutiia, Magadan, Khabarovsk and Sakhalin.

Compensation trade with Japan and barter trade with China, Japan and South Korea have characterized trade in the Russia Far East. The recent political and social changes in Russia have caused a paralysis of trade in the Russia Far East. Japan and Russia are trying to improve their economic relations and trade.

(4) Industry

5% of the total industrial output of Russia is produced in the Russia Far East. The industry in the Russia Far East is characterized by a predominant contribution of the industry to the national economy of rather limited fields of industry such as fishing, mining and logging and timber processing. This structure of the industry might be a serious hindrance to future development of the territories.

Table 5.1   Foreign Trade of the Russian Far East by Territory (1992)
US$ Thousands

TERRITORY	TURNOVER	EXPORT	IMPORT
Primorye	933	352	581
Khabarovsk	497	371	126
Amur	422	232	191
Kamchatka	310	207	103
Yakutiia	213	153	59
Sakhalin	206	137	69
Magadan	141	81	60
Russian Far East	2,722	1,533	1,189

After Miller-Karp 2222

Table 5.2 Major Foreign Trading Partners of the Russian Far East (1992)

%

COUNTRY	TOTAL	EXPORTS	IMPORTS
Japan	35	47	21
China	39	30	50
South Korea	9	7	12
USA	3	3	2
Vietnam	2	3	1
Other	12	10	14
Total	100	100	100

After Miller-Karp 2222

Table 5.3 Directions of Trade for the Russian Far East Territories
Share in the total trade (%), 1992

	JAPAN	CHINA	SOUTH KOREA	USA	OTHER
Yakutiia	70	5	1	2	21
Primorye	22	46	15	0	17
Khabavosk	47	23	5	9	16
Amur	7	91	0	0	2
Magadan	62	13	7	6	12
Sakhalin	54	6	18	4	18

After Miller-Karp 2222

Table 5.4 Commodity Structure of Russian Far East Exports and Imports
1992, %

COUNTRY	EXPORTS	IMPORTS
Foodstuffs	29	27
Fuels, Minerals, Metals	27	2
Machines & Equipment	18	24
Timber & Timber Products	13	0
Chemicals	9	0
Consumer Goods	0	42
Other	4	5

After Miller-Karp 2222

(5) Workforce

The workforce vitally influences the development of the territories and the trade as well.

The Russian Far East has always been a labor-deficit region and has the lowest percentage of old people among the Russian regions. It has been pointed out that there are minor wage differences though major differences in living conditions between the Western regions of Russia and the Russian Far East. The labor-deficit can basically only be solved by a steady increase of the population of the territories. The increase of population in the Russian Far East, however, has been retarded in recent years.

6. QUESTIONNAIRES

6.1 The objectives

Questionnaires were issued to persons who might have an interest in the Northern Sea Route and related issues and could give us useful suggestions for a description of a possible future scenario of the development of the NSR. Questionnaires or interviews were then presented to persons working in various fields in Japan, most of them living or working in Tokyo.

The Arctic has long been closed to Japan in various respects. Even scientific activities have been prohibited in the Russian Arctic. On the other hand, regular scientific observations have been carried out in the Antarctic, together with periodical services of the Japanese Antarctic Research vessels, Soya, Fuji and Shirase in succession, which were designed and built in Japan. In Japan, the South Pole has therefore been much more familiar even to businessmen. We realized from preliminary interviews with them that any questionnaire on the Northern Sea Route for Japanese businessmen should be conducted while providing them with general information on the Arctic, if substantial responses and results were to be expected. The questionnaires were then issued twice to the same persons, including and not including a brief description of the NSR and the INSROP.

It is quite common in Japan that most companies have rules of publicity of opinion for persons working for the companies, and frank and personal views can be obtained through private and informal communications and conversations. Only the professions of the persons interviewed were allowed to be listed, as in Table 6.1.

6.2 Format

The formats of the questionnaires, shown in Tables 6.2 and 6.3, asked questions on the

availability of information and necessary technology for the NSR operations, and an evaluation of the potential of the Northern sea Route as a major sea route between the Far East and the northern countries of Europe in the near future.

Regarding the questionnaire on the availability, capability and reliability of the present information and technology necessary for NSR operations, the following twelve items were evaluated by four levels respectively:

- route and hydrography; navigable area and route, electronic charts
- ice data, long term; statistics and expectation
- ice data, real time; remote-sensing technology and data available
- ship parameters; rational design methods of NSR vessels
- ship strength; rational strength criteria and classification society rules and their harmonization
- ship maneuvers; navigation techniques along the NSR
- hazardous impacts; possible extreme impacts due to collision with ice or other obstacles and safety guidance
- ice forces; reliable data for rational design of NSR vessels
- extreme statistics; extreme statistics on ice conditions and other important factors
- damage probability; risk analysis
- rules and regulations; mostly Russian ones
- insurance; international and Russian domestic if any

The potential was evaluated by each of the five levels, positive and negative. The first and second questionnaires had the same format. Comments on the NSR and the associated issues were also requested. Some of them were collected orally through the interviews.

6.3 Summary of Interviews

The results of the questionnaires and interviews are summarized in Figs.6.1 to 6.7.

In general, most of the persons interviewed feel that the NSR operations are still premature, and that much more data and information should be provided on the natural environment, social structure, regulation, tariff structure and insurance.

They also feel that the present unstable political and economic conditions of Russia do not warrant any hopeful expectations regarding possible NSR operation in the near future.

·Contrary to the economists, engineers entertain hopeful views on NSR development, probably due to the strong subconscious motivation of engineers for achieving fascinatingly difficult targets.

Table 6.1 Profession of the Persons interviewed

PROFESSION	NUMBER
Trading Company: General Commodities	3
Trading Company: Electronics Products	2
Trading Company: Housing Materials	2
Trading Company: Fish and Marine Products	3
Shipping Company	4
Airline Company	2
University: Professor of Economics	1
University: Professor of Law	1
University: Bio-economics	1
Bank	3
Scientist at National Institute: Oceanography	2
Scientist at National Institute: Low Temperature Science	1
Scientist at National Institute: Remote Sensing Technology	1
Scientist at National Institute: Marine Biology	2
Total	28

Table 6.2 Questionnaire Format 1 (items to be improved)

ITEMS	A	B	C	D
route and hydrography data				
ice data, long term				
ice data, real time				
ship parameters				
ship strength				
ship maneuvers				
hazardous impacts				
ice forces				
extreme statistics				
damage probabilities				
rules and regulations				
Insurance				

A: We have satisfactory information.
B: Navigation could be conducted, utilizing the present data and information
C: Information is poor and to be improved.
D: We have no reliable data and information.

Table 6.3 Questionnaire Format 2 (NSR possibility)

POSSIBILITY	-3	-2	-1	0	+1	+2	+3	+4	+5
NSR, through									
NSR, western half									
NSR, eastern half									
Sea of Okhotsk region									
Sea of Japan region									

+5: regular service in the next ten years
+4: irregular but frequent service in the next ten years
+3: irregular service in the next ten years
+2: irregular service in summer season in the next ten years
+1: irregular service after ten years
 0: the present service level remains in the next ten years
-1: the present service level remains in the next twenty years
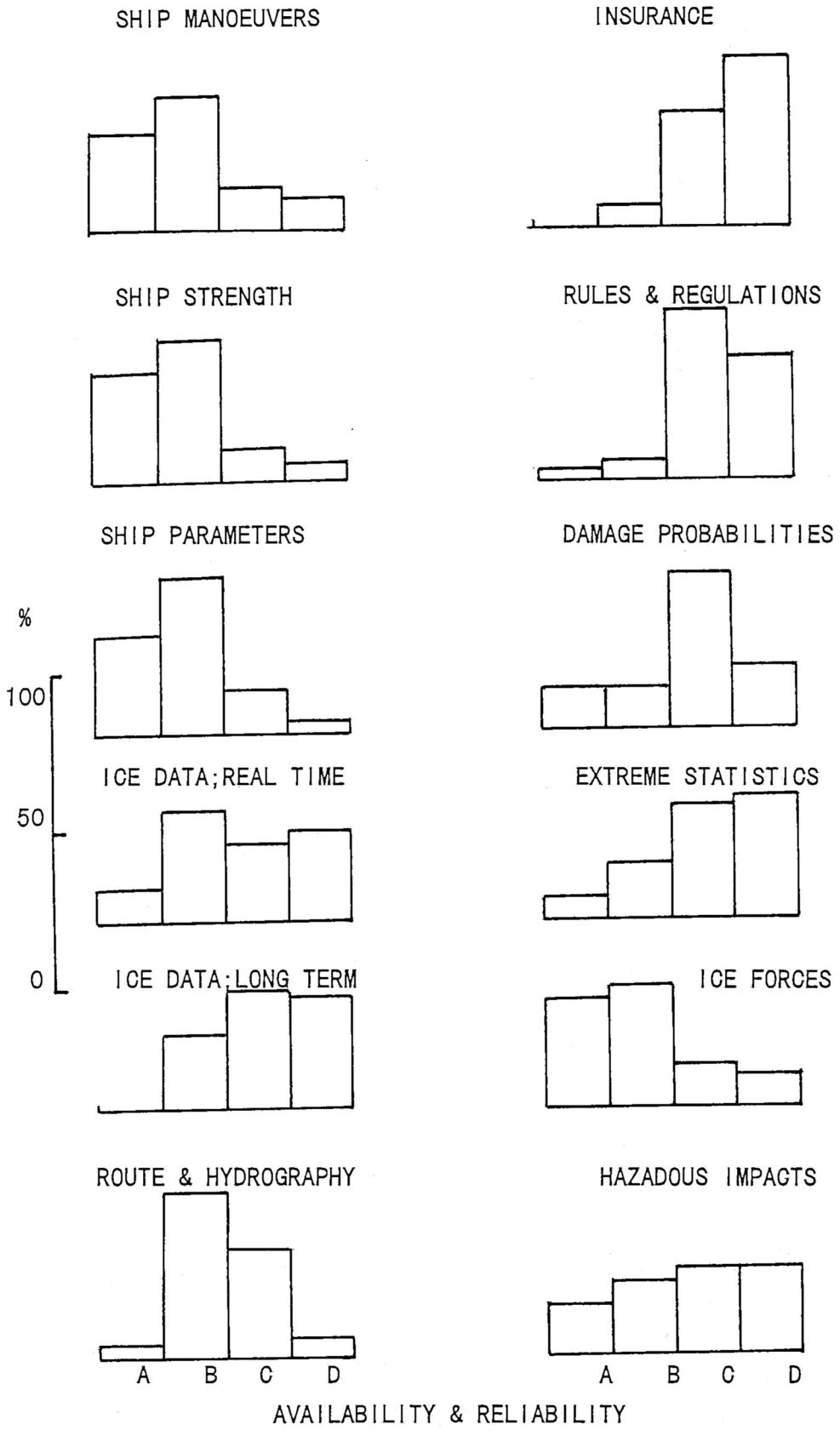-2: less frequent service than present level in the next ten years
-3: hopeless

SHIP MANOEUVERS

INSURANCE

SHIP STRENGTH

RULES & REGULATIONS

SHIP PARAMETERS

DAMAGE PROBABILITIES

%

100

ICE DATA;REAL TIME

EXTREME STATISTICS

50

ICE DATA;LONG TERM

ICE FORCES

0

ROUTE & HYDROGRAPHY

HAZADOUS IMPACTS

A   B   C   D

A   B   C   D

AVAILABILITY & RELIABILITY
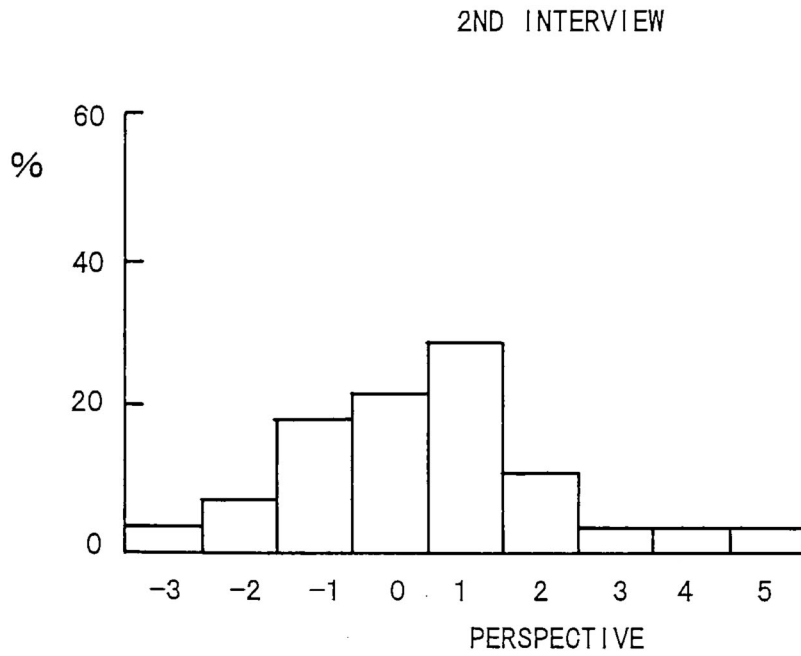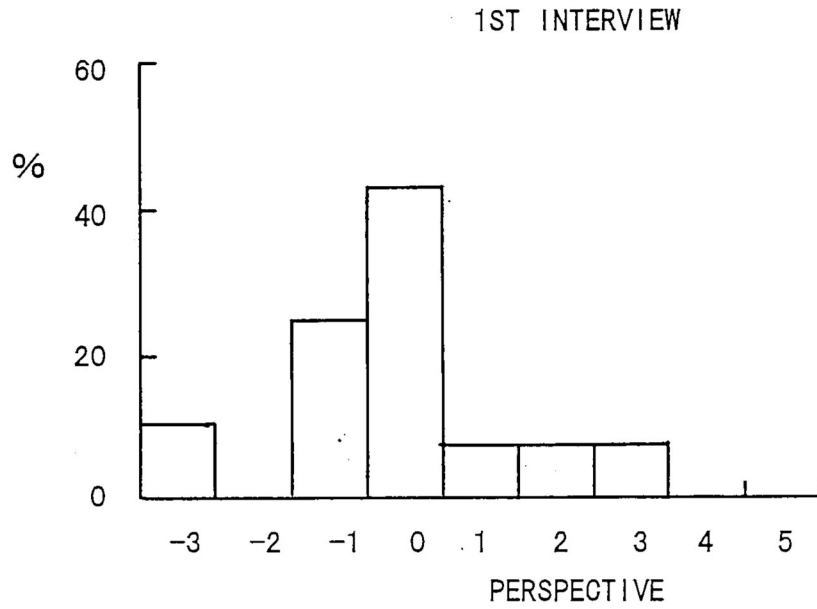
Fig. 6.1 Summary of Questionnaires and Interviews

Fig. 6.2 Summary of Questionnaires and Interviews
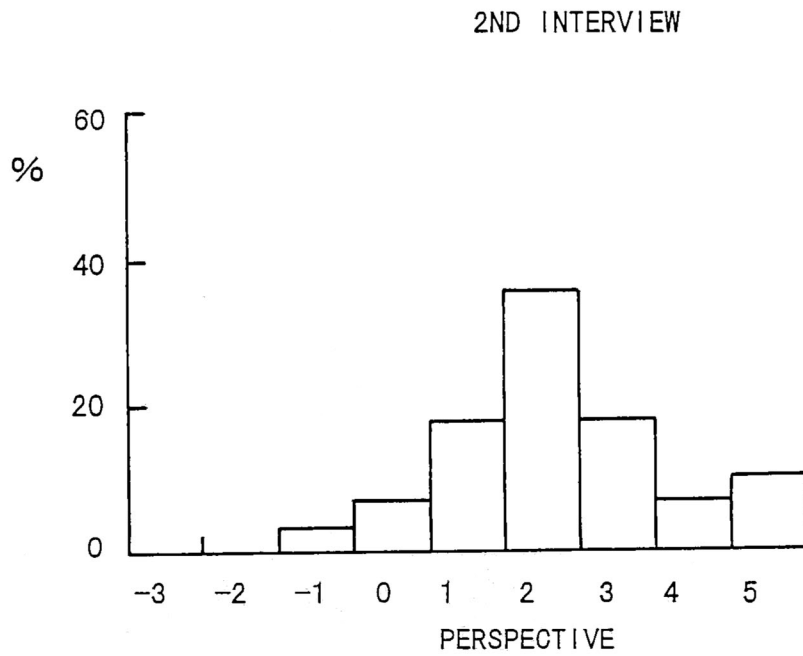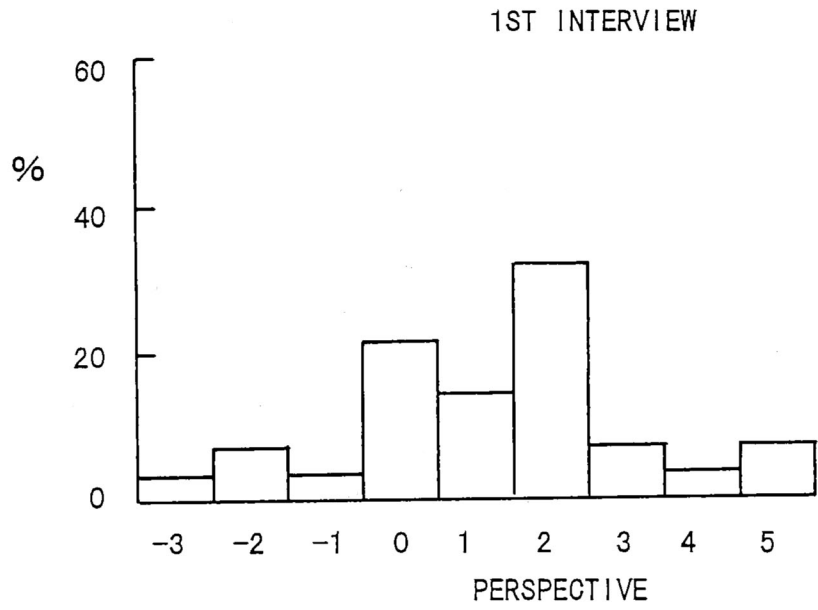
NSR:WESTERN HALF

1ST INTERVIEW

2ND INTERVIEW

Fig. 6.3 Summary of Questionnaires and Interviews
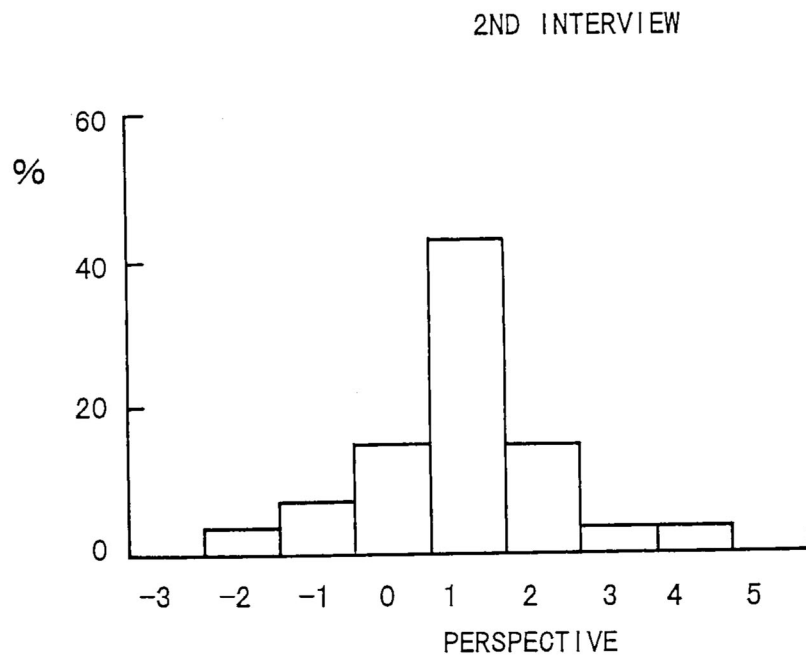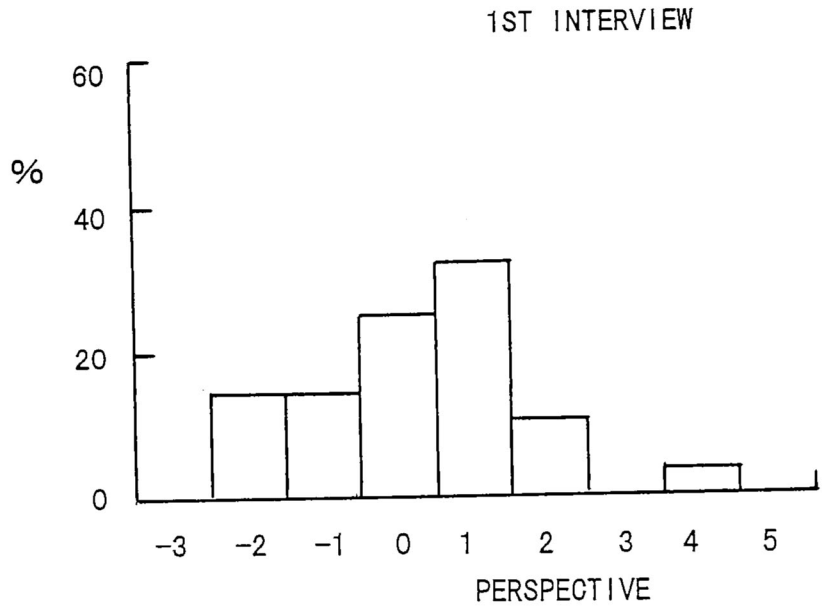
NSR:EASTERN HALF

1ST INTERVIEW

2ND INTERVIEW

Fig. 6.4 Summary of Questionnaires and Interviews
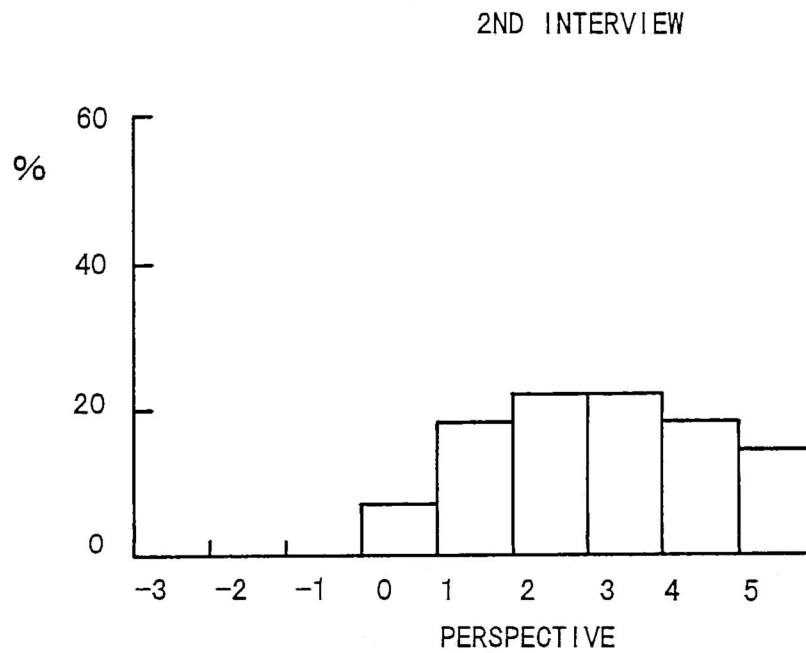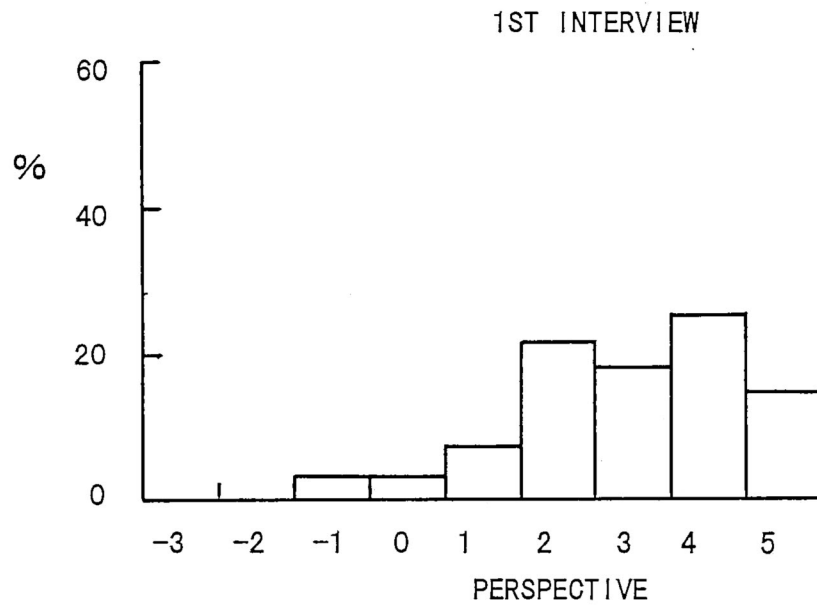
SEA OF JAPAN

1ST INTERVIEW

2ND INTERVIEW

Fig. 6.5 Summary of Questionnaires and Interviews

SEA OF OKHOTSK
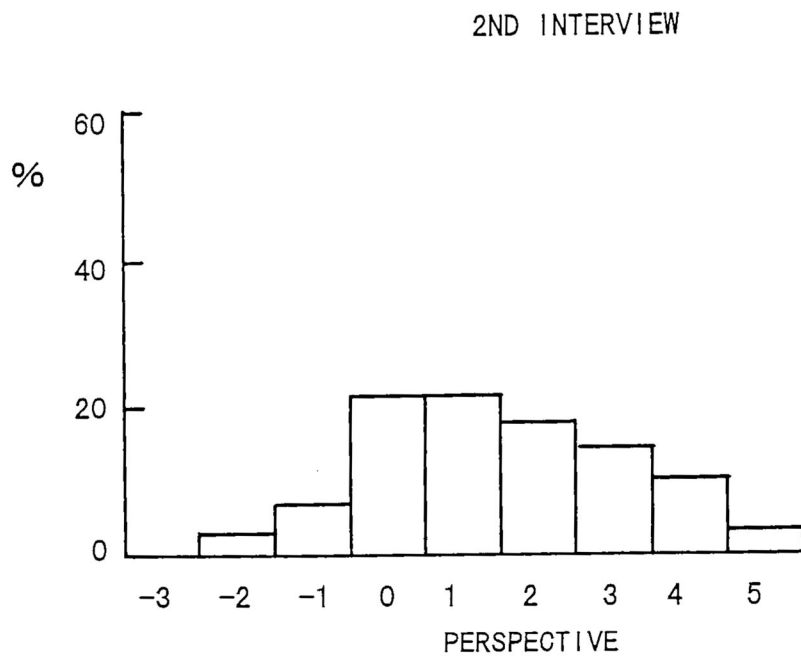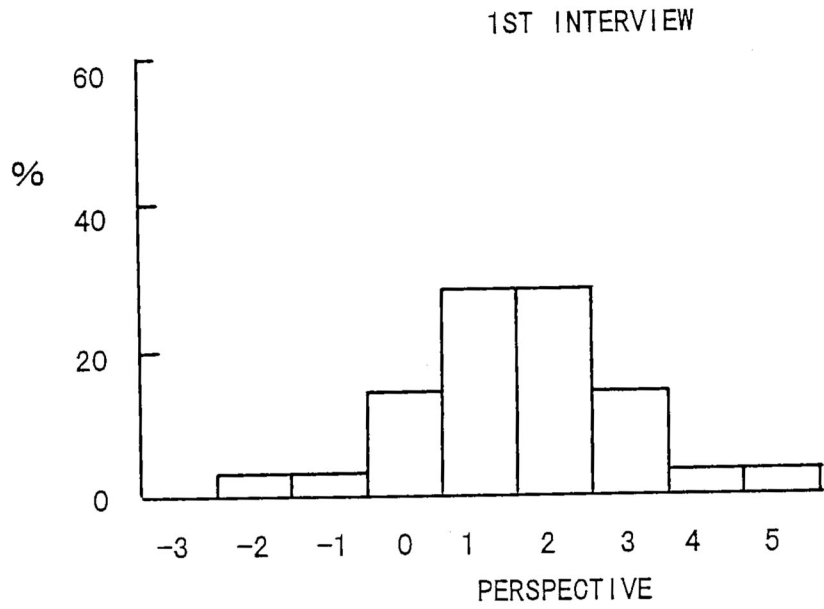
1ST INTERVIEW

2ND INTERVIEW

Fig. 6.6 Summary of Questionnaires and Interviews

38

NSR: THROUGH

Fig. 6.7 Summary of Questionnaires and Interviews

7. CONCLUDING REMARKS

The following conclusions were made;

Statistics on the present trade between the Northern Europe, Russia and Japan could not indicate much about a future potential of the Northern Sea Route for commercial use.

The questionnaires and interviews with engineers and businessmen in major trading companies, shipping companies, shipbuilding industries, etc. in Japan suggested that there would be a future potential for the Northern Sea Route only if the following issues are solved and clarified?

- improvement of the economic, social and political conditions of the countries involved,
- reasonable tariff structure,
- compatible insurance structure,
- development of NSR vessels with high performance and low costs in building and operation,
- reasonable and economic icebreaker assisting and supporting system,
- qualification of crew and training,
- improvement in optimum routing algorism in ice-infested waters based on satellite remote sensing technology,
- reform and construction of ports and harbours along the NSR,
- development of isolated regions along the NSR
- reasonable linkage with ground-based transportation system,
- exploitation of energy resources in the eastern regions of the NSR,
- well-balanced policy for development of the NSR with regional development,
- international co-operation to develop and maintain the NSR.

The business community in Japan does conclude that the cargo volume that has been traded between Japan and Northern Europe, Russia and Eastern Europe might not necessitate any new shipping route through ice-infested waters for the moment, as long as the present political and economic conditions are not changed appreciably and improved.

Raw materials and foodstuffs would be the most probable commodities for transport on the NSR, only if they are found and provided in some regions along the NSR, in particular in its eastern part. Another scenario of the marine cargo transportation via the NSR will be

possible if Northern and Eastern Europe and Japan have a qualitatively similar trading relation as the present Japan-US relationship in trade. This means that the NSR would be mostly dependent on further economic development in Russia and Eastern Europe, or a drastic development of fishery and industries in the Scandinavian countries.

REFERENCES

1. Ocean Commerce, Ltd., "International Transportation Handbook '89 (in Japanese)", 1989.

2. Ocean Commerce, Ltd., "International Transportation Handbook '90 (in Japanese)", 1990.

3. Ocean Commerce, Ltd., "International Transportation Handbook '91 (in Japanese)", 1991.

4. Ocean Commerce, Ltd., "International Transportation Handbook '92 (in Japanese)", 1992.

5. Ocean Commerce, Ltd., "International Transportation Handbook '93 (in Japanese)", 1993.

6. Ocean Commerce, Ltd., "International Transportation Handbook '94 (in Japanese)", 1994.

7. Ministry of Transport of Japan, "Statistics of Merchant Ship Operations: 1987-1992 (in Japanese)", 1993.

8. Maritime Safety Agency of Japan, "Ship Operations and Collisions: 1990-1992 (in Japanese)", 1993.

9. Fisheries Agency of Japan, "Fishing and Fishing Markets: 1987-1989 (in Japanese)", 1990.

10. Fisheries Agency of Japan, "Statistics of Fishing Vessels Operarions:1988-1992 (in Japanese)", 1993.

11. JETRO, "International Trade of Japan (in Japanese)", Japan External Trade Organization, 1990.

12. JETRO, "International Trade of Japan (in Japanese)", Japan External Trade Organization, 1991.

13. JETRO, "International Trade of Japan (in Japanese)", Japan External Trade Organization, 1992.

14. JETRO, "International Trade of Japan (in Japanese)", Japan External Trade Organization, 1993.

15. JETRO, "International Trade of Japan (in Japanese)", Japan External Trade Organization, 1994.

16. JETRO, "White Paper on International Trade Japan 1994", Japan External Trade Organization, 1994.

17. OMNI-Information Inc., "Japanese Exports and Imports (in Japanese)", OMNI-

Information Inc. Tokyo, 1994.

18. Dean M.Hanink, "The International Economy", John Wiley & Sons, Inc., 1994.

19. Institute for Eurasian Studies, "Eurasian Studies (in Japanese)", No.4, Shiraishi Press, 1994.

20. T.J.Colton & R.Legvold, "After the Soviet Union", W.W.Norton & Co., 1992.

21. H.Ohssaki, "The Present Condition of the Russian Economy (in Japanese)", Vol.30, No.2, Jour. of Japanese Scientists, 1995.

22. E.Miller & A.Karp, "Pocket Handbook of the Russian Far East: A Reference Guide", Russian Far East Update, 1994.

23. K.Ogawa & H,Watanabe, "Russian and Central-East European Economies in Transition (in Japanese)", Chuo-Keizaisha, 1994.

24. E.Shbata,"International Physical Distribution and Economics (in Japanese)", Seizando Press, 1991.

25. Ministry of Transport of Japan, "White Paper on Shipping (in Japanese)", Transport of Japan, 1994.

SUMMARY OF THE COMMENTS GIVEN THROUGH INTERVIEWS

Most of the comments given through the interviews were concerned with the economic, social and political conditions in Russia and requirements to them, as Russia continues to face serious social and economic problems including rapid inflation, reduction in production and certain stagnant investment. They understood well that the present chaos was due to the fact that Russia had long been isolated from market activities, and that when the country became accustomed to a market economy, it could have a promising future in trade.

The collected and summarized comments were as follows:

(1) The NSR could attract Japanese economists' attention, if the market economy in Russia could obtain a firm foundation. A transition toward a market economy, however, should inevitably be accompanied by economic liberalization. This requires various institutions including an anti-monopoly law, a sound financial sector, a bankruptcy law, a collateral system, and a monitoring system of sound management.

(2) Rules for a market economy should be established and enforced. Firms should be required to keep records of their activities under a common accounting system.
Their values can then be correctly evaluated in the Japanese market.

(3) Both macro-economic statistics and those on micro-economic structural aspects should be greatly improved based on western statistics standards.
These statistics should be separated from tax statistics, to avoid under-reporting for tax evasion purposes, which would irritate economists.

(4) A white paper evaluating economic conditions correctly should be published regularly, to enable foreign private interests to make rational decisions for their medium- and long-term business programmes.

(5) The stable operation of the NSR will definitely depend on the regional development in Russia. It is important to decentralize public administration to enable local governments to work for regional development in ways suited to particular local conditions. A functional demarcation between each central body should be obvious to the general public, including a necessary financial burden-sharing between the central and local governments.

(6) The commodity exchange market should be developed, as allocations through traditional mechanisms and barter transactions still have a large share.

(7) A system related to domestic direct investment can be established and stipulated clearly in the text, so that foreigners can easily understand.

(8) Export taxes and import subsidies should be phased out in principle. Free trade under the official exchange rate can be realized in the long run.

(9) Much stronger efforts should be made to attract foreign capital to promote exports. Tax incentives, infrastructure, and autonomy for foreign affiliates are possible measures to be taken.

(10) Natural resources should not be privatized while mining rights should be provided to enterprises. Foreign capital and technology can be introduced through an effective production sharing system.

(11) Some agricultural products can be exported to Japan. The inefficiency of the distribution system, however, is the reason for a large loss of agricultural products as well as the loss of interest within the Japanese economy.

(12) In the Russian Far East region, measures to take advantage of their economic vitality should be investigated. Local governments in the region can create infrastructures fitting to their own needs, if public financial assistance from neighbouring countries can be allowed. However, the benefit principle for use of the infrastructure should be introduced as much as possible.

(13) To develop trade between Russia and Japan, first of all, it can be strongly recommended to adopt a fixed exchange rate as a nominal anchor. It has been noted that imports of foods and some consumer goods are actually subsidized by the government due to the use of a lower exchange rate than the market rate. The hidden subsidies seem to be one of the major components of a structural budget deficit. The commitment to maintain a fixed exchange rate must be credible, as the credibility problem is common to monetary anchors.

(14) Too many projects have been started, and available investments have been spread too thin. It takes much time to complete a project. For instance, it will take on average seven to ten years to complete the construction of a factory. This seems exceedingly slow and unusual for the Japanese economy.

(15) Improvement of the economy in Russia is vital to the development of the NSR.

≫≪ Fearnleys

- The INSROP Secretariat
  Attn. Claes Lykke Ragner
  The Fridtjof Nansen Institute
  P.O.Box 326
  1324 LYSAKER

Oslo, 5th May 1997

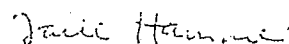REVIEW OF INSROP-DISCUSSION PAPER. Project III.08.01

Reference is made to previous correspondance with my colleague Thore Wang and later phone conversations.

I found the document to some extent interesting, but in my view quite a lot of restructuring and upgrading will be necessary if/before publishing.

1.   Some statements may seem somewhat strange, such as on p.26 "The Russian Far East... has <u>fortunately</u> the lowest share of population of old people among the Russia regions."(For which reasons?) Another one on p. 10.: "The statistics in 1994 was found to well indicate a typical trend for these five years" (which years?). Figures for one year cannot illustrate a trend.

2.   Several statements are repeated a number of times in different contexts.

3.   Value statistics are of marginal interest and could often be more confusing than useful in connection with analysis of physical transportation demand, which should be based on volume figures.

4.   In general, several statements focus on how to populate difficult areas and attract foreign investments, as well as introduction of very advanced reporting systems in order to facilitate planning. In my view, one should start the analysis on the basis of existing conditions.

5.   The paper contains a series of normative statements of political and economic nature on how to change the area to suit the NSR. I recommend instead an approach, whereby the feasibility of using the NSR can be analysed in view of prevailing geographic conditions and existing and potential economic activity along the NSR route. This must necessarily include some preliminary rough transportation cost estimates and comparisons, especially for different routing alternatives for trades between the Far East and the North Atlantic.

6.   The language is in general rather poor.

Enclosed please find copy of the discussion paper with some personal remarks.

Yours sincerely

Jarle Hammer
Director of Research

Encl.

Fearnleys A/S

Enterprise number NO 943190410

An Astrup Fearnley company

Office:
Grev Wedels pl. 9,
Oslo Norway

Mailing address:
P.O.Box 1158 Sentrum
N-0107 OSLO
NORWAY

Telephone: +47 22 93 60 00
Telefax: +47 22 93 61 10
Telex: 74607 fadm

Dr. Jarle Hammer
Director of Research
Fearnleys A/S
P.O.Box 1158 Sentrum
N-0107 Oslo
Norway

April 7, 1998

Re: INSROP Discussion Paper, III.08.1

Dear Dr. Hammer,

We do appreciate your kind reviewing of our paper, entitled
"Assessment of Potential Cargo from and to Japan via the NSR".

Mr. Shikano, supervisor of the project and bachelor of economics, should respond to you, but he has moved to a sales department from the former planning department, and has been travelling in Europe for several months. He will be back in Tokyo this August.

As I was graduated as a naval architect, it is a difficult task for me to respond to your kind advises and comments. In this project, interviews and questionnaires were the assigned work to me.
Then I asked experts to provide their views of the problems which plagued the project. A few friends of mine in a trading company and the Ministry of International Trade and Industry of Japan (MITI) gave me their views associated with your comments.
Through the discussion with them I have found some interesting differences in trade philosophy between Norway and Japan.

Comment 1:
    We have revised the manuscript in line with your suggestions.

Comment 2:
    We have corrected misprints in our paper.
    I do apologize for troubling you greatly with our inadequately prepared paper.

Comment 3: "Value statistics are of marginal interest ··· · · "
    I personally agree with you, as a naval architect.

    After receiving your reviews, however, on behalf of Mr. Shikano, I tried to
    collect the volume statistics of trade.
    I found that there are several statistics in Japan, but all of them are
    incomplete, and they differ considerably. Therefore a month ago, I went to
    Tokyo to ask friends of mine at the MITI why the volume data are so scattered.
    The told me that in Japan they have been interested only in the value statistics
    and that even the MITI does not have complete data of volume statistics.
    I am not sure whether this might be bizarre views or not.

1

One of the objectives of this paper is to attract the Japanese business community attention to the NSR , and for this value statistics will be the better following the suggestions by Japanese economists.

Comment 4: "····· One should start the analysis on the basis of existing conditions". Due to unhappy relationship between Japan and Russia after the Japan-Ruusia war, more than hundred years ago, Japan has had little experience in trade and communication. The trade between Japan and Russia has long been controlled by the Government. Most of businessmen in Japan had then had no interest in Russia. Data and information of Russia in Japan are too poor to analyze them.
Mr. Shikano made a contract with a Russian Consulting Co. to provide us the Russian data and information. The contract did not work well and (after two years !) we finally gave up this and change the scope of our paper .

Frankly speaking, in Japan, only the SOF has demonstrated a deep concern for the NSR. We had to begin with enlightening the trading and shipping community by making use of the INSROP and other data.

I am sure that your comment is appropriate, but we could not have substantial data to deal with.
The MITI has the view that there exists no reliable data with which a future trend in the trade between Japan and Russia and any analysis of the existing data could add little contribution to the prediction of future trade framework between two countries, and that a new trade framework will be constructed in a few years. This might be true, as I found through the interviews that the Japanese business community feels that the Soviet Union(even new Russia) has been insolent and unfaithful to Japan.

What we had found were various claims from Japan to Russia. They said that the claims should be clarified in Russian laws and rules and political statements, and this should be done before drawing up any project via the NSR in Japan.
I think that it is important in the present Japan to forward the claims and requests of the Japanese business community to Russia, which have been potential and intentionally avoided to bring forward.

I revised the title of our paper, abstract and introduction.
Mr. Shikano persisted in the original title, abstract and introduction of our paper, but finally he agreed with me.

Comment 5: "····· This must necessarily include some preliminary rough transportation cost estimates ······ "

We thought that this was planning to be discussed by Dr. Ramsland and I am sure he has done it excellently.

Comment 6: Poor English
    We are far from native speakers of English. Polish-up of our English by a
    native speaker is indispensable. Before presenting the first manuscript, I had
    advised Mr. Shikano that our paper should be polished up by an expert.
    He did not like my suggestion.
    Mr. Shikano, however, finally agreed to my proposal.

    Our paper is then to be polished up by an expert in Norway.

The Prime Minister Hasimoto met President Yeltsin last autumn, and we can now
expect a drastic change in the trade between Japan and Russia in a year or so. We
could not include this influence on the NSR in our paper.

I hope the NSR could attract much more interest in the Japanese business
community, through enlightening the community. I proposed to hold a symposium
on the NSR for the Japanese business community to the SOF. The community
should understand the NSR in various aspects. After this, we could discuss the
potential cargo flow via the NSR, based on fairly reliable sources and materials.

I am deeply sorry to trouble you again with this, written in poor English.
I should be greatly obliged if you would kindly give us another comments. I have
learned much through your review.

Please accept my sincere apologies for the delay in answering your kind comments.

Best wishes,

H. Kitagawa
Hokkaido University
Graduate School of Engineering
Ice and Snow Laboratory

The three main cooperating institutions of INSROP

POLAR CIRCLE

Ship & Ocean Foundation (SOF), Tokyo, Japan.

SOF was established in 1975 as a non-profit organization to advance modernization and rationalization of Japan's shipbuilding and related industries, and to give assistance to non-profit organizations associated with these industries. SOF is provided with operation funds by the Sasakawa Foundation, the world's largest foundation operated with revenue from motorboat racing. An integral part of SOF, the Tsukuba Institute, carries out experimental research into ocean environment protection and ocean development.

Central Marine Research & Design Institute (CNIIMF), St. Petersburg, Russia.

CNIIMF was founded in 1929. The institute's research focus is applied and technological with four main goals: the improvment of merchant fleet efficiency; shipping safety; technical development of the merchant fleet; and design support for future fleet development. CNIIMF was a Russian state institution up to 1993, when it was converted into a stock-holding company.

The Fridtjof Nansen Institute (FNI), Lysaker, Norway.

FNI was founded in 1958 and is based at Polhøgda, the home of Fridtjof Nansen, famous Norwegian polar explorer, scientist, humanist and statesman. The institute spesializes in applied social science research, with special focus on international resource and environmental management. In addition to INSROP, the research is organized in six integrated programmes. Typical of FNI research is a multi-disciplinary approach, entailing extensive cooperation with other research institutions both at home and abroad. The INSROP Secretariat is located at FNI.