Toward an Improved U.S. Merchant Marine: A Recommended Program of Studies (1976)

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TOWARD AN IMPROVED U.S. MERCHANT MARINE

A Recommended Program of Studies

Prepared by the
Panel on the Growth of the
U.S. Merchant Marine
Maritime Transportation Research Board
Commission on Sociotechnical Systems
National Research Council

National Academy of Sciences
Washington, D. C.

January 1976

NOTICE

The project that is the subject of this report was approved by the Governing Board of the National Research Council, whose members are drawn from the Councils of the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine. The members of the committee responsible for the report were chosen for their special competences and with regard for appropriate balance.

This report has been reviewed by a group other than the authors according to procedures approved by a Report Review Committee consisting of members of the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine.

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ABSTRACT

This report describes the development and current status of the U.S. merchant marine with special emphasis on the influences of government, management, labor, and users. The report describes a wide spectrum of maritime activities, including the roles of various government agencies, the organization and effectiveness of U.S. merchant marine management, the structure and impact of labor-management relations, and the reaction of current and potential users.

The recommendations are listed in priority order and range from major research on the effects of bilateral trade policies to less comprehensive studies on the ways and means of encouraging the study of ocean transportation in major colleges of business administration. Recommendations are also made for studies in marketing, labor relations, and government activities.

FOREWORD

This study was conducted under the auspices of the Maritime Transportation Research Board (MTRB), National Research Council, as a part of a continuing program of advice to the federal government concerning maritime transportation.

The objective of this report is to identify study areas leading to government and industry action that will stimulate growth in the privately owned merchant marine. Although the MTRB is generally reluctant to engage in policy studies, the close relationship in the maritime industry between technological change and policy formulation requires that certain policy issues be addressed. At the time this study was conducted, we were fortunate in having members on the Maritime Transportation Research Board with competence in the field of maritime policy. Three of these board members, Messrs. Nathan Simat, Robert Ables, and Bertram Gottlieb, served on the study panel.

A three-man review committee of the Board, comprising Dr. Russell R. O'Neill, Dr. John L. Hazard, and Mr. James S. Goodrich, reviewed this report and accepted it for publication.

I extend my thanks to the panel members, staff and review committee for their fine work on the report.

R. J. Pfeiffer
Chairman, Maritime Transportation
Research Board

January 1976

PREFACE

The problems of the U.S. merchant marine are deep-rooted and persistent. For decades, the U.S. shipping industry has suffered from a creeping malaise. Until 1969, the share of U.S. export and import cargoes transported in U.S. vessels eroded steadily. U.S. capital was channeled to the purchase and operation of lift capacity under foreign registry. Job opportunities in the U.S. shipping services declined alarmingly. Even the infusion of large sums of subsidy for vessel construction and operation failed to stem a loss of market position and of economic strength that threatened the very existence of U.S. merchant marine services.

Since 1969 and the enactment of the Merchant Marine Act of 1970, there is evidence that the threat of imminent extinction no longer hangs over the industry. As a result of aggressive exploitation of container technology and services, and of stimulation of U.S. export trade in the wake of currency devaluation, the strong efforts to encourage U.S. shippers to use U.S. maritime services, and promotional policies of the Government, the trend of decline appears to have been arrested, at least temporarily. The most recent projections of the U.S. privately owned fleet capacity foresee stability in general cargo tonnage and an increase in U.S. tanker tonnage. There is, however, no persuasive evidence that a substantial turnabout in the fortunes of the industry has occurred or is on the horizon under existing practices and policies.

Against this background, the objectives of the Panel were both specific and limited. The Panel was asked by the Maritime Transportation Research Board (MTRB) to deal with factors inhibiting the growth of the U.S. merchant marine. In line with the history of discussions which led to the proposal for the study and its adoption as an integral part of the program of the MTRB, the Panel interpreted the main concern to be the loss of U.S. merchant marine position in the U.S. and world shipping markets, including the flow of U.S. capital into flag-of-convenience, or flag-of-necessity, services. The Panel's second and clear charge was to discern and define worthwhile research into matters holding promise of arresting and reversing the trends of decline in U.S. maritime performance, but not to fashion solutions.

The Panel was not asked to provide proven prescriptions for the industry's ills. Its more limited goals were to identify forces inhibiting industry growth and to describe and set priorities for researchable topics to deal with these forces. The Panel considered basic questions of the value of growth and even questions of the need for a U.S. merchant marine to fall outside of the scope of its charge and, indeed, outside the scope of its competence.

Within the four corners of its mandate, the Panel did attempt a systematic exploration and screening of factors inhibiting growth. We

organized into four teams of two panelists, each team focusing on a different area. The four areas defined for exploration were: (1) the interface between the industry and government; (2) the interface between the industry and users of the industry's services; (3) the interface between the industry and labor; and (4) the internal management and operations of the industry, including the interface with investors and other operating entities within the industry. We were, and still are, of the opinion that the four areas earmarked for exploration more or less covered the waterfront.

Each team had the responsibility for reviewing matters within its defined area, screening the factors inhibiting growth to eliminate those of limited importance or presenting no researchable questions, and for recommending and indicating priorities of researchable topics. The teams were further responsible for initial drafts of the findings and recommendations in their assigned areas. The Panel as a whole participated in the information gathering process, in reviewing the team efforts, and in determining the final priorities for the recommended research program.

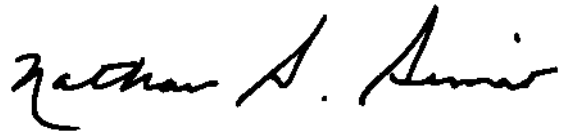
The team approach that was followed had both advantages and disadvantages. The principal advantage was that it was possible for the Panel, whose members were uniformly busy with other matters, to cover a lot of ground. The principal disadvantage of the process was that the work product was necessarily uneven, due to differences in availability and style. On the whole, in this case, the advantages of the panel approach greatly outweighed the disadvantages. Certainly, the process would not be effective if a definitive study were undertaken. However, for the more limited purposes in mind, the process was effective in assuring that no major element was overlooked and that the research priorities agreed upon represented a balanced judgment.

The inquiries of the Panel produced one clear consensus. To achieve a more competitive position in the market, the U.S. maritime industry cannot rely on a "business-as-usual" program. It is not only desirable, but it is essential to explore the contribution to growth that is potentially afforded by major changes in the areas of government support programs, of industry sales and management practices, and of labor relationships. The recommendations of the Panel for research and policy studies, and the priorities attached to the recommended study projects, are rooted in the belief that the conventional wisdoms and weak palliatives alone are not sufficient to provide satisfactory opportunities for the future growth of the U.S. merchant marine. The problems of the industry, which have resisted solution for so long, call for strong measures.

The recommendations of the Panel are focused principally on breaching the institutional barriers which constrain growth and limit the opportunities for realizing the full potential of U.S. maritime services. This is not to say that the Panel was unmindful of the importance, to the future development of the merchant marine, of the advancement of marine and transportation technology. There is patently a prime role for technological research to improve the quality and to reduce the costs of the maritime transportation system. However, it has been all too clear from the industry's past experience that technology alone does not provide the answers and that

an appropriate institutional foundation must be laid first in order to obtain and take full advantage of technological advances.

It has been a happy and rewarding experience to be associated with a Panel of such outstanding ability and diligence. I was and am especially impressed with the comprehensive and penetrating grasp of maritime industry problems displayed by the Panelists and the bold and imaginative possibilities for solutions which they advanced.



Nathan S. Simat
Chairman, Growth of the
Merchant Marine Panel

January 1976

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of the

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Panel members serve as individuals, contributing their personal knowledge and judgment and not as representatives of any organization in which they are employed or with which they may be associated.

MARITIME TRANSPORTATION RESEARCH BOARD

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CHAPTER 1

INTRODUCTION

In April of 1972, the Maritime Transportation Research Board authorized a study of Opportunities for Improvement of the Merchant Marine for its 1973-74 project year. Accordingly, the Board formed a study Panel to examine "the total competitive environment in which the merchant marine operates and the relationship between public and private administrative decisions and the external forces acting on the U.S. maritime industry to suggest opportunities for improvement of the industry". The Board's intent was further expressed in the question: "What must be done by the industry and by government to improve the ability of the merchant marine to meet foreign competition more effectively with better return on public and private investment than is presently in evidence?"

Recognizing the magnitude of the study problems and the limited time and resources that could be devoted to them, the Board instructed the study Panel not to seek immediately implementable solutions, but to identify for further study promising avenues to the development of a merchant marine that would operate in the highly competitive commercial shipping world more economically, more efficiently, more effectively, and with greater public benefits.

The study Panel was formed in July and August of 1973 and the initial meeting held on September 13, in Washington, D. C.

The Panel interpreted its charge as one of analyzing the complete maritime spectrum including the actions and interactions of government, management, labor and user.

The Panel was guided by the preamble of the Merchant Marine Act of 1936 as the declaration of federal policy calling for the existence and continuation of a U.S. flag merchant marine:

> "It is necessary for the national defense and development of its foreign and domestic commerce that the United States shall have a merchant marine (a) sufficient to carry its domestic water-borne commerce and a substantial portion of the water-borne export and import foreign commerce of the United States and to provide shipping service essential for maintaining the flow of such domestic and foreign water-borne commerce at all times, (b) capable of serving as a naval and military auxiliary in time of war or national emergency, (c) owned and operated under the United States flag by citizens of the United States insofar as may be practicable, (d) composed of the best-equipped, safest, and most suitable types of vessels,

> "constructed in the United States and manned with a trained and efficient citizen personnel, and (e) supplemented by efficient facilities for shipbuilding and ship repair. It is hereby declared to be the policy of the United States to foster the development and encourage the maintenance of such a merchant marine."[1]

In its analysis, the Panel concentrated on those areas that either facilitate or constrain growth under conditions of international competition. In accordance with its mandate, the Panel's recommendations are for studies designed to improve the competitive posture of the U.S. merchant marine.

In any undertaking of this nature, the possibilities for policy studies and research are numerous. It was necessary, under the circumstances, to limit the recommendations and to establish priorities. This is done in Chapter 2 both on the basis of the importance of the problem to which each study is addressed and the Panel's assessment of the prospects that the study will result in a worthwhile contribution to the development of the U.S. merchant marine.

The Panel conducted direct interviews and discussion sessions with industry leaders and government officials. In addition, it solicited industry response through a number of questionnaires. The cooperation of those who assisted is gratefully acknowledged in Appendix I.

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[1] The Merchant Marine Act of 1936, as amended through the 91st Congress, 2nd Session, January 1, 1971, Title I, Section 101.

CHAPTER 2

RECOMMENDED PROGRAM OF STUDIES

This chapter recommends specific research and policy studies that would have the greatest eventual impact in stimulating growth in the merchant marine industry.

The studies are listed in priority order and identified with recommendations as to objectives, methodology and follow-up. Each project is also referred back to a specific chapter and paragraph for amplification.

These recommendations for research and policy studies are directed to policy formulating governmental and private organizations.

A. Project: Retrospective study of a bilateral trade policy in which specific cargoes were reserved for U.S. flag vessels.

Objective: To determine the effect of a formal government bilateral trade policy on the growth of the U.S. merchant marine and on national maritime goals and objectives.

Methodology: The study should provide a retrospective examination of formal government bilateral trade arrangements that are assumed to have been reached with major trading partners during the past 10 years, together with implementing governmental agreements among commercial participants. It should consider both open and closed conferences. Using the available sources of 10-year trade data, the study should evaluate what effect the policies would have had on the size, mix, and viability of the U.S. merchant fleet and compare the consequences of the bilateral policy with the known consequences of past and current policies. The study should further assess the value of the retrospective form of analysis as a predictive tool for use in evaluating plans and proposals for future bilateral trade agreements.

Follow-up: Publish study results so that they will be available to policy makers to help in their judgment of whether or not bilateral agreements constitute good national maritime policy.

Reference: Chapters 4-E-6, 5-H-5.

B. Project: Study of probable changes in conference agreements and cargo sharing arrangements and their impact on the U.S. merchant marine (to include the possible ratification of the U.N. Code of Conduct for Liner Conferences).

Objective: To project the results of potential changes in U.S. private and government relationships concerning conferences and cargo sharing arrangements including the possible ratification of the U.N. Code of Conduct for Liner Conferences.

Methodology: Evaluate various possible private and government actions concerning conferences and pooling arrangements under different probable and practical assumptions. The study should include and make allowances for the possible adoption of the U.N. Code of Conduct for Liner Conferences with projections on the probable impact on the U.S. merchant marine. Conflicts with current maritime legislation should be outlined. Policy recommendations should be made.

Follow-up: The study recommendations for legislative, administrative, and private action should be forwarded to appropriate authorities.

Reference: Chapters 4-E-1, 4-E-2, 5-H-5.

C. Project: Study of the quality and availability of U.S. flag services and their relationship to achievable market share.

Objective: To evaluate the quality and availability of U.S. flag vessel services in order to maximize reliability and optimize frequency of service to customer requirements.

Methodology: Conduct a systematic analysis of U.S. sailing schedules on major trade routes. Compare these schedules with foreign flag competitors and with the stated requirements of major ocean transportation users. At the same time, determine how often and why U.S. flag vessels do not make scheduled sailings or port calls when compared with foreign competition. Develop recommendations for maximizing reliability and optimizing sailing schedules.

Follow-up: Make the results of the study known to U.S. operators. If appropriate, institute policy action to improve trade route service requirements in the subsidized sector.

Reference: Chapters 6-I-1, 7-E-1, 7-E-2.

D. Project: Study of maritime industrial relations.

Objective: To assess the impact and probable effect of each of the following on maritime industrial relations: (1) voluntary arbitration of rights disputes, (2) voluntary arbitration of interest disputes, (3) compulsory arbitration, (4) postponed arrangements, (5) no strike pledges during and after contract negotiations, (6) a permanent umpire system for merchant marine matters, (7) uniform contract expiration dates, (8) three to five year contract duration period, (9) mediation arbitration, (10) retraining programs sponsored by the Maritime Administration for seamen in periods of temporary unemployment, and (11) the impact of a single, overall pension system on occupational mobility and earnings potential of maritime workers.

Methodology: Blue-ribbon commission of management, labor, government, and academia. One year study with public hearings and report to the industry with recommendations.

Follow-up: Evaluate possible implementation of recommendations and their impact on maritime industrial relations.

Reference: Chapter 6-I-2.

E. Project: Retrospective study of operational flexibility.

Objective: To determine if the legal impediments (restrictions against laissez-faire operations) within the Shipping Act of 1916 together with similar impediments in other transportation laws should be substantially relaxed to encourage more flexibility in operation and greater national competitive strength in our common carrier liner fleet.

Methodology: Assume that the legal impediments in the Shipping Act of 1916 and other transportation laws had been substantially relaxed for the past 10 years and that the common carrier liner fleet had been operating with increased freedom to react to market conditions and foreign competition. Use an appropriate model to estimate the present economic condition of the merchant marine under the assumed conditions.

Follow-up: Make study results available to national maritime policy makers to aid in their judgment of whether or not to revise the Shipping Act of 1916 and Merchant Marine Act of 1936, as amended.

Reference: Chapters 4-E-7, 6-I-3.

F. Project: In-depth marketing analysis of all water transportation users, including both U.S. and foreign shippers and consignees.

Objective: To more fully understand the needs of potential U.S. flag customers in all markets in order to improve market penetration and market share.

Methodology: Conduct a full-scale interview and mail questionnaire survey among major water transportation consumers both U.S. and foreign. (This survey might include all members of the Regional Shipper Advisory Boards of the U.S. Maritime Administration.) A complete analysis of various categories of U.S. and foreign exporters and importers should be made to identify precise shipping and service requirements.

Follow-up: The results of this analysis should be made available to U.S. operators through publications, brochures, personal visits and seminars. Care should be taken to insure that the information reaches U.S. operators only.

Reference: Chapters 7-E-1, 7-E-2.

G. Project: Study the alternatives available for attracting U.S. companies away from foreign flag ventures.

Objective: To develop various schemes short of direct subsidy which would attract U.S. companies away from foreign flag ventures.

Methodology: The study should cover a broad range of possibilities, including the use of Title XI, Capital Construction and Construction Reserve Funds, accelerated depreciation, tax differentials, cargo preferences, labor factors, regulatory changes, and other incentives. The possibility of allowing U.S. flag registry of foreign built ships should be considered. Impact statements for the most feasible alternatives should be prepared to include the effect on U.S. shipyards, U.S. maritime labor, U.S. users, current U.S. tanker and bulk operators, and U.S. defense posture.

Follow-up: The policy recommendations flowing from the study should be presented to the appropriate authorities for policy action.

Reference: Chapters 4-E-1, 4-E-4, 5-H-3.

H. Project: Study the various alternatives for increasing the capacity of U.S. flag liner fleet.

Objective: To determine practical means for encouraging growth in the U.S. flag liner fleet in the face of increasing but cyclical demand for such service.

Methodology: Conduct an all-options-open study on the alternatives for increasing the size of the U.S. flag liner fleet at a relatively rapid rate to exploit both cyclical and increased long-term demand. The current lack of shipyard orders for liner type ships, the near-capacity condition of U.S. shipyards, and the limitations on CDS and ODS funds should be considered. An impact analysis of the most feasible alternative should be made with emphasis of the effect on U.S. shipyards, U.S. maritime labor, U.S. subsidized and unsubsidized operators, U.S. users and the U.S. defense posture.

Follow-up: The results of the study should be made available to appropriate authorities for action.

Reference: Chapters 4-E-5, 5-H-3.

I. Project: Study of longshore labor problems associated with cargo diversion.

Objective: To assess the effect of cargo diversion on longshore employment and earnings opportunities. To evaluate the impact of cargo diversion on long-term and short-term employment of dockside and port workers. To study the impact of cargo diversion on revenues

of port authorities, municipalities, stevedoring companies, and ship operators. To study and evaluate federal jurisdiction and participation in labor-relations problems associated with the issue of cargo diversion.

Methodology: Study by representatives of port authorities, management, labor stevedoring companies and transportation experts. On site emphasis with field work taking place at the port level.

Follow-up: Review of implementation of recommendations and their impact on labor-relations problems associated with the issue of cargo diversion.

Reference: Chapter 6-I-3.

J. Project: Study ways and means of supporting and encouraging the study of ocean transportation in major colleges of business administration.

Objective: To increase the attractiveness of the industry to business administration graduates and to provide centers of study of ocean transportation management problems.

Methodology: Study means of offering scholarships, grants-in-aid and research grants for the study of ocean transportation management problems. Also, sponsor chairs in ocean transportation at leading universities.

Follow-up: These programs should be closely monitored by a government/industry group to insure that graduates are properly placed and research is germaine.

Reference: Chapters 5-H-1, 5-H-2, 5-H-3, 5-H-4.

CHAPTER 3

U.S. MERCHANT MARINE PERFORMANCE -- AN OVERVIEW

The U.S. merchant marine has had an uneven history. Although relatively small in comparison to other U.S. industries, it has played an important role in the political and economic fortunes of the Nation, and as a result has been heavily influenced, aided and controlled by the federal government.

The industry was virtually overwhelmed by the requirements thrust upon it by World Wars I and II. It has also felt the after effects, though to a lesser extent, of subsequent more limited military engagements. In the immediate post-World War II period, the merchant marine flourished on readily available surplus ships, trained labor, and abundant foreign and military-aid cargoes. As these conditions changed, so did the industry. Now, some 30 years after the end of World War II, for perhaps the first time in this century, some sectors of the merchant marine are facing a competitive commercial climate in which satisfactory performance is more dependent on enterprise and economics than government assistance and regulation.

The year 1969 may be remembered as a pivotal year for the U.S. merchant marine. Table 1 shows that in terms of the percentage of U.S. imports and exports carried, the industry's long deteriorating slide may have reached its lowest point in 1969. Other actions and events of the year also signaled a resurgence in the privately owned merchant marine. On October 29, 1969, the Administration announced a maritime program that resulted in the Merchant Marine Act of 1970. Also, in 1969, major orders were placed for new berth line vessels outside the government's operating and construction differential subsidy program. This latter action demonstrated a new confidence in the ability of the United States Merchant Marine to compete effectively in the world market.

1969 through 1976 are years of transition. Most of the ships built during WW II will be phased out during this period.[2] New trends are developing in the industry, including its service, capacity, market share, and profitability.

The U.S. merchant marine will continue to be a very small industry. For instance, in 1972 the subsidized sector of the industry generated less than 800 million dollars in operating revenue.[3] Operating revenue for the

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[2] In July 1974, there were still 208 ships in the U.S. privately owned merchant marine that were over 25 years old. U.S. Department of the Navy, Military Sealift Command, *Merchant Ship Register*, Washington, D. C., July 1974.

[3] U.S. Department of Commerce, Maritime Administration, *MarAd Annual Report*, Washington, D. C., 1973, p. 80.

TABLE 1

U.S. WATERBORNE IMPORT & EXPORT CARGO TONNAGE
(long tons in millions)

Year	Total** exports & imports All services			Total exports & imports Liner			Total exports & imports non-liner			Total exports & imports tanker		
	All flags	U.S. flag	Percent	All flags	U.S. flag	Percent	All flags	U.S. flag	Percent	All flags	U.S. flag	Percent
1972*	446.6	24.6	5.5	45.1	10.0	22.2	201.4	3.1	1.6	200.1	11.5	5.7
1971	457.4	24.4	5.3	44.2	10.1	22.9	220.7	4.8	2.1	192.5	9.5	4.9
1970	473.3	25.3	5.3	50.4	11.8	23.5	240.7	5.4	2.2	182.1	8.0	4.4
1969	426.1	19.1	4.5	41.0	9.3	22.6	211.6	4.4	2.1	173.5	5.5	3.2
1968	418.6	25.0	6.0	46.1	11.1	24.0	209.5	6.4	3.0	163.1	7.5	4.6
1967	387.6	20.5	5.3	47.9	10.6	22.2	190.4	5.4	2.8	149.3	4.5	3.0
1966	392.2	26.2	6.7	49.9	11.4	22.9	189.5	6.9	3.6	152.8	7.9	5.2
1965	348.5	27.3	7.9	50.2	11.3	22.6	169.9	8.2	4.8	128.4	7.9	6.1
1964	332.8	30.5	9.2	50.3	14.2	28.1	161.4	9.8	6.1	121.1	6.6	5.4
1963	311.6	28.5	9.2	48.8	13.5	27.7	136.2	8.2	6.0	126.5	6.8	5.4
1962	296.8	29.6	10.0	48.3	12.7	26.2	125.2	8.3	6.7	123.3	8.5	6.9
1961	272.4	26.3	9.7	49.0	12.6	25.8	106.7	7.8	7.3	116.7	5.9	5.1
1960	277.9	31.0	11.1	50.7	14.5	28.6	109.0	8.4	7.7	118.2	8.1	6.9

*Preliminary.
**Totals may not be precise because of rounding.
Excludes Trans-Great Lakes cargoes and Department of Defense cargoes, but includes U.S. Government sponsored cargoes.

Source: *Commission on American Shipbuilding, Report of,* Volume II, U.S. Government Printing Office, Washington, D. C., October 1973.

entire U.S. merchant marine has been estimated recently at approximately 2 billion dollars per year.[4] By contrast, in 1971 the railroad industry generated $13.5 billion in operating revenue,[5] while the operating revenue for the "for hire" interstate trucking industry reached $17 billion.[6] U.S. air carriers in international services generated 1.9 billion dollars in operating revenue in 1970.[7]

In Table 2, the U.S. merchant fleet is compared, as of December 1972, with the fleets of other selected maritime powers. The United States, with 651 ships in the privately owned U.S. merchant marine, had only 3.1% of

[4] *Commission on American Shipbuilding, Report of,* Volume II, U.S. Government Printing Office, Washington, D. C., October 1973, p. 847.
[5] U.S. Department of Commerce, Bureau of Census, *Statistical Abstracts of the United States 1973,* (94th Edition), U.S. Government Printing Office, Washington, D. C., 1973, p. 536.
[6] U.S. Department of Commerce, *U.S. Industrial Outlook 1972,* U.S. Government Printing Office, Washington, D. C., 1973, p. 335.
[7] *Statistical Abstracts of the United States 1973, op. cit.,* p. 565.

TABLE 2

FLEET COMPARISONS OF MAJOR MARITIME POWERS
(1000 Gross Tons and Over)
December 31, 1972
*Tonnage in Thousands

	Total U.S.	Private U.S.	USSR	Japan	Liberia	World
Total Fleet	1,150	651	2,140	2,210	2,139	21,009
% of World Fleet	5.5	3.1	10.2	10.5	10.2	100
Total Capacity (Gross)*	13,111	9,300	12,116	31,804	45,695	250,543
Total Capacity (DWT) *	17,949	13,636	15,413	52,267	83,208	399,552
% of World's Capacity (Gross)	5.2	3.7	4.8	12.7	18.2	100
% of World's Capacity (DWT)	4.5	3.4	3.9	13.1	20.8	
Freighters	685	361	1,482	1,217	549	12,029
% of World Fleet	5.7	3.0	12.3	10.1	4.9	100
Average Age	22	17	10	7	13	13
Average Speed	16	18	14	14	14	14
Average Gross *	9.7	11.6	4.7	5.6	6.7	5.9
Average DWT *	12.0	14.0	6.9	8.0	10.0	8.0
Bulk Carriers	32	32	135	525	753	3,539
% of World Fleet	.9	.9	3.8	14.8	21.3	100
Average Age	27	27	14	5	8	8
Average Speed	15	15	12	14	15	14
Average Gross *	13.0	13.0	5.0	22.6	20.1	18.3
Average DWT *	21.9	21.9	6.7	37.0	36.4	30.6
Tankers	280	246	444	436	809	4,581
% of World Fleet	6.1	5.4	9.7	9.5	17.7	100
Average Age	20	18	9	6	12	11
Average Speed	15	16	13	13	15	14
Average Gross *	16.9	18.9	8.6	30.0	32.9	23.7
Average DWT *	29.2	31.6	12.24	53.4	62.1	42.1

Note: Table excludes passenger ships.

Source: U.S. Department of Commerce, *A Statistical Analysis of the World's Merchant Fleets*, December 31, 1972.

the world's merchant ship fleet and 3.4% of the world's total deadweight ton capacity. By comparison, the USSR, Japan and Liberia each maintained merchant fleets in excess of 2,000 ships. Liberian flag operators accounted for over 20% of the world's existing deadweight ton capacity.

The average general cargo freighter in service in 1972 in the United States privately owned fleet was 17 years old with a speed of 18 knots and a capacity of 14,000 deadweight tons. By contrast, the average freighter operating under the flag of the USSR was 10 years old, had a speed of 14 knots and a deadweight ton capacity of 6,900. The USSR operated 1,482 general cargo, freighter type vessels in its merchant marine compared to 361 vessels in the U.S. flag privately owned fleet, 1,217 in Japanese flag fleet and 549 in the Liberian flag fleet. On the average, U.S. freighters were larger and faster than those of the USSR, Japan or Liberia.

U.S. tankers, by comparison in 1972, were generally smaller and older than those of Liberia or Japan. The 246 tankers shown in Table 2 in the U.S. flag privately owned fleet averaged 18 years, 16 knots and 31,600 deadweight tons. The Liberian fleet of 809 tankers averaged 12 years, 15 knots and 62,100 deadweight tons.

The U.S. flag bulk fleet consists of only 32 ships, with an average age of 27 years. By contrast, the Japanese have 525 bulk carriers, with an average age of 5 years. By July of 1974, the U.S. bulk fleet had dropped to 23 ships. U.S. bulk cargo capabilities are meager. Table 2 shows that U.S. bulk ships are less than 1% of the world's total bulk fleet. By comparison, U.S. flag privately owned ships accounted for 3% of the world's freighters and 5.4% of the world's tankers.

The retirement of many World War II vessels has had a significant effect on the U.S. fleet. Figure 1 shows that the general cargo fleet in 1965 totaled 557 vessels, of which 6% were intermodal ships.[8] By 1973, this fleet had dwindled to 332 ships, with some 38% intermodal ships. Projections shown in Figure 1 indicate that the general cargo fleet will continue to shrink to approximately 271 ships by 1980.

Table 3 shows that while the number of ships in the total fleet (dry cargo and tankers) is diminishing, the deadweight ton capacity is increasing. Most of this increase is due to a heavy emphasis on Very Large Crude Carrier (VLCC) and Ultra Large Crude Carrier (ULCC) tanker designs, although replacement of relatively small freighters by large intermodal ships also contributes to the increase. Figure 2 shows that from 1974 to 1980 the tanker fleet will increase in number of ships and DWT capacity, while the dry cargo fleet will decrease in numbers and nearly stabilize in total DWT capacity.

As of January 1974, 52 ships totaling 4.6 million deadweight tons had been ordered under the 1970 Act. The average size of these ships is 88,000 deadweight tons per ship. Of the 52 ships, 13 are barge carriers and

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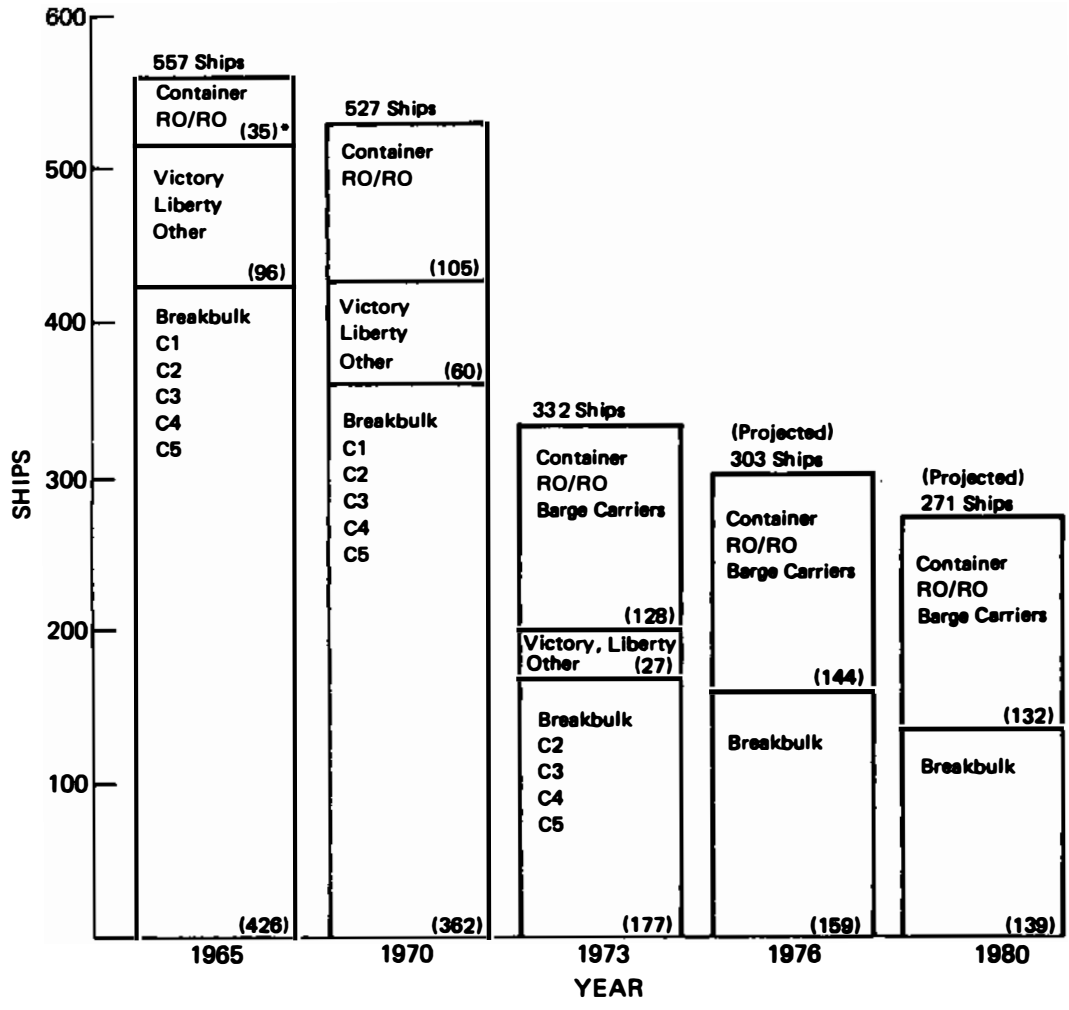
[8] Intermodal vessels include containerships, roll-on/roll-off (RO/RO) ships, and barge carriers.



*Numbers in (brackets) indicate ships in each category.

FIGURE 1

TREND IN COMPOSITION OF
U.S. PRIVATELY OWNED GENERAL CARGO FLEET
(Numbers of Ships)

TABLE 3

PROJECTIONS FOR U.S. PRIVATELY OWNED FLEET
(Omits Passenger Ships)

Numbers of Ships

		1974	1975	1976	1977	1978	1979	1980
(A)	Breakbulk	169	164	159	154	149	144	139
(B)	Containers	114	109	104	99	94	89	94
(C)	Barge Carrier	15	22	23	23	23	23	23
(D)	RO/RO	13	15	17	15	15	15	15
(E)	Dry Bulk	23	20	17	14	11	8	5
	Total Dry Cargo *	334	330	320	305	292	279	276
(F)	Tanker Domestic**	143	134	128	108	106	104	112
	Tanker Foreign	103	95	105	114	123	129	134
	LNG	0	1	7	13	19	25	31
	Total Tankers	246	230	240	235	248	258	277
	Total Fleet	580	560	560	540	540	537	553

Deadweight Tonnage

	Total General Cargo	Total Dry Cargo
1974	4,830,000	5,450,000
1975	5,080,000	5,580,000
1976	5,060,000	6,000,000
1977	4,990,000	5,300,000
1978	4,880,000	5,120,000
1979	4,780,000	4,980,000
1980	5,040,000	5,160,000

	Total Tanker	Total Fleet
1974	8,150,000	13,600,000
1975	8,550,000	14,130,000
1976	10,750,000	16,750,000
1977	11,740,000	17,040,000
1978	13,710,000	18,830,000
1979	15,510,000	20,490,000
1980	17,510,000	22,670,000

(A) Includes partial container ships. Projection assumes 30 ships currently over 25 years old will be retired at a rate of 5 per year by 1980.
(B) 55 container ships are currently listed as being at least 25 years old. Projection assumes these vessels will be retired at a rate of 5 per year through 1980. 12 new container ships are contemplated for delivery in 1980.
(C) Projection contemplates addition of 8 barge carriers by 1976 with no vessel being retired through 1980.
(D) Projection contemplates addition of 4 RO/RO ships by 1976 and retirement of 2 by 1980.
(E) Dry bulk fleet currently includes 19 vessels over 25 years of age. Projection contemplates retirement of 18 of these ships by 1980. No new bulk ships are contemplated for delivery by 1980.
(F) All tanker projections taken from Projection of U.S. Flag Fleet, Maritime Administration, Office of Policy and Plans, July 10, 1974.
* Dry cargo projections made by MTRB staff based on Military Sealift Command, Ship Register, July 1974, and MarAd, Office of Policy and Plans, Projection of U.S. Flag Fleet, July 10, 1974.
** Tanker projections based on MarAd, Office of Policy and Plans, Projection of U.S. Flag Ships, July 10, 1974. 1974 figures taken from MSC, Ship Register, July 1974.

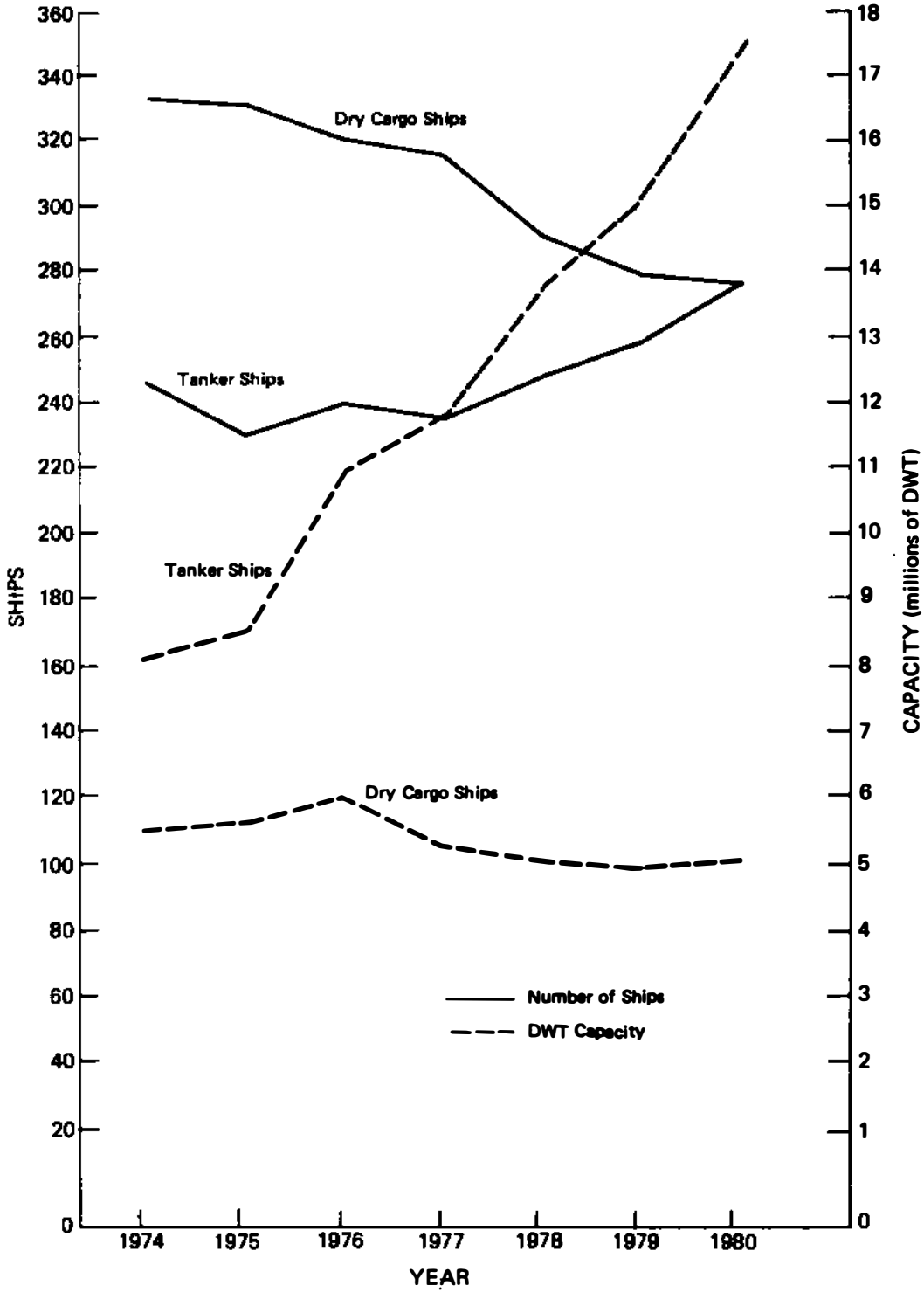


FIGURE 2

COMPARISON OF U.S. FLAG FLEET SIZE AND DWT CAPACITY

RO/RO vessels, 28 are tankers, two are Ore-Bulk-Oil (OBO) ships and nine are liquefied natural gas (LNG) carriers.[9] As of January 1974, there were 180 applications for construction differential subsidy for 52 million deadweight tons. However, there is some question whether all of these large bulk carriers will be built under the subsidy program.

The general cargo fleet is changing, with intermodal ships coming into more common use. These ships have much higher productivity than the break-bulk ships they replace. Measuring the productivity of ships must take into account the speed, turnaround time, and capacity. Table 4 provides a productivity analysis for the years 1971, 1973 and projected 1976. The table shows that the maximum annual ton-mile capacity of the general cargo fleet will be slightly higher in 1976 than in 1971, even though some 100 ships will have been dropped from the fleet.[10] This condition cannot exist long, however, as the 1976 capacity estimate includes 122 15-knot ships with an annual capacity of 110,530 million ton miles. Most of these vessels are currently over 25 years of age and their continued service through 1980 is subject to question.

A recent survey by the MTRB staff of 14 major U.S. liner operators in July to October of 1974 showed that outbound cube utilization for U.S. flag ships was ranging from 87 to 100%. In fact, a U.S. flag undercapacity situation existed during that period. A recent report completed for the Maritime Administration on short-term forecasts of U.S. oceanborne exports predicts continued growth in the export of liner trade goods and commodities.[11] The summary findings from that study are:

> "In summary, although the U.S. export trade boom now appears to be over as a result of declines in bulk cargoes, the current market for U.S. manufactured goods, carried by liner vessels, remains strong. Growth in manufactures is projected through 1975, but at rates below recent levels. It, therefore, appears that U.S. flag liners will not, in the short term, be adversely affected by sharp declines in the total volume of oceanborne export cargoes."

A combination of continued liner trade growth, the block obsolesence of a substantial portion of our fleet by 1980, and the current lack of contracts in U.S. shipyards for general cargo tonnage points to a significant U.S. liner undercapacity situation in the foreseeable future.

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[9] U.S. Department of Commerce, Maritime Administration, *News Release*, MASP-74-3, remarks by Robert J. Blackwell before the Propeller Club of Washington, D. C., January 24, 1974.

[10] Maximum annual ton-mile capacity is calculated by multiplying average sea-days X 24 hours X maximum speed X DWT ton capacity.

[11] Temple, Barker & Sloane, Inc., *A Short-Term Forecast of U.S. Oceanborne Exports*, Wellesley, MA, September 10, 1974, p. I-5.

TABLE 4

PRODUCTIVITY COMPARISON OF U.S. PRIVATELY OWNED GENERAL CARGO FLEET
ANNUAL MAXIMUM DEADWEIGHT TON-MILE CAPACITY PER YEAR
(MTM=Million Deadweight Ton-Nautical-Miles)

		1971 FLEET	1973 FLEET	1976 FLEET
30 Knot	Intermodal Ships		4 Ships = 13,304 MTM (21,000 Ave. DWT)	8 Ships = 26,608 MTM (21,000 Ave. DWT)
20 Knot	Intermodal Ships	35 Ships = 73,920 MTM (20,000 Ave. DWT)	68 Ships = 145,044 MTM (20,200 Ave. DWT)	87 Ships = 214,542 MTM (23,350 Ave. DWT)
20 Knot	Conventional Ships	98 Ships = 108,682 MTM (14,000 Ave. DWT)	86 Ships = 95,288 MTM (14,000 Ave. DWT)	86 Ships = 95,288 MTM (14,000 Ave. DWT)
15 Knot	Intermodal Ships	80 Ships = 77,600 MTM (12,250 Ave. DWT)	61 Ships = 58,743 MTM (12,160 Ave. DWT)	49 Ships = 48,956 MTM (12,615 Ave. DWT)
15 Knot	Conventional Ships	190 Ships = 138,890 MTM (12,300 Ave. DWT)	94 Ships = 74,072 MTM (13,280 Ave. DWT)	73 Ships = 61,574 MTM (14,200 Ave. DWT)
TOTAL		403 Ships = 399,092 MTM (5,389,000 DWT)	313 Ships = 386,451 MTM (4,651,680 DWT)	303 Ships = 446,968 MTM (5,058,185 DWT)

Intermodal category includes container ships, roll-on/roll-off ships, and barge carriers.

Deadweight Ton-Nautical-Mile Capacity (DTMC) = S x T x K x C

S_1 = Seadays (165 per year per conventional ship)

S_2 = Seadays (220 per year per container ship)

T = Time, 24 hours

K = Maximum Nautical Miles Per Hour

C = Capacity, Average DWT Capacity for Ship Category

Fast, quick turnaround, intermodal ships will carry most of the general cargo in the 1976-80 period. Based on Table 4 these ships will constitute only 48% of the 1976 fleet, but will account for over 65% of the 1976 ton-mile capacity. These ships will carry most of the high value, high revenue cargo by providing fast, through service with little cargo damage and pilferage.

The most significant growth in the U.S. merchant marine can be expected in the tanker fleet. The current fleet of 246 ships averages 33,145 deadweight tons per ship. Of the ships under construction in U.S. yards as of 31 March 1974 (with and without construction subsidy), 56 (80%) are tankers and 14 (20%) are general cargo carriers. The 56 tankers on order average 85,000 deadweight tons. The average size of the tankers under construction is nearly three times that of the tankers in the current U.S. fleet.[12]

Projecting the removal of some 83 World War II tankers from the fleet against the addition of those now building, the estimated total 1976 tanker capacity will be 10.7 million deadweight tons for a 32% overall gain. Table 3 shows the projected 1980 tanker deadweight tonnage to be 17,510,000 or an increase of 114% over 1974 levels.

Lester B. Knight & Associates Inc. prepared a report for the Commission on American Shipbuilding that commented on new shipbuilding requirements for world trade by 1980.

> "The greatest new building requirement is in the dry bulk cargo capacity. New building required to meet demand in that sector will be approximately 41 million deadweight tons. The new building requirement of the petroleum cargo sector is approximately half the demand in the dry bulk sector. Current over-capacity and relative limited replacement requirements are the primary reasons for this forecast. Projected over-capacity in the general cargo fleet dilutes the effect of a large replacement requirement in the total new building requirement. Apparently, much of the obsolete cargo fleet which would be eliminated over the next 8 years will not require replacement. The demand for general cargo capacity is not expanding rapidly enough to absorb the current over-capacity of the fleet. Therefore, only minor new building requirements are projected. Several sources indicate that much of the replacement tonnage and new building cargo fleet will be container ships."[13]

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[12] *Merchant Ship Register, op. cit.*, p. ix.
[13] *Commission on American Shipbuilding, Report of, op. cit.*, p. 700.

It would appear that U.S. private and subsidized expenditures for tankers are based on criteria other than expected world market conditions, perhaps indicating no intention of developing a fleet for "world" market competition. Perhaps an even greater indication that plans for shipbuilding are not based on world market conditions is the almost total absence of dry bulk construction in the United States, only 1.3% of the total. (It should be noted, however, that tankers are also dry bulk carriers for some commodities such as grain.) Therefore, it is possible to conclude that the expansion in tanker construction is based on expected government protected trade, i.e., Jones Act, cargo allocation, or bilateral agreement. Also, it might be possible to conclude that U.S. flag tanker operators do not think that a profit can be made in other than protected trades.

CHAPTER 4

GOVERNMENT FACTORS

A. Introduction

Industry investment capital, profitability, fleet configuration, service patterns, cargo volume, labor relations, and even corporate relations depend to a great extent upon the actions, inactions and sometimes conflicting actions of the federal government.

The government influence on the U.S. merchant marine falls most heavily into four major areas:

- Direct Aid - which includes Maritime Administration programs for: Construction Differential Subsidy (CDS); Operating Differential Subsidy (ODS); Title XI guarantees; Title XII insurance; capital construction funds; and capital reserve funds.

- Indirect Aid - which includes Jones Act protection; Agency for International Development reserved cargoes; Department of Defense reserved cargoes; manpower training facilities (the U.S. Merchant Marine Academy); research, development, and promotion programs of the Maritime Administration; and, to a lesser extent, the Department of Transportation, U.S. Army Corps of Engineers, and U.S. Coast Guard.

- Regulation - which includes rate and service regulations and restrictions set by the Interstate Commerce Commission, Federal Maritime Commission and the Maritime Administration; safety environment and health restrictions imposed by the Environmental Protection Agency, the U.S. Coast Guard, the Department of Health, Education and Welfare, the Department of Labor, the Federal Communications Commission, the various local (ports, county and state) agencies, and antitrust restrictions imposed by the U.S. Department of Justice.

- Foreign Relations - which includes bilateral agreements; UNCTAD and IMCO conventions; and retaliatory actions against discrimination.

While the direct and indirect aid programs of the federal government are intended to attract merchant marine investors and operators, the activities of federal regulatory, antitrust and foreign relations agencies sometimes discourage those objectives.

A review of the effect of government policies and practices on the growth of the U.S. merchant marine is required as a background for the development of research recommendations, and particularly in relation to:

- Intermodalism as it affects agreements among railroads, trucklines, freight forwarders, and non-vessel-operating common carriers; development of central ports and feeder operations; and simplification of rates, services and filing procedures consistent with available intermodal technology.

- Coastal operation as it affects port facilities that respond to the economics of contemporary merchant marine operations, intermodal cargo flows, and bulk cargo movements.

- Intercompany cooperation as it affects the development of rates, services, schedules, conferences and pooling agreements that will best serve the U.S. shipper or consignee.

- Fleet flexibility as it affects U.S. flag and U.S. owned foreign flag operations and U.S. built and foreign built vessels in U.S. and foreign liner and non-liner trades.

It is also important to look at the activities of foreign countries and how they support and regulate their merchant marines. Their actions may suggest constructive alternatives for consideration.

B. Conflicting Interests

The U.S. merchant marine, its associated maritime industries and organizations, and the federal government are often fractionalized by conflicting interests, overlapping mandates, and historical relationships. The basic federal transportation regulatory policy requires adversarial procedures between carriers and shippers, and between carriers and carriers. In the case of the merchant marine, the government compounds the difficulty by applying to shipping companies, operating in a worldwide competitive environment, antitrust and regulatory policies that are designed primarily for companies in domestic commerce and which are not applied to foreign competition.

Subsidized carriers have interests that conflict with the unsubsidized carriers. U.S. flag liner operators compete with U.S. owned foreign flag non-liner operators. The interests of U.S. flag operators are often not consistent with the interests of U.S. shipyards. The interests of railroads and trucklines in carrying import/export cargoes are not always consistent with the interests of ship operators. Ports oppose shifts in service through feeder systems, land-bridge movements or other substituted service that ship operators may wish to implement in the interest of efficiency.

Conflicting policies within the government tend to reflect the interests of the constituencies that the individual agencies regulate or represent. The Federal Maritime Commission (FMC), Interstate Commerce

Commission (ICC) and, to a lesser extent, the Civil Aeronautics Board (CAB) each seek to control intermodal movements of import/export cargoes; not necessarily because each wishes unilateral power but because each focuses on that segment of the transportation with which it is primarily concerned. Similarly, the Department of Transportation and the Department of Commerce have independent and sometimes conflicting programs in research, promotion and regulation of the merchant marine. Each department has a different perspective, a different perceived mandate, and, consequently, a different set of programs. The Department of Defense, through the Army Corps of Engineers, the Military Sealift Command, and as a major customer of private shipbuilders, also exerts a significant influence on the health and growth of the U.S. merchant marine.

The technological changes that have produced the intermodal revolution have presented significant and as yet unfulfilled challenges to the federal regulatory community. Tariff filings, rate structures, through bills of lading and minimum cost routings have not in practice kept pace with what could be done in theory. We have innovative tariffs, substituted services, and feeder systems, but we do not have a consistent view on the part of the Federal Maritime Commission, the Interstate Commerce Commission, the Department of Justice, the Courts, the Congress and the Administration toward the full development of these innovations. Shipping conferences have failed to implement intermodal authority, and the carriers themselves differ on the best approach to intermodalism in the current environment.

The FMC, ICC, CAB and DOT have established the Interagency Committee on Intermodal Cargo. The items already scheduled for consideration by this continuing government forum include tariff filing procedural reforms, through bills of lading, commodity descriptions and coding, and legal impediments to intermodal transport. While some progress can be realized through such multi-agency cooperation, the problem of conflicting interests by each of the agencies suggests that legislative action may be required.

Closely related to intermodalism is the question of carrier and port interests in operation of port facilities. Ports should be administered primarily as transportation links between the inland and ocean carriers, not as land developers, landlords, or employment agencies. Questions remain whether the federal government, local government, or private development of ports can best serve the U.S. merchant marine. Should ports be treated as public utilities, civic bodies or private enterprises, and to what extent should centrally supplied commodity and ship forecasts determine port development?

When each port served a relatively limited hinterland and ocean freighters could economically call at several ports, the development of several autonomous competing ports on each coast was desirable. Now each of these ports has a vested interest in the continuation of its economic life (including not only the capital facilities in the terminals but the job opportunities for longshoremen, customhouse brokers, forwarding agents, and other service functions associated with port work). As a result, many ports resist the realignment of traffic flows inherent in full application of contemporary transportation technology. Operators of new, high productivity ships contend that they can provide the most efficient service only if they

can reduce their port time. One method of reducing port time is to serve as few ports as possible while attracting cargo from a large hinterland.

Potential conflicts between ports and carriers are not limited to the liner trades. During the past decade, there has been an increase in the percentage of foreign commerce (tonnage) carried in specialized, non-liner ships (82% in 1961 vs. 89% in 1971).[14] The rapid growth of trade in such traditional bulk commodities as crude oil, ores and grains is only partially responsible for the increase. The economies of scale of shipload movements have been extended to several major commodities that historically moved in liners, for example, pulp and paper products, packaged lumber products, automobiles. These movements have led to development of large volume, specialized bulk and neo-bulk facilities to replace smaller, more numerous, multi-purpose terminals. A revitalized U.S. flag bulk carrier fleet will need such facilities.

Intercompany cooperation, whether among the ocean carriers or between ocean carriers and inland carriers or ocean carriers and ports, is severely restricted by the conflicting jurisdictions of the FMC and ICC and the sometimes conflicting philosophies of these agencies and the Department of Justice. Pursuant to Section 15 of the Shipping Act 1916, common carriers by water or other persons subject to the Act, may enter into agreements which, upon FMC approval, are given antitrust immunity. Such approval is generally given when conference or rate making agreements in the U.S. foreign trade are being established. Increasingly, Section 15 agreements are being filed by carriers interested in discussing other matters, such as joint terminal operations and rationalized fleet sailings. Section 15, however, does not extend antitrust immunity to acquisitions, mergers, and other acts which the Department of Justice considers in violation of the large and complex body of antitrust law, or so the courts have seemed to hold.

FMC's Vice Chairman, George Hearn, presented the conflict between the FMC and the DOJ in a speech before the Propeller Club of the United States in San Francisco, October 12, 1973:

> "The Department of Justice has not taken a position when foreign countries and their merchant marines have formed corporate combinations which are contrary to our antitrust policy and laws. It appears that while such is permissible for foreign participants in United States ocean commerce, when the same is engaged in by our own carriers, the arsenal of federal antitrust weapons is leveled against it. For the Justice Department to acquiesce in actions taking place in other countries which have a direct effect on our foreign commerce, and then attempt to obtain jurisdiction over and restrain American firms from competing with the same tools is not, in my opinion, in the best interest of the foreign commerce of the United States. This negative

[14]U.S. Department of Commerce, Maritime Administration, *MarAd Annual Report*, Washington, D. C., 1972, p. 90.

> "approach by the Department of Justice and the other parties ... will seriously hamper and limit the competitive thrust of the American merchant marine and negate the mandate of our shipping laws for equal treatment of all flag carriers. Such a result is especially odious when the balance is weighed against our own merchant fleet, particularly at a time when our country is attempting to do everything possible to alleviate trade deficits, increase employment, and place American corporations, which must compete internationally, in a viable competitive position."

While examining the influence of our antitrust laws on the merchant marine, we should also examine the application of our regulatory laws. Several administrative provisions of our subsidy programs might be contrary to the intent of the Congress when applied in the current competitive environment. Sections 605C, 804 and 805A of the Merchant Marine Act of 1936, in particular, inhibit management's ability to respond promptly and effectively to foreign competition and changing markets. Further examination of Section 28 of the Merchant Marine Act of 1920 might suggest directions in which U.S. flag carriers and the inland carriers could develop rates and services that would give the U.S. flag carriers an advantage in the market place.[15]

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[15]Sections 605C, 804 and 805A of the Merchant Marine Act of 1936 and Section 28 of the Merchant Marine Act of 1920 are summarized as follows:

. 605C -- No operating differential subsidy contract will be made for essential service that is in addition to existing service, unless the Secretary of Commerce (after hearings) finds that the existing service is inadequate. Also no contract shall be made if the Secretary of Commerce finds that such a contract would give undue advantage, or be unduly prejudicial, as between citizens of the U.S. in an essential service.

. 804 -- Except as provided in a "grandfather clause", it shall be unlawful for any contractor receiving operating differential subsidy to operate any foreign flag vessel which competes with an essential American-flag service.

. 805A -- Except under limited provisions, it shall be unlawful to pay operating differential subsidy to any contractor engaged in domestic intercoastal or coastwise service.

. 28 -- No common carrier subject to ICC shall collect any joint rate to or from an overseas port by a water carrier in foreign commerce which is lower than that charged for the same service (distance & route) wholly within the U.S., unless the water carrier is U.S. flag.

In *Seapower* magazine, September 1973, Mr. Robert A. Carl (special assistant for transportation, Office of the Assistant Secretary of the Navy, Installation and Logistics) presented a controversial but valid point of view:

> "I should like to see, therefore, an indepth review of all our subsidies and a consolidation, merger, or consortium formed of larger single companies and elimination of those which provide double subsidy services in particular areas that are not capable of supporting more than one service.... Such a realignment would also result in more economical and an administratively more efficient operation, insofar as government control is involved. This approach may run counter to the provisions of the Sherman Antitrust Act as it is now interpreted, but Congress could amend the Act to encourage consolidation in a field long dominated by foreign interests."

There are also questions concerning the grandfather clause in the 1970 Act (Section 804) which set conditions under which owner, operators, charters, etc., of foreign flag vessels can receive operating differential subsidy for U.S. flag vessels engaged in the carriage of bulk cargoes. Several of the recent construction subsidy applications submitted by U.S. citizens contemplating charter of vessels for their economic life to foreigners appear to be designed to circumvent this basic policy issue.

The focus of our attention should be on how to make our ocean transport systems responsive to the needs of the user, without unduly limiting carrier discretion. The U.S. regulatory system is not meeting this challenge.

The self-policing aspects of the conference mechanism has not worked well. Significant overtonnaging on the major routes has encouraged nonconference carriers to compete vigorously with conference carriers to the extent that some conferences are losing membership. At the same time, the innovative Associated North Atlantic Freight Conferences has not fulfilled its promise as a self-policing body. The general increasing inability of the conferences to police themselves and to respond to shippers' needs has resulted in a rise of government intervention. For example, Canada has recently adopted a system of merchant marine surveillance and several countries are developing their own merchant marines as a way to protect their trades and carry a share of their cargoes. The so-called 40-40-20 cargo sharing plan deserves careful consideration, and not the outright rejection some advocates of traditional forms of international trade have given it.[16] "Freedom of the seas" may be a worthy doctrine, but only if all players follow the same rules.

C. Federal Aid

The President, in his merchant marine message to the Congress on October 23, 1969, stressed that both government and industry need to make a

[16]The 40-40-20 cargo sharing plan provides 40% of the cargo for the merchant fleets for each of the two trading nations and 20% for an outside or third flag carrier.

substantial effort to reverse the sharp decline in American shipping and shipbuilding. Accordingly, he announced a new maritime program whose objective was to "replace the drift and neglect of recent years and restore this country to a proud position in the shipping lanes of the world."

That new maritime program to upgrade the U.S. merchant marine became law under the Merchant Marine Act, 1970. The announced purpose of Congress in this new legislation was to provide for a long-range merchant shipbuilding program, a general lessening of dependence on operating differential subsidy for the liner carriers and the build-up of our bulk commercial carrier fleet in the foreign commerce of the United States.

The goals of this program are still to be fully realized, but it is generally accepted that the program is working. In a recent report to the Congress, the Secretary of Commerce stated:

> "The President's program has invigorated all segments of the maritime industry. It has instituted the largest commercial shipbuilding program ever undertaken in this country in peacetime. The new, highly productive ships being built under the program will greatly enhance the competitive position of American flag lines. Additionally, as a result of the improved outlook for the merchant marine, a welcomed stability in the shipping industry's labor-management relations has been achieved."[17]

The United States, like other maritime powers, has sought to preserve competitive opportunities for its merchant marine with direct and indirect subsidies, where necessary.

1. Direct U.S. Aid

Pursuant to long-term objectives in support of our merchant marine for commerce and defense, the United States has made available to our merchant marine substantial direct aid, including the following:

- Operating Differential Subsidy (ODS)
- Construction Differential Subsidy (CDS)
- Capital Construction and Capital Reserve Funds
- Federal Ship Loan and Mortgage Guarantees under Title XI
- Title XII War Risk Insurance

Operating Differential Subsidy (ODS) is a government program of support to ship operators, which is intended generally to equalize the cost of operation of a U.S. flag vessel with its foreign competition. This form of aid generally covers wages, insurance and maintenance. The program has

[17] *MarAd Annual Report*, 1972, *op. cit.*, Report of Secretary of Commerce Peter G. Paterson, p. iv.

been in existence in the same basic form since the passage of the Merchant Marine Act of 1936. Although the method for determining labor costs was changed under the 1970 Act with the introduction of a wage-index concept, the overall parity principle has remained the same. In 1970 Congress extended ODS to bulk operators with the proviso that the Secretary of Commerce could pay operating differential subsidy to bulk carriers "as he shall determine to be necessary" to make the cost of operating such vessels "competitive" with foreign flag ships. In FY 1973, ODS expenditures totaled $226,710,926.[18] In FY 1974, ODS contracts were awarded to four bulk carrier companies whose vessels will become operational in the 1975-1979 period.

Construction Differential Subsidy (CDS) is also a government program of support which has been in effect in the same basic form since the passage of the Act of 1936. Under the new merchant marine law (1970), the subsidy goes directly to U.S. shipbuilders. The object of the law is to equalize costs to the purchaser of a U.S. built vessel by granting to the shipyard, under prescribed standards, direct subsidies equaling the difference in cost between building the vessel in the U.S. shipyard and building that same vessel in a competitive foreign shipyard. In FY 1973, contracts were awarded that obligated the government to $342,385,220 in estimated construction differential subsidy. FY 1973 expenditures for construction and reconstruction subsidies equaled $185,877,663.[19]

Capital construction and construction reserve funds are substantial tax incentives that enable ship operators to deposit certain monies from vessel operations into a fund where such deposits remain tax deferred so long as they are used by the ship operator for authorized shipbuilding. In extending the privilege to shipping companies to defer payment of income taxes upon agreement to deposit the income into a fund to replace or add new ships for use in the U.S. flag merchant marine, the Congress declared that the use of these programs "will do more than any other provision of this bill to build ships in the United States shipyards to be operated under the American flag". As of June 1972, U.S. operators had aggregated assets of over $800,000,000 under the Capital Construction Fund Program.[20]

Title XI guarantees pledge the United States to the payment of the interest on and the unpaid balance of the principal on construction loans and/or mortgages used to finance the cost of construction of merchant vessels. Such federal guarantees, which may extend to 87-1/2% of the actual cost of the vessel, make financing of ship construction more attractive to lenders who in turn present more attractive interest rates to ship operators who intend to build and operate vessels under the U.S. flag. As of Fiscal 1973, there were $2,579,273,493 in Title XI, approved mortgage applications or contracts in force, covering 456 vessels and 2,171 lighters.[21]

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[18]U.S. Department of Commerce, Maritime Administration, *MarAd Annual Report*, Washington, D. C., 1973, p. 87.
[19]*Ibid*, pgs. 7 & 69.
[20]*MarAd Annual Report*, 1972, *op. cit.*, p. 27.
[21]*MarAd Annual Report*, 1973, *op. cit.*, p. 9.

Title XII, War Risk Insurance, is a government program to provide insurance and reinsurance against loss or damage by war risks whenever it appears that such insurance adequate for the needs of the waterborne commerce of the United States cannot be obtained on reasonable terms and conditions in the commercial insurance market.

2. Indirect U.S. Aid

Indirect aid provided by the federal government is also substantial. It comes in various forms including: the Jones Act, cargo preference and market development, and manpower training.

The Jones Act is a popular name for the law that requires use of U.S. flag vessels in domestic commerce, thereby eliminating foreign competition. More formally, it is Section 27 of the Merchant Marine Act of 1920, and it applies to all cargoes moving between one U.S. port and another U.S. port.

Cargo preference policies, particularly for government generated cargoes, set aside certain cargoes for U.S. flag vessels -- either solely or on a first-refusal basis. Market development programs, particularly through joint government/industry promotion groups, such as the National Maritime Council, seek expanded use of U.S. flag vessels.

Federal programs to develop maritime manpower include personnel training, data collection, and the presentation of certain merchant marine awards. In addition to the training program at the U.S. Merchant Marine Academy, several state academies train personnel to man ships and otherwise support the maritime industry.

Other general programs of indirect aid to the merchant marine include a vessel exchange program enabling shipowners to upgrade their ships, ship sales and transfer programs facilitating the use of certain vessels from the national defense reserve fleet; and research and development programs for the development of new ship technology, port facilities and cargo handling systems. In Fiscal 1973, the research and development budget of the Maritime Administration was $29,874,922.[22] The DOT, Corps of Engineers, Coast Guard and other agencies have additional research and development programs.

D. Foreign Merchant Marine Aid Programs

Most world powers consider a national merchant fleet to be vital to their economic and security interests. To insure the development of their merchant fleets, many governments have developed substantial programs, including a variety of subsidies.

According to studies made by the Maritime Administration, the costs of developing and operating a merchant fleet vary tremendously from country

[22] *Ibid*, p. 95.

to country.[23] A nation having a cost advantage in one area may suffer from a disadvantage in another area. As a result, almost all of the nations included in the survey made by the Maritime Administration provide some direct and/or indirect aids to their merchant fleets as well as to their shipbuilding industries. Although their forms vary, such governmental aid includes:

- Operating subsidies
- Construction subsidies
- Trade-in allowances
- Official low interest loans
- Interest subsidies
- Official loan guarantees
- Accelerated depreciation
- Tax deferred reserve funds
- Duty free imports of materials needed for ship construction
- Cargo preference schemes
- Cabotage restrictions. (Restricting trade in coastal waters or between two points within a country to ships flying that country's flag.)

In addition to these direct and indirect aids, many nations offer a wide variety of social, economic and political assistance such as:

- Schools for the training of merchant seamen
- Hospital and medical care for merchant seamen
- Social security family payments to seamen in addition to stated holiday and vacation payments
- Laws requiring the construction of national flag ships only in domestic shipyards for operation in a nation's foreign and domestic trades
- Laws specifying that materials and component parts for the construction of ships and their maintenance and repair as well as for food, stores and supplies be purchased domestically

Based on available information of nations that have merchant fleets, fifty-three were included in the survey made by the Maritime Administration. Excluded were those countries: (1) whose fleet total is less than 50,000 gross tons, (2) whose maritime industries are controlled by centrally planned economies, such as the Warsaw Pact nations, the Peoples Republic of China, Albania, Cuba, North Korea and Yugoslavia, and (3) about whose merchant fleet little was known concerning their policies of direct and indirect assistance.

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[23]U.S. Department of Commerce, Maritime Administration, *Maritime Subsidies*, U.S. Government Printing Office, Washington, D. C., 1971.

Direct and indirect aid programs sponsored by the various maritime powers are extremely difficult to quantify; however, one dominant theme seems apparent. Each maritime power seems to play follow the leader, or more properly, "catch-up", within its own economic means. The question of who has the most generous or the most effective program is difficult if not impossible to establish. Maritime subsidy programs seem to be defensive, and the best any nation can achieve is probably a balance that protects the competitiveness of its fleet at a reasonable public cost.

E. Conclusions

After considering the influence of government on the growth of the U.S. merchant marine, the Panel developed conclusions in seven major areas:

1. Interdependence and Independence

There are many issues concerning government policy toward the maritime industry that often involve one sector of the industry seeking a position at the expense of another. It might prove useful to examine some of these issues more closely to determine the probable effect on the Nation of alternative government policies. For instance, U.S. flag ships must be U.S. built or undergo a probationary period before they are eligible for all of the benefits of U.S. registry. What would be the potential advantages and disadvantages of legislative action to permit any ship that meets USCG specification to be placed under U.S. flag at anytime?

CDS eligibility is another important issue. CDS is currently available only through U.S. flag carrier application. What would be the potential advantages and disadvantages of legislative action to provide CDS directly to any U.S. shipyard building any vessel for use in any foreign trade, with or without the proviso that the ship be registered in the United States?

The relationship between ports and operators needs reexamination. Port facility investments, developed independently by each port with varying regard for regional requirements, lead to political, regulatory and legislative pressures on U.S. flag operators to make multi-port calls on routes that could be served more economically with one port call. What would be the potential advantages and disadvantages of legislative action to free U.S. flag operators from any requirement to serve a particular port with direct calls?

2. Antitrust and Regulatory Restrictions

The roles of U.S. regulatory and antitrust agencies may merit significant realignment in today's modern and highly interdependent transportation industries. For instance, some foreign flag operators are permitted, and, in some cases, encouraged to form consortia, and to allocate markets and revenues, while U.S. flag operators must obtain time-consuming FMC and DOJ approval for a severely limited number of such actions (often involving court cases as well). What would be the advantages and disadvantages of legislative action to exempt regulated ocean carriers from specific provisions of the antitrust laws?

Equally important is the necessity for U.S. ocean carriers to work closely with inland transportation modes. Separate, and sometimes conflicting, regulatory policies and procedures limit the extent to which U.S. flag operators can join with domestic land carriers to offer single-factor (through) rates, through services and coordinated ship and rail or truck operations. What administrative changes could the FMC and ICC institute without special legislation to improve the ability of U.S. flag carriers to develop preferred intermodal services?

3. Preferential Cargoes

Government policies on preferential cargoes are currently being debated in both the legislative and executive branches of government. The use of tax incentives, subsidies, quotas and other methods of government control are widespread throughout the U.S. economy, yet the amount of government-supported cargo that is required to be moved on U.S. flag ships is currently relatively small (military and AID cargoes only). What would be the impact on the U.S. merchant marine and on the national economy if the government required all or a significant portion of cargoes that receive specific government support to be carried on U.S. flag ships?

4. U.S. Flag Capacity

The primary objective of federal direct aid programs is to increase the overall capacity of the U.S. merchant fleet to enable it to carry a more significant portion of U.S. imports and exports. There are perhaps other means of increasing that capacity. For instance, U.S. owned, foreign flag non-liner ships constitute a significant fraction of the world's non-liner capacity, while U.S. flag non-liner ships are an insignificant fraction. An objective evaluation of the relative benefits to the economy of U.S. owned foreign flag ships might prove useful. It might also be meaningful to attempt to determine the cost, international ramifications, and possible benefits to the economy of bringing those ships under U.S. flag registry.

The 1970 Act, the devaluation of the U.S. dollar, the higher rates of inflation in many maritime countries, the reduced manning differentials between U.S. and foreign ships, the favorable U.S. capital market and other factors may be narrowing the cost gap between U.S. flag and foreign flag ships. Some evaluation might be attempted to determine what levels must be reached before the gap becomes insignificant, and what U.S. government policies and actions can help narrow the gap faster.

5. ODS Program

The ODS program has shown great durability over the years and at the same time, as shown in the Act of 1970, a considerable degree of flexibility. The ODS program should remain dynamic with the continued objective of attracting more capacity. Various alternatives should be evaluated periodically. ODS was established when variable costs accounted for up to 75 percent of total ship operating costs. Now, variable costs account for about 25 percent of total ship operating costs. What would be the consequences of an ODS policy that based payments on revenue, cargo carried, capacity provided, or utilization achieved instead of voyages sailed?

ODS was established when maritime technology and competition were relatively static, and most ships in the liner trades were interchangeable. Now rapidly changing technology and competition make it risky to commit a liner fleet to a given service for a long period, particularly with a time-consuming procedure for change. What would be the consequences of an ODS policy that permitted subsidized operators greater latitude in changing ports of call and number of voyages to meet foreign competition?

ODS was established when liner trade represented a more significant segment of U.S. foreign trade than is now the case. What would be the consequences of an ODS policy that offered subsidy to all U.S. flag carriers, regardless of type of service, fleet mix or owner/operator relationship?

6. Bilateral Agreements

A question of both national and international concern centers on the appropriate role of cargo sharing and bilateral trade agreements in U.S. maritime trade policies. Bilateralism, or direct agreements negotiated and concluded between nations for the reservation of cargoes, is growing in popularity and importance in the international maritime community. Further development of bilateralism in the next two or three decades could have a major impact on the size and mix of national merchant marine fleets by structuring the opportunities available for maritime services on the principal trade routes.

Whether a policy of bilateralism is ultimately adopted by the U.S. or not, there should be an awareness of the implications that such a policy would have for the U.S. merchant marine and other related or impacted industries. The necessary light could be shed by a study of the implications of bilateral trade by assuming, in effect, that a bilateral trade policy had been adopted earlier and has been pursued over the past ten years. This retrospective view of the workings of a bilateral trade policy has the advantage of narrowing the range of conjecture in assessing the consequences of past and current policies. The results of current policies are known, or generally ascertainable, and only the results of assumed bilateral policies will have to be estimated in making the assessment. If both the results of current policies and bilateral policies were examined in a future setting, then the uncertainties of estimation are substantially increased. As a study device, the retrospective view will make it possible to arrive at more definitive judements with respect to the effects of bilateralism or such diverse considerations as U.S. cargo flows, maritime fleets, shipbuilding, port development, and the volume and viability of maritime support facilities and services. This evaluation would be helpful in determining a desirable and effective U.S. response to spreading bilateralism -- a policy which has prevailed in international aviation agreements.

7. Operational Flexibility

The Shipping Act of 1916 contains statutory restrictions on the operation of vessels in international trade to insure satisfaction of national standards concerning antitrust and discrimination as between shippers, ports and localities.

Many studies have been undertaken, including one by the Maritime Transportation Research Board concerning legal impediments to intermodal transportation, that identify the difficulties experienced by operators in modal and intermodal transportation in their efforts to improve efficiency and economy within the present regulatory structure. All such studies have suggested particular remedies to reduce these legal impediments in international trade. Few if any have attempted to estimate the effect of such changes on efficiency or economy of operations, movement to or from consortia, etc., and therefore do not make a substantial contribution to the end judgment of whether or not relief from a particular legal impediment would help attain national maritime objectives.

A study should be conducted on national shipping policies under the Shipping Act of 1916. The study should proceed on the assumption that a common carrier operation should not be limited in the type, amount or location of cargo it should carry. The study should not argue for or against carrier flexibility, rather it should concentrate on the probable effect on the national fleet in terms of size, composition and deployment with particular emphasis on the relationship between large and small carriers and with respect to trade movements in the origin and destination areas.

CHAPTER 5

MANAGEMENT FACTORS

A. Introduction

It is the entrepreneur who perceives the need and creates the product or service. Innovation and the avenues of implementation are the province of management. Merchant marine management factors treated in this chapter include organization, personnel, investment, operations, marketing and business alignments.

B. Organization

The organization of management in the ocean transportation industry varies from company to company. In some cases, as many as 13 individuals may report to the chief executive officer, while in others the number may be as few as 1 or 2. In some cases, area managers report directly to chief executive officers, while in others they report to functional vice presidents.

The organization of shipping companies has changed considerably in recent years. Many American flag shipping companies now employ the complex functional departments and divisions common to other industrial organizations, instead of the earlier organizational structure which generally consisted of vice presidents or departmental managers in charge of traffic, operations, and finance. Highly differentiated specialities such as research and development, marketing, labor relations, civil rights, finance, maintenance and repair, and government liaison must be recognized and integrated into the total corporation. In many cases, new skills are required from outside the original organization.

Coincident with these changes, many companies became involved in mergers and diversifications that resulted in still greater change and dislocation in the management structure. While some companies continue to maintain a dominant position in their new corporate structure, others became a small segment or division of a far-reaching industrial conglomerate.

Although there is no real evidence that ocean transportation companies suffer from inefficient forms of organization, it might be expected that problems in management organization have developed as a result of rapidly changing technology and business conditions in the industry. Improvement in organization, such as closer integration between sales and operations, might enhance efficiency and significantly improve management's capacity for expansion and growth.

C. Personnel

In the early development of the American flag merchant marine, top management generally consisted of the founding families and their closest

associates from other fields of endeavor. In some cases, outsiders lending financial support became a part of the management team. During the decade of the 1960's, as the old, war-built, break-bulk ships began to reach the end of their useful lives, it became apparent that there was a need not only for more sophisticated ships but also for more aggressive and imaginative management. Expertise in finance, naval architecture and labor relations became necessary to management teams along with skills in advertising, public relations, sales, marketing, terminal operations, economics and political science.

At the outset of the study, the Panel knew very little about the individuals who manage our merchant marine. Therefore, a questionnaire was directed to the presidents of the U.S. flag lines to try to determine the educational background and professional skills of shoreside managers. The results of this questionnaire are shown in Table 5.

Table 5 shows that management of the merchant marine relies heavily on operating personnel to fill its ranks. Over 20% of the managers have attended a maritime academy. Forty-six percent of the top officers responding sailed as licensed officers. Although experience as a licensed officer ranked high in the past as a pre-requisite to attaining managerial rank, Table 5 indicates that business skills are now seen as the most important ingredient.

Although management is and has in the past been considered a positive influence on the growth of the merchant marine, management competence, expertise particularly in the area of business skills, should be further developed and exploited as a means of enhancing growth.

There is some evidence that salary ceilings imposed under the Merchant Marine Act of 1936 and subsequently rescinded may have held management salaries artificially low throughout the industry. If so, changes may be required to attract and hold a caliber of management comparable to other industries. For instance, during the 1971 Fiscal Year, eight out of ten presidents of large U.S. corporations made $100,000 or more, including salary and bonuses. In all industries, only 0.3% of the presidents made less than $50,000 per year.[24] There is some evidence that U.S. flag company presidents fall into the lower scale of this distribution.[25]

D. Investment Decisions

Since shortly after the end of World War II, the industry has been contemplating the eventual block obsolescence of its cheap, war-built, break-bulk fleet. It was not totally prepared, however, to deal with the high costs of specialized ships or the considerable complexity and sophistication involved in modern financing. In some cases, the cost of the ship was only a small part of the replacement cost. Barges, containers, cranes and other shoreside equipment added significantly to the financial burden. "Debt servicing" became a highly important part of the day-to-day as well as the long-range decision-making responsibilities.

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[24]Heidrick and Struggles, Inc., *Profile of a President, Findings of a Study of the Presidents of America's Largest Companies*, Chicago, 1972.
[25]Interstate Commerce Commission Schedules 5008, period 1/1/72-12/3/72.

TABLE 5

RESULTS OF QUESTIONNAIRE ON MERCHANT MARINE MANAGEMENT

Average number of individuals in management-level positions ashore per company	30
Average age of individuals in management-level positions	48
Percentage of managers with college degrees	61%
Percentage with graduate degrees	12%
Percentage attended Kings Point	12%
Percentage attended other maritime academies	10%
Percentage sailed in licensed capacity	29%
Percentage of top six officers who were promoted from within	90%
Percentage of top six officers who sailed as licensed officers	46%

Skills most likely to reach management levels ranked in order of importance.

1. Business Administration Graduate
2. Marketing Specialist
3. Licensed Officer
4. Accountant
5. Engineer
6. Lawyer

Matters requiring the most executive time and attention.

Currently	Ideally
1. Operations	1. Operations
2. Finance	2. Marketing
3. Marketing	3. Finance
4. Government activity	4. Other
5. Other	5. Government activity

Severe constraints to growth in order of importance.

1. Union attitudes
2. Labor competence
3. Government regulations
4. Capital requirements
5. Stockholder/parent company attitudes
6. Competition
7. Management competence available

Positive considerations for growth in order of importance.

1. Union attitudes
2. Management competence
3. Labor competence
4. ODS/CDS
5. Prospects for reserve cargoes
6. Other government support
7. Revaluation of dollar
8. Cabotage

Source: Questionnaires administered by the Maritime Transportation Research Board, January 1974. All major U.S. operators queried. Six questionnaires were returned.

Many of the subsidized lines had accumulated substantial replacement funds through the years since World War II by the use of tax-deferred capital construction fund deposits; others were not so fortunate. In either case, the financial problems involved in such a massive replacement program required a combination of legal, financial, investment and government expertise.

A number of governmental aids, provided through legislative action, played a significant role in attracting the capital necessary to effect the replacement program. These aids which were treated in depth in subchapter B are:

(1) The 1936 Act which permitted, and in some cases required, tax-deferred reserve fund deposits of depreciation, earnings, and other specified monies.

(2) Construction subsidies which made it possible to build ships in U.S. yards at prices comparable to those in low-cost foreign yards.

(3) Operating subsidies which were designed to equal American costs, primarily in the category of crew wages, subsistence, maintenance and repairs and insurance, with the operators predominant foreign flag competitors in each of the various trade routes.

(4) Title XI mortgage guarantees which made it possible for American flag owners to borrow money at or near the going rate on government borrowings.

At present, the greatest demand for financial aid is in the construction of tankers. Shipowners have found the financial aids provided for bulk carriers in the Act of 1970 to be attractive, particularly for vessels intended to trade between foreign and U.S. ports. There appear to be few incentives to build American vessels intended to trade primarily between foreign ports. Foreign built ships registered in countries offering tax advantages and cheap crews seem to be in demand by shipowners.

Table 6 shows a cash flow comparison used by a U.S. company in making an investment decision on whether or not to build and operate a foreign flag ship. This analysis is supported by Tables 7 and 8 and Figure 3. These calculations, which were validated by two other companies in similar investment positions, provide the rationalization for foreign construction and operation of vessels by U.S. companies. They also tend to confirm the continued requirement for subsidy support for U.S. flag operators.

Table 9 was prepared by an investment firm using somewhat different assumptions than those used in Tables 7 and 8. Table 9 demonstrates the advantage provided to U.S. owners by the CDS and leveraged financing. The financial advantages facilitated by Title XI guarantees, investment tax credits and accelerated depreciation are treated in the footnotes to Table 9.

Perhaps the most salient point that can be made in comparing these two sets of pro-forma financial data is that under certain conditions there

TABLE 6

U.S. AND FOREIGN FLAG VESSELS
ANNUAL CASH FLOW REQUIREMENTS
(Basis: 1974 Data)
(000's Omitted)

	70,000 DWT TANKER		120,000 DWT TANKER	
	American	Foreign	American	Foreign
Construction Cost (a)	$ 27,300 *	$ 18,200 *	$ 42,600	$ 26,150
Annual Operating Costs (b)	2,940	1,573	3,639	1,902
Annual Cash Flow Requirements (First 6 Years) Loan Amortization Basis Mortgage Terms - Note (c)				
Required Owner Revenue (e)	7,649	3,803	10,985	5,106
Less: Operating Costs	2,940	1,573	3,639	1,902
Interest (Average)	614	410	959	588
Depreciation (20 years)	1,365	910	2,130	1,308
Profit Before Taxes	2,730	910	4,260	1,308
Taxes (U.S. @ 50%)	1,365	--	2,130	--
Profit After Taxes	1,365	910	2,130	1,308
Add: Depreciation	1,365	910	2,130	1,308
Cash Generation	2,730	1,820	4,260	2,616
Less: Loan Retirement	2,730	1,820	4,260	2,616
Cash Generation	$ 0	$ 0	$ 0	$ 0
Notes:				
(a) Construction Cost/DWT	$ 390	$ 260	$ 355	$ 217.9
(b) Annual Operating Costs included Manning, Maintenance, Stores, Insurance and Management				
(c) Mortgage Terms				
% Construction Cost	60%	60%	60%	60%
Amount	$16,380	$10,920	$25,560	$15,690
Term	6 years	6 years	6 years	6 years
Interest Rate	7-1/2%	7-1/2%	7-1/2%	7-1/2%
Annual Payment	$ 2,730	$ 1,820	$ 4,260	$ 2,616
(d) Equity	10,920	7,280	17,040	10,460
(e) Equiv. Required Charter Rate Oil Revenue: Sumaira/L.A. Charter Revenue-Voyage Costs= Owner Revenue Voyage Costs: American and Foreign Flag Assumed Equal	$19.65	$12.37	$15.69	$ 9.28

*Two companies asked to validate the data suggested that construction costs were understated. It is recognized that inflationary pressures have forced construction costs somewhat higher.

Source: A major U.S. company operating foreign flag vessels, 3/18/74.

TABLE 7

PROJECTED U.S. AND FOREIGN FLAG
OPERATING COSTS
1977

Flag DWT and Type of Vessel	American 70,000 Tanker	Foreign 70,000 Tanker
Crew Costs	$1,218,500	$ 561,900
Subsistence	59,100	55,800
Stores, Supplies & Equipment	156,000	156,000
Maintenance and Repairs*	500,000	237,000
Insurance:*		
Hull & Machinery @ 2-1/2% Hull Value	682,500	450,000
War Risk @ 20¢/$100 Hull Value	54,600	36,400
P&I @ $5.00/GRT	178,000	@ 85¢/GRT 30,260
Tovalop 3¢/GRT	1,068	1,068
Uninsured Loss	50,000	25,000
General Operating Expense	40,000	20,000
Total Annual Cost	$2,939,768	$1,573,428
Gross Tonnage	35,600 T	35,600 T
Hull Value (000)	$ 27,300	$ 18,200

*One company asked to validate this table suggested that insurance costs for U.S. operations were considerably overstated and that general operating costs were understated and should be constant for both U.S. and foreign.

Source: A major U.S. company operating foreign flag vessels, 3/18/74.

TABLE 8

PROJECTED U.S. AND FOREIGN FLAG
OPERATING COSTS
1977

Flag DWT and Type of Vessel	American 120,000 Tanker	Foreign 120,000 Tanker
Crew Costs	$1,218,500	$ 561,900
Subsistence	(@4.50) 59,100	(@4.25) 55,800
Stores, Supplies & Equipment	156,000	156,000
Maintenance and Repairs	640,000	320,000
Insurance:		
Hull & Machinery @ 2-1/2% Hull Value	1,065,000	653,700
War Risk @ 20¢/$100 Hull Value	85,200	52,300
P&I @ $5.00/GRT	323,000	@85¢/GRT 54,900
Tovalop 3¢/GRT	1,900	1,900
Uninsured Loss	50,000	25,000
General Operating Expense	40,000	20,000
Total Annual Cost	$3,638,700	$1,901,500
Gross Tonnage	64,600 T	64,600 T
Hull Value (000)	$ 42,600	$ 26,100

Source: A major U.S. company operating foreign flag vessels, 3/18/74.

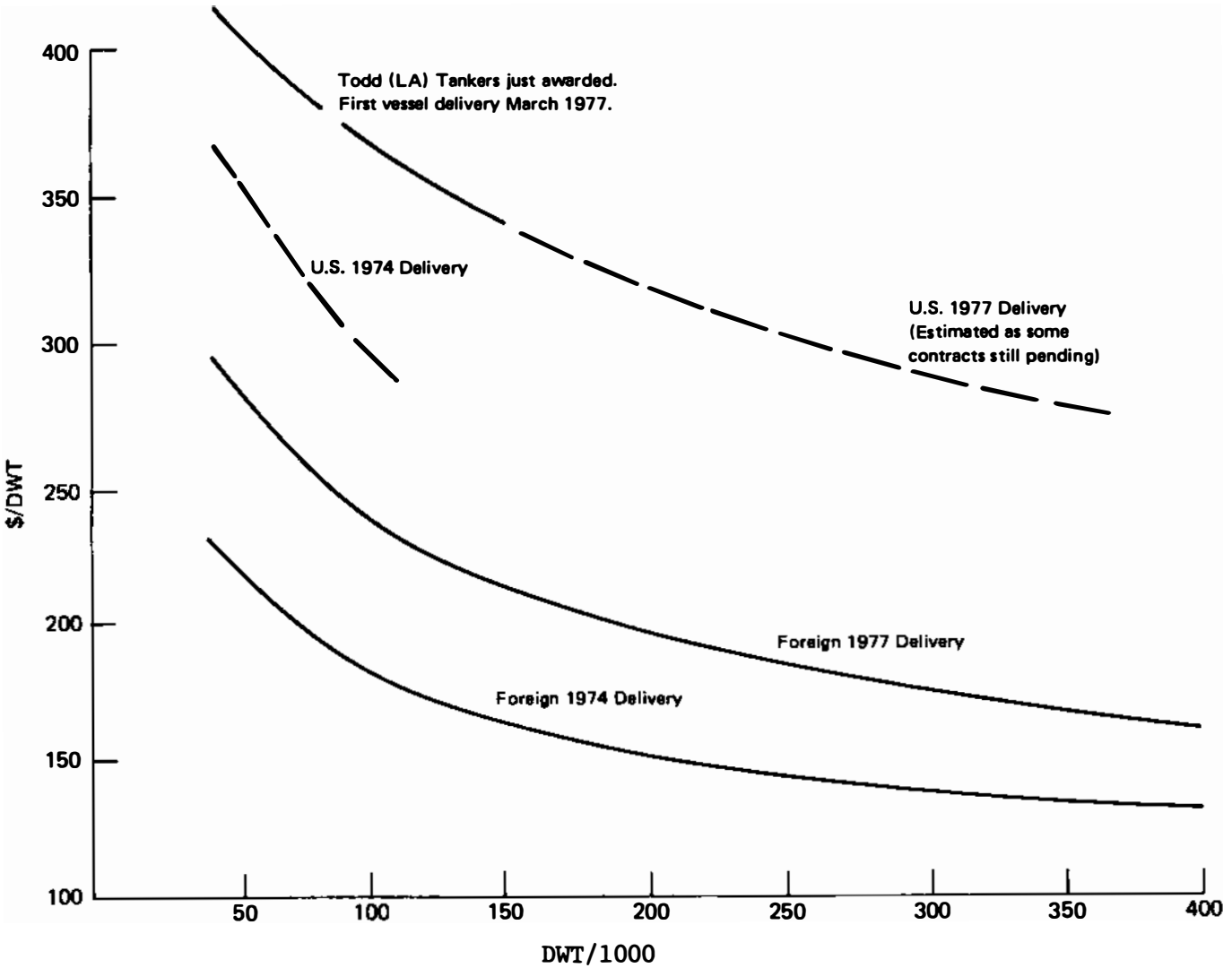

FIGURE 3

FOREIGN VS. DOMESTIC U.S. OIL TANKER PRICES

TABLE 9

89,700 DEADWEIGHT TON TANKER
(1978 Delivery)
Comparative Total Cash Cost Per Year
(Estimated)

Case 1 Foreign Flag and Foreign Construction (Permanent Financing With Ownership in Sponsor)		Case 2 U.S. Flag and U.S. Construction (Leveraged Permanent Financing With Ownership in Financial Institution)
$25,778,563	Shipyard Cost	$38,787,563
0	Construction Differential Subsidy at 33.66%	$13,009,000
$25,778,563	Shipyard Cost (Net of CDS)	$25,778,563
$ 6,444,641	Estimated Additional Costs (Assumed to be 25% of Shipyard Cost) - Net of CDS*	$ 6,444,641
$32,223,204	Cost for Financing Purposes	$32,223,204
70%	Percent Financed	100%
$22,556,242	Amount Financed	$32,223,204
7 Years	Term	25 Years
8%	Interest Rate of Financing	6% (effective)**
$ 4,332,377	Annual Loan Amortization	$ 2,513,410***
$ 1,700,000	Estimated Operating Cost	$ 2,650,000****
$ 6,032,377	Total Cash Cost/Year	$ 5,163,410

*These additional costs, estimated at 25 percent of shipyard cost (net of CDS), may include items such as (a) non-shipyard costs of outfitting and preparing the Vessel for service including items such as inspection fees, stores and equipment, (b) interest and fees for guarantees of the interim financing prior to the delivery of the Vessel, (c) fees and disbursements of counsel for the Owners, the purchasers of the Bonds, the Charterer, the interim lender and the Trustees, (d) the cost of documenting the Vessel and (e) commitment fees of the equity, if any, printing costs, if any, recording fees and other miscellaneous expenses of the transaction.

**This effective interest rate is the rate needed to present value the bareboat charter charter hire payments due, back to the vessel cost. It reflects 7% investment tax credit, 14.5 years asset depreciation range, an assumed interest cost of 9.00% for U.S. government guaranteed Title XI debt equal to 70% of vessel cost and a time charterer with top credit rating.

***This amount represents approximately a 3.90 percent semi-annual in arrears bareboat charter hire payment.

****Estimated annual operating cost in year of delivery. No ODS assumed.

Source: Coolidge, Nicholas J., Kidder, Peabody & Co., October 17, 1974.

may be advantages to building U.S. Obviously, U.S. companies traditionally involved in foreign flag ownership are watching changing conditions with active interest.

The industry broadly has supported cross trading, particularly for bulk and tanker vessels, which now, under the Act of 1970, are eligible for construction and operating subsidies. It would be more attractive to potential investors if these vessels were permitted, just as are the vessels of other maritime nations, to trade entirely between third countries if such trade develops earnings which cannot otherwise be obtained when the vessels are restricted to trading into U.S. ports once a voyage.

The private sector should be encouraged to seek opportunities that will make buying American built ships competitive and not rely on the government to provide incentives to increase growth.

E. Operations

The introduction of the new specialized types of ships not only are costly in themselves but require expensive ancillary equipment or service installations. In addition, they require new specialized management skills and talents.

Economic analysts must be constantly alert not only to present cargo movements but to trends developing that may affect or change the pattern of cargo movements in the short- or long-term future.

Experts in the field of political prognostication are also a necessary part of management to provide answers to a number of questions. What are the trends that are developing in the governmental structures at home and abroad? How will protectionism and bilateralism affect the traffic trend? What will be the effect of the fluctuations of the U.S. dollar as related to foreign currencies? What will be the shipping requirements of the military over the coming years? Where will civilian unrest or warfare erupt? Where will governments fall or change? What will be the result of the "lesser developed nations" demands for a more dominant voice in shipping practices affecting their own area of interest? All of these are current and long-range problems requiring management attention.

More important than ever are cost information systems. With inflationary trends, both at home and abroad, management must have up-to-the-minute and accurate information about cost factors and changing trends, not only for proper rate-making but for operational decision making.

A survey of ship operating companies shows that most companies are using computer based information systems of some type for container location and identification, off-shore personnel data, off-shore payrolls, cost accounting, and inward/outward freight documentation and shipboard inventories. Few companies have developed systems for market forecasting, ship scheduling or maintenance and repair.

Although there have been several attempts to introduce government sponsored information systems into the industry, the latest being the

Shipping Operations Information System, acceptance has not been overwhelming. The lack of sophisticated information systems has held the merchant marine industry behind other industries in the quality and quantity of information used in making daily or long-range operating decisions.

New highly technical ships require and use many modern devices designed to improve the efficiency and safety of the ships, their officers and crew and at the same time protect the environmental rights of others. Many new features and techniques have been added in recent years: automated or semi-automated engine room control, radar, anti-collision radar, ship-to-shore telephone communication, quick-opening hatches, computerized stowage, refrigerated cargo facilities, liquid cargo capability, etc.

In addition to dramatic changes in shoreside management, shipboard officers and crew members have also been improved and upgraded. The merchant marine schools such as the federally sponsored Kings Point Academy and the several state academies have produced an abundant pool of well-educated, technically oriented and experienced officers. A number of union sponsored training schools have similarly done much to upgrade the skills and talents of unlicensed personnel.

Environmental regulations and the energy crisis are the latest, and possibly most serious, problems to beset shipping management in recent years and, to some extent, are interrelated.

Anti-pollution and environmentalist groups have been moderately successful in their efforts to enact legislation directed toward the protection of the atmosphere and waterways. Some of these laws require substantial changes in the operational practices of commercial users of waterways that will substantially increase operating and construction costs. For example, the state of Washington recently enacted legislation (signed May 29, 1975) requiring pilots, construction features and other precautions for vessels entering the Puget Sound.

The energy crisis likewise presents a serious problem to the shipping industry. The shortage of fuel, coupled with the rapidly escalating cost of the available supply, will tax the ingenuity of managers to cope with the problem.

Schedules must be arranged to eliminate unnecessary port calls or steaming time; speed must be reduced for the most efficient use of fuel supplies. It may even be necessary to curtail sailings or coordinate sailings with competitor's lines. Management must be constantly alert to see that freight rates are adjusted to cover the sizable and frequent increases in the cost of fuel.

F. Industry Alignments

Merchant marine management has formed a number of industry alignments for a variety of purposes including labor negotiating, rate making, pooling, and legislative lobbying. Table 10 provides a sampling of typical industry organizations, their purpose, and membership.

TABLE 10

SAMPLE OF MERCHANT MARINE MANAGEMENT ORGANIZATIONS

NAME	PURPOSE	MEMBERSHIP
American Institute of Merchant Shipping (AIMS)	Government liaison Congressional lobbying International liaison	U.S.-flag owners and operators. Liner, tankers and dry cargo and coastal operators.
American Maritime Association (AMA)	Labor contract negotiation and administration (offshore) Government liaison	Primarily owners and operators contracting with the Seaman's International Union.
Committee of North Atlantic Shipping Association (CONASA)	Labor contract negotiations and administration (longshore)	Shipping associations, North Atlantic.
Maritime Service Committee (MSC)	Labor contract negotiations and administration (offshore)	Primarily owners and operators contracting with National Maritime Union in dry cargo sector.
New York Shipping Association (NYSA)	Labor contract negotiations and administration (longshore)	140 U.S. and foreign flag owners and operators contracting with waterfront labor.
Pacific Maritime Association (PMA)	Labor contract negotiations and administration (offshore & longshore) Government liaison	West coast owners, operators, terminal operators and stevedoring contractors.
Tanker Service Committee (TSC)	Labor contract negotiations and administration (offshore)	Primarily owners and operators contracting with National Maritime Union in tanker sector.
Steamship Freight Conferences Examples: Outward Far East Conference Inward Australia/U.S. Atlantic & Gulf Conference	Ocean freight rate stability Ocean freight rate stability Ocean freight rate stability	Berth Line operators involved in common trades. Berth line operators both foreign and U.S.-flag involved in outbound movements to Far East. Berth line operators both foreign and U.S.-flag involved in Inbound movement from Australia.
Pooling and Sailing Agreements Example: Moore-McCormack Lines Lloyd Brasileiro & Netumar Southbound Atlantic Coast Ports to Ports in Brazil	Earning and operating stability and access to cargo. Earning and operating stability and access to cargo.	Berth line operators involved in common trade. Moore-McCormack Line, companhia de Navegacao Lloyd Brasileiro; and Campanhia de Navegacao Maritime Netuma S/A

In general, the role these organizations play in the growth of the merchant marine is minimal. The one exception is in the broad area of steamship conferences and pooling arrangements. Closely allied with this problem are the activities of UNCTAD, the United Nations Conference on Trade and Development. Although not a management organization *per se*, its influence may have a far-reaching effect on pooling and conference practices.

The liner conference system, which has been in existence for nearly 100 years, consists of informal associations of liner companies servicing common trades. They act together to set a uniform rate structure, coordinate sailing schedules and police trade practices. Some 380 conferences are now in operation in world trade. They dominate most of the major ocean liner trade routes and in turn are dominated by the traditional maritime nations.

Steamship conferences were exempted from antitrust action in the United States by the Shipping Act of 1916 and subsequent legislation.

Pooling and sailing agreements are basically arrangements for stabilizing earnings and expenses by apportioning revenue, cargo and sailings. Pooling and sailing agreements are legal under the 1916 Shipping Act provided the agreements are filed before the appropriate regulatory agency.

Conferences and pooling arrangements have been controversial since their inception. By and large U.S. regulatory agencies have little control over the conferences because of their lack of jurisdiction over foreign operators. In December 1973, a major U.S. operator announced its intention to withdraw from conferences involving the Taiwan and Hong Kong trade. The disagreement, which was later resolved, was based on dissatisfaction with rate levels and rebate policing in the conference in the face of stiff non-conference competition.

The whole area of conference and pooling arrangements should be restudied to anticipate their role and influence in a changing merchant marine.

G. Marketing

Marketing considerations are covered in depth in Chapter 7.

H. Conclusions

After considering the role of management in determining the growth of the merchant marine, the Panel developed conclusions in five areas.

1. Organization

The success of any organization is dependent in part on how easily its executives communicate and how efficiently and correctly its daily business functions and future planning activities are accomplished. The key to this success is dependent to a great extent on the organization and how the various diverse functions are integrated into the total activity.

The merchant marine is subject to a high rate of technological and market change. Some highly profitable companies have experienced drastic

and immediate financial setbacks coincident with market changes and/or introduction of new technology. On the other hand, some companies with formerly poor profit records have enjoyed almost instant success under new management philosophies. In recent years, management has been required to shift rapidly from crisis to crisis. During some periods, the major concerns have been with labor; during other periods, marketing, finance, or perhaps engineering have consumed the largest share of management time and attention. An organization must be flexible and capable of anticipating its future problems. It is possible to generalize that management in the merchant marine industry has moved from a relatively stable business environment to a more dynamic environment subject to rapid change.

Some authorities contend that industries faced with rapid rates of technological and market change produce different demands on an organization than do more stable industries. They further suggest each industry should organize according to the specific demands of its environment.[26]

A study to identify the organizational characteristics required from management in the modern ocean transportation industry might be useful in helping to develop effective maritime management organizations.

2. Personnel and Management Skills

The personnel and skills necessary to operate a modern merchant marine are changing. However, questions remain as to what types of skills are needed and where these skills can best be found.

The merchant marine academy graduate has played a vital role in both the operation and management of the merchant marine (currently providing approximately 20% of the industry's shoreside managers). There are questions, however, about the future role of merchant marine academies and whether they should provide training in both operating and company management skills, or concentrate on operating skills alone. For example, one steamship company president in response to a panel questionnaire made the following observation:

> "Heretofore the management personnel of many steamship companies was promoted from its ample supply of operating people. Most commonly promoted were Deck Officers, Pursers, Stevedore Superintendents and Supercargoes. This source of supply has virtually disappeared because: (1) due to mechanization and automation the number of jobs in those categories has materially decreased; and (2) the union pay scales and generous fringe benefits have made management jobs, with their related pressures, unattractive. Jobs ashore (uptown) will have to be made more attractive. It is difficult to persuade a ship's Master who earns an annual salary of $40,000 and receives five months paid vacation each year to come ashore and work as a Port Captain earning $25,000 per

[26]Lawrence, Paul R., and Lorsch, J.W., *Organization and Environment, Managing Differentiation and Integration*, Harvard Business School, Boston, MA.

> "annum, entitled to four weeks of paid vacation and subjected to the daily pressures of a management position. Lastly, today the art of managing is more complex. A higher level of education is required, an understanding of finance and law is required and a high level skill in human relations is a must. Licensed 'school-ship' officers could, of course, meet some and develop the balance of these requirements."

It is also apparent from the questionnaire that company presidents are seeking business school graduates for top level positions.

Because of the growing sophistication and increasing complexity of ship operations, it is becoming apparent that maritime academies must concentrate and specialize in the mechanical, navigational and environmental protection skills that will be required of the coming generation of merchant marine officers. The equally challenging business management courses may be difficult to mix successfully in the same four-year curriculum. The merchant marine academies are presently providing skilled men for vessel operations. The types of high caliber officers they provide should be motivated to remain at sea where their skills are sorely needed, and not encouraged to eventually move into shoreside management positions.

At the same time, the industry should be able to turn to major U.S. business colleges for managerial talent. Few business administration schools provide courses in ocean carrier management and in fact interviews with professors of transportation show little appreciation of ocean transportation. This deprives the industry of the exposure to the most modern techniques of business management and results in a slow response to changing business conditions, attitudes and techniques.

3. Investment Decisions

Investment decisions critical to the growth of the U.S. merchant marine appear to fall into three categories: (a) liner operators, (b) tanker operators, and (c) dry bulk operators.

(a) Liner Operators

Liner operators during 1974 experienced unprecedented improvements in their load factors outbound creating, in many cases, undercapacity situations. At the same time, with U.S. shipyards running at near capacity, there are very few liner type vessels on order or being considered for CDS. The short-term outlook for liner trades, as explained in Chapter 3, is favorable. What steps can be taken to attract liner operators to increase their investments in equipment and how can the lag time be reduced to take advantage of immediate demand?

(b) Tanker Operators

Many tanker operators have recognized the advantages of U.S. CDS, ODS and other aid programs. These advantages (see Table 9) together with

political considerations concerning the transport of petroleum products have created numerous applications for construction subsidy. As a result, U.S. shipyards are heavily booked with tanker orders. What steps can be taken to attract traditionally foreign flag operators under the U.S. flag? Can aid programs and other policy decisions (other than ODS and CDS) be made to either bring existing tonnage under the U.S. flag or to encourage future investment in U.S. rather than foreign flag built and registered vessels?

(c) Dry Bulk Operators

The United States seems destined to be a major exporter of agricultural products and coal and a major importer of ores and raw materials. These commodities will move basically in specialized dry bulk ships. Chapter 3 forecasts favorable worldwide demand for bulk carriers in the years ahead. At present, however, the existing and contemplated U.S. dry bulk fleet is small and diminishing. What steps must be taken to encourage U.S. operators to invest in dry bulk tonnage?

4. Management Information Systems

In general, Maritime Administration efforts to upgrade management information systems have been successful in demonstrating for ocean transportation managers the need for, and mechanics of, such systems. The number of systems currently in use has increased markedly in recent years. However, some operators are reluctant to participate in government sponsored systems that require industry sharing of data or input directly to a government data base.

Government seed money in the MarAd management information systems has been well spent. Perhaps it is now time to shift to the private sector and encourage private systems to be developed either individually or through private service organizations.

5. Steamship Conferences

Steamship conferences, cargo sharing and sailing agreements have been credited with creating a healthy industry on the one hand and charged with sustaining high and discriminatory ocean freight rates on the other. There is and has been a great deal of controversy over the conference system since its introduction in the United States as a legal entity in 1916.

The significant factors concerning government and private policy toward steamship conferences are these:

- An investigation by the House Committee on the Merchant Marine and Fisheries in 1912 concluded that excluding U.S. operators would "...place American exporters at a disadvantage in many markets compared to their foreign competitors".[27]

[27]McDowell and Gibbs, *Ocean Transportation*, McGraw Hill, New York, NY, 1954, p. 391.

- A Northwestern University Transportation Study completed in 1961 concluded that the conference system sustained high ocean freight rates, stabilized rates in the face of changing demand and supply, and reduced the free flow of capacity between markets, therefore, impairing optimal fluctuation in rates and capacity. The study suggested that U.S. companies should operate outside the conference system.[28]

- Recent warnings from the Federal Maritime Commission concerning conference rebate practices and recent threatened withdrawals of U.S. lines from Pacific Coast conferences indicate a growing disenchantment with the workings of the conference system in the United States.

- Some authorities see a deterioration of the conference system due to government sponsorship of national flag lines, container service, large independent consortia and private fleet proliferation.[29]

- The large U.S. reserve fleet that tended to insure against inflated worldwide ocean freight rates is now dissipated.

- The make-up of the United States Merchant Marine is changing and has changed markedly in the last ten years. The subsidized fleet is no longer exclusively liner oriented. Some of the new ships being built under government subsidy will operate outside the conference system.

- The International Code of Conference Practices for liner conferences currently under negotiation by the United Nations will have a significant impact on U.S. liner operators even if it is not ratified by the U.S.

It is apparent that new concepts on conferences and cargo sharing arrangements must be advanced and tested against the changing nature of U.S./foreign trade and the changing make-up and character of the U.S. merchant marine.

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[28]Ferguson, Lerner, McGee, Oi, Rapping, Sobotka, *The Economic Value of the United States Merchant Marine*, The Transportation Center at Northwestern University, Evanston, IL, 1961, p. 436.

[29]Lawrence, S. A., *International Sea Transport: The Years Ahead*, D.C. Heath and Company, Lexington, MA, October 1972, p. 14.

CHAPTER 6

LABOR-MANAGEMENT FACTORS

A. Introduction

Labor-management relations in the U.S. merchant marine defy simple analysis. To isolate potential areas for growth, it is first necessary to define the term labor-management relations. Major areas of concern to both management and labor will then be analyzed. Emphasis will be put on what impact current and future labor-management problems may hold for the growth of the U.S. merchant marine. Areas for further research will also be identified.

Labor-management relations may be viewed as the procedural and substantive rules governing the conduct between management and labor. In addition to wages, hours and working conditions, labor-management relations relate to a broad range of subjects, including (a) the recruiting, hiring, placement and training of a work force, (b) the discipline, promotion, termination and layoff procedures for workers, (c) the wage, overtime, bonus and profit sharing plans for employees, (d) the health, safety, disability and pension provisions for wage earners, and (e) the procedures for settling disputes arising at the work place or conference table.

Labor-management relations in any one industry are also more than the sum of their parts. The total environment in which the parties interact is as important as the substantive terms of contracts. In fact, the climate surrounding the parties appears to be the key factor for successful agreements.

Although favorable collective bargaining relationships have been lacking in the past, U.S. merchant marine labor and management have now moved from confrontation to cooperation.

B. Economic Climate

For over 38 years, the U.S. merchant marine industry has used the collective bargaining process in an attempt to solve labor-management issues. Taft-Hartley Boards and Congressional Hearings have described labor-management relations in the industry as archaic, with scores of separately negotiated agreements expiring on different dates. Commissions have also pointed to "catch-up" problems between different seamen's unions and costly jurisdictional disputes as further examples of generally poor labor relations.

There exist other widespread notions about the state of labor-management relations in the U.S. merchant marine industry. One view suggests productivity and technology in the longshore industry need improvement. Another claims efforts in this direction have been retarded by union work rules

and inadequate labor-management relations. Other critics charge that imbalances in bargaining power have led to greater strength for labor organizations. Mergers and conglomerates are also cited to emphasize the growing strength of management.

Examples can be found to buttress any of these opinions. In the longshore industry, disputes over gang size, containerization, the efficient use of machinery, work practices and manpower deployment are common. In the U.S. offshore sector, the finger is pointed at soft bargaining, government subsidies, a fractionalized union structure and rising labor costs.

The economic realities surrounding current labor-management relations in the U.S. merchant marine are far from bright. There has been an absolute post-war decline in the number of U.S. flag ships and the volume of cargo carried by the U.S. fleet. (See Figure 2, Chapter 3.) Job opportunities represent a special problem in maritime labor-management relations. Tables 11 and 12 trace employment opportunities for a 19-year period for the offshore and longshore sectors. Significant declines are registered in seafaring and longshore employment. Shipboard jobs, for example, on privately owned U.S. vessels decreased 54% from 1955. Longshore employment declined 39% using the same base.

While the number of active privately owned U.S. flag ships declined, the fleets of Japan, Russia, West Germany, Italy, Greece and Poland all registered gains. Similarly, the growth of flags of convenience was unprecedented during the same time period.[30] When these trends are examined alongside the decline in job opportunities, the problem is placed in perspective.

C. Bargaining Structure

The structure of bargaining in the industry is highly diverse for offshore, longshore, shipbuilding and inland waterway industries. Distinctions can also be made on a national, company or geographical basis.

In the U.S. longshore industry, West Coast employers are organized into the Pacific Maritime Association (PMA). The PMA conducts negotiations on a coastwise basis with the International Longshoremen's and Warehousemen's Union (ILWU). In these negotiations, the PMA represents 128 U.S. and foreign flag operators, stevedore contractors and terminal operators. The association is the contracting party for the employers and its contracts are binding--subject to ratification by members requiring a majority of total voting strength.

In contrast, the East and Gulf Coasts have a markedly different employer structure for longshore negotiations. The major employer organization is in the pattern setting Port of New York.[31] CONASA, the Council of

[30] *Journal of Maritime Law and Commerce*, "OECD Study on Flags of Convenience", January 1973, pgs. 231-254.

[31] The New York Shipping Association (NYSA) has roughly 40% of the voting power in CONASA and is divided between full and half voting members. A full voting member must be a direct employer of longshore labor.

TABLE 11

SEAFARING EMPLOYMENT SHIPBOARD JOBS

Year	Total	Private Account	Government Account
1973	28,697	25,327	3,370
1972	31,762	27,224	4,538
1971	32,333	27,701	4,632
1970	39,500	35,002	4,498
1969	47,034	40,142	6,892
1968	53,976	43,217	10,759
1967	62,285	46,243	16,042
1966	65,278	48,118	17,160
1965	60,245	46,923	13,322
1964	54,853	46,855	7,998
1963	54,312	47,126	7,186
1962	49,083	42,326	6,757
1961	54,934	48,351	6,583
1960	54,941	49,079	5,862
1959	53,053	46,852	6,201
1958	58,765	51,389	7,376
1957	61,515	53,451	8,064
1956	70,822	57,802	13,020
1955	67,781	55,995	11,786

Source: U.S. Department of Commerce, Maritime Administration, *Maritime Manpower Report*.

TABLE 12

LONGSHORE-AVERAGE DAILY EMPLOYMENT

Year	Total	Atlantic Coast	Gulf Coast	Pacific Coast	Great Lakes
1973	62,100	34,100	14,350	13,150	500
1972	62,050	34,100	14,350	13,150	250
1971	62,050	34,100	14,350	13,150	250
1970	61,800	34,100	14,500	12,700	500
1969	61,800	34,100	14,500	12,700	500
1968	88,550	50,400	22,800	15,000	350
1967	88,550	50,400	22,800	15,000	350
1966	88,550	50,400	22,800	15,000	350
1965	88,550	50,400	22,800	15,000	350
1964	88,500	50,400	22,800	15,000	300
1963	88,500	50,400	22,800	15,000	300
1962	70,800	43,000	13,700	13,800	300
1961	70,800	43,000	13,700	13,800	300
1960	70,800	43,000	13,700	13,800	300
1959	72,800	45,900	11,400	15,200	300
1958	72,800	45,900	11,400	15,200	300
1957	74,060	45,900	11,400	16,460	300
1956	73,673	45,974	11,401	15,998	300
1955	86,327	60,907	10,010	15,110	300

Source: U.S. Department of Commerce, Maritime Administration, *Maritime Manpower Report.*

North Atlantic Steamship Associations, negotiates master contracts for major ports in the North Atlantic. Its contracts bind affiliates on seven items. Local considerations are negotiated separately with the International Longshoremen's Association. South Atlantic and Gulf ports bargain separately.

Geographical and organizational differences also exist on the union side of the table. On the West Coast, the ILWU's jurisdiction covers longshoremen, plantation workers in Hawaii, warehousemen and industrial employees. PMA negotiations with the ILWU are limited to West Coast longshoremen. On the East Coast, the International Longshoremen's Association (ILA) represents predominantly longshoremen and maritime workers on tugs, lighters and pier terminals. The two unions also differ with respect to the scope of contract negotiations, centralization of bargaining authority, management of the labor force and in their approaches to the modernization of dock work.

The picture is different for the offshore maritime industry. The structure of collective bargaining and labor-management relations is based on a well-defined occupational structure that has developed over time. For management, the PMA negotiates for four major U.S. flag operators on the West Coast: Matson, Pacific Far East Lines, States Steamship Lines, and American President Lines. Separate agreements are negotiated with respective offshore unions.

Individual unions include the Masters, Mates, and Pilots (MMP), the American Radio Association (ARA), Marine Staff Officers (MSO), Marine Engineers' Beneficial Association (MEBA), the Sailors' Union of the Pacific (SUP), and Marine Firemens' Union (MFU) and the Marine Cooks and Stewards (MCS). All except the MMP are affiliates of the AFL-CIO. The MMP is affiliated with the ILA.

On the Atlantic and Gulf Coasts, separate management associations represent distinctly different U.S. flag operators. The American Maritime Association negotiates on behalf of primarily nonsubsidized operators. Its contracts cover licensed officer unions and the Atlantic and Gulf Districts of the Seafarers International Union. A second employer association, the Maritime Service Committee, represents six U.S. flag operators and tanker vessels that operate on the Atlantic and Gulf Coasts. Contracts are negotiated with the National Maritime Union and five licensed officers' unions. The contracts cover 4,498 workers. Added to this picture are numerous U.S. oil companies and negotiations with independent associations of tanker employees.

If offshore management organizations are somewhat diversified, union arrangements are equally so. Licensed officers' unions cover both the Atlantic and Pacific Coasts. Bargaining, in some cases, is on a coastwise basis. This is true for the MMP and for the following licensed and unlicensed unions on the West Coast: ARA, MEBA, SUP, MFU and MCS. On the East Coast, the situation is somewhat different due to two unlicensed unions, the National Maritime Union and the Seafarers International Union. Both are organized into three departments representing traditional divisions on board ship. The Seafarers International Union is divided into the Atlantic and Gulf Coast Districts.

Shipping associations are particularly subject to instability as they are often organized into competing interest groups. Furthermore, it is

not uncommon for associations to disagree over bargaining tactics or the costing out of contracts. Shipping associations can be further divided by corporate structure, financial status, areas of operation, strength and size, jurisdiction and membership stability.

On the opposite end of the continuum is the structure of labor-management relations in the tug and barge industry. Management usually comprises companies that own anywhere from one to thirty boats. Little association or coordinated bargaining takes place. Close to 1,840 companies operate 25,225 barges, towboats and tank barges. Union organization is haphazard and decentralized. The United Mine Workers, the Laborer's Union, the Teamsters, the MMP and MEBA all represent a portion of the tug and barge labor force. Obstacles to union organization or management association bargaining are numerous.

D. Impact of Technological Change

It is within this framework of labor-management organization that the U.S. merchant marine absorbed rapid and widespread technological change. The purpose of these developments has been to obtain higher productivity by the conversion of labor costs into capital costs.

By constructing larger and more efficient ships, the maritime industry has achieved an expansion in carrying capacity. Newer vessels are designed for smaller crews, resulting in a blurring of traditional demarcation lines between engine and deck departments. Modern technology in areas such as container handling, bridge control, and surface coatings have also had far-reaching repercussions on routine aspects of shipboard work. Equally important, newer ships incorporate technologies that reduce the demand for lesser skilled crew.

Technological change has likewise affected the seaman in his total work-leisure cycle. New ships alter traditional turnaround times and shore leave and the normal work week are modified. For instance, high productivity ships allow for very little free time for seamen in foreign ports. Job content and the conditions of work on board ship are similarly changed. Home life and social relationships also have to be altered. Additionally the nature of skill demands by increasingly automated equipment has enlarged the seamen's responsibility.

Similar changes can be observed on the docks. In the longshore industry, a container having 20 to 40 tons of cargo can be discharged in two minutes. With this improvement in cargo handling has come an alteration in traditional job classifications and work assignments. Longshoremen, checkers, winchmen, etc., are all being increasingly subjected to integrated operational systems.

The impact of these technological developments on maritime labor-management relations has been considerable. Technological change in the longshore industry and on board ship has been a dominant theme. Technological changes and subsequent labor-force adjustments have interested government and regulatory agencies. No less concerned are the parties to

collective bargaining agreements themselves. Arrangements made to cushion the impact of technological change on workers can be cited as one measure of the progress the maritime industry has made in its labor-management relations.

E. Maritime Work Stoppages

The significance of using technology as a major variable in assessing maritime labor-management relations is important in understanding the industry's strike record. In the past, both the offshore and longshore industry have had a stormy strike history, particularly on the U.S. East Coast. Maritime work stoppages may have also received an inordinate amount of publicity in relation to their effect on the national economy. Nevertheless, industry statistics on lost productivity due to stoppages over contract negotiations and jurisdictional disputes have been far from encouraging. For the years 1963 to 1973, a total of 1,742 strike days have been lost to industrial disputes in the offshore and longshore industries alone. (See Table 13.) If trends from such data are discernable, the longshore has shown a greater propensity to strike over contract negotiations while offshore appears to be more prone to jurisdictional disputes.

Given the scope of technological change in the maritime industry, plus a declining employment picture, bargaining continually effects job security and work opportunities. Furthermore, labor-management accord is seldom a two-party affair in partially regulated industries. The government is an ever present third party and consequently has to bear some responsibility for many collective bargaining outcomes. Even the strike picture is something less than the data's surface value. In 1973, for example, just eight strike days were lost in seafaring; the lowest recorded figure in 10 years. Only one licensed union was a party to all disputes and a total of just 38 workers were involved.

Another qualification governing an appraisal of maritime work stoppages is the difficulty involved in using comparative strike statistics. An attempt can be made, however, to compare water transportation with other transportation modes using standardized procedures from Bureau of Labor Statistics data.[32] Table 14 presents man-days idle due to strikes as a percent of total work time in waterborne transportation from 1955 to 1972. In 12 of the 18 years under consideration, the maritime industry lost only one percent or less of the total work time in a given year to work stoppages. This statistic is greater than rail, motor freight, and air transportation for equivalent years.

F. Current Labor-Management Developments

In contrast to past work stoppage problems, current trends are to improve labor-management relations. In the longshore industry, a Joint Coast Labor Relations Committee on the Pacific Coast has centralized union

[32]Figures were supplied by Norman Samuels, Assistant Commissioner, Wages and Industrial Relations, U.S. Department of Labor. Reference No. 340, April 12, 1974.

TABLE 13

LONGSHORE AND SEAFARING INDUSTRY LOST PRODUCTIVITY
EXPRESSED IN STRIKE DAYS

Year	Longshore Industry Total	Contract Negotiations	Representation Jurisdiction/ Other	Seafaring Industry Total	Contract Negotiations	Representation Jurisdiction/ Other	Total Longshore/Offshore Strike Days Lost
1963	29	25	4	143	20	123	152
1964	206	6	200	43	--	43	249
1965	61	61	--	132	80	52	193
1966	45	18	27	109	--	109	155
1967	27	--	27	46	8	38	73
1968	71	42	29	105	7	98	176
1969	124	103	21	90	22	68	214
1970	69	2	67	10	4	6	79
1971	167	157	10	56	--	56	223
1972	78	48	30	52	42	10	130
1973	71	49	22	8	0	8	79
	948	511	437	794	183	611	1,742

Source: U.S. Department of Commerce, Maritime Administration, Office of Maritime Manpower.

TABLE 14

MAN DAYS IDLE AS A PERCENT OF TOTAL WORK TIME
WATERBORNE TRANSPORTATION*

Number of Work Days In Year	Year	Stoppages	Workers Involved	Number of Workers in Industry	Man Days Idle	Man Days Idle As A Percent of Total Estimated Work Time
255	1955	40	67,300	245,000**	227,000	.3
255	1956	37	67,500	245,000**	428,000	.6
255	1957	30	6,910	245,000**	482,000	.7
255	1958	33	15,600	245,000**	78,800	.1
256	1959	40	76,800	245,000**	877,000	1.4
255	1960	59	43,400	245,000**	170,000	.2
254	1961	31	57,800	245,000**	359,000	.5
255	1962	35	74,600	245,000**	646,000	1.0
255	1963	34	9,480	245,000**	1,120,000	1.7
258	1964	30	77,800	230,800	240,000	.4
254	1965	32	24,500	230,200	1,630,000	2.7
255	1966	29	10,200	239,700	47,300	.1
254	1967	38	27,600	242,800	165,000	.2
256	1968	28	85,900	240,800	663,000	1.0
255	1969	33	14,100	230,600	1,936,500	3.2
255	1970	23	27,100	215,100	328,500	.5
254	1971	18	74,400	199,300	2,948,300	5.8
255	1972	29	17,300	197,000	581,200	1.1

*Water transportation includes: deep sea foreign transportation, deep sea domestic transportation, Great Lakes-St. Lawrence Seaway transportation, transportation on rivers and canals, local water transportation, services incidental to water transportation (i.e., stevedoring), canal operations, and water transportation not elsewhere classified.

**Estimates

Source: Computations are based on the formula of total idleness divided by above employment times working days. This figure is then multiplied by 100. See U.S. Dept. of Labor, Analysis of Work Stoppages, 1971, p. 64, and U.S. Dept. of Labor, Handbook of Labor Statistics, 1973, p. 15. Estimates of the number of workers in the industry come from Employment and Earnings, 1909-1972.

grievance handling and attempts have been made to apply arbitration awards uniformly and on a coastwide basis. Arbitrators are also available on a 24-hour basis to handle unresolved on-the-spot issues at the port level. On the Atlantic and Gulf Coasts, joint labor-management arrangements for administering contracts have been made at the port level. Equally important for the improvement of labor-management relations have been industry efforts to upgrade the status of longshoremen. This has taken the form of productivity payments, guaranteed annual incomes, increased job security and improved accident benefits or compensation.

In seafaring, similar attempts have been made to improve the industry's labor-management record. Offshore labor organizations have relaxed manning schedules, negotiated top to bottom manning scales, and called for no strike pledges during contract negotiations. Other developments include the growth of uniform contract termination dates and joint labor-management efforts to promote the U.S. merchant marine. Significant in this regard was the statement of intent by AFL-CIO maritime unions on April 14, 1972 to assure efficient and dependable water transportation service. Thomas W. Gleason, President of the International Longshoremen's Association on behalf of the AFL-CIO maritime unions on April 14, 1972 outlined five priorities for U.S. oceanborne trade with regards to labor-management relations. These are: (a) no strikes during the period of contract negotiations, (b) three to five year contracts to provide assurance with respect to continuity of operations, (c) uniform contract expiration dates, (d) provision for automatic wage adjustments, (e) the establishment of procedures for the resolution of disputes without stoppages. Additional developments by both management and labor include pre-negotiation sessions and provisions for annual cost-of-living wage adjustments.

G. The Role of the Federal Government

The federal government and various regulatory agencies have also been active in promoting maritime industrial stability. An important event in this regard occurred in 1970 with the passage of the revised Merchant Marine Act. The Act provided a change in the area of operating-differential subsidy. In the future, the payment of wage subsidy would be based on an index system. The basic principle of the system is that the subsidization of maritime wages would be undertaken by the government only to the extent that these wages are consistent with wages in the Nation generally. The index compares increases in maritime wages with an index prepared by the Department of Labor. The Labor Department index gives equal weight to increases in wages and benefits for employees covered by collective bargaining agreements in the transportation industry (excluding offshore maritime) and to changes affecting employees in private, non-agricultural industries other than transportation.

More recent developments indicate the government's role in maritime labor-management relations may be more difficult for the industry in the future. On February 19, 1974, the U.S. Supreme Court overturned a state court decision and held that the Labor-Management Relations Act did not prevent the granting of an injunction which would have stopped the picketing of foreign flag ships by U.S. maritime unions. The case involved two Liberian flag vessels picketed in the Port of Houston, Texas, and brought up issues relating

to (a) a seaman's right to picket, (b) the meaning of the commerce clause of the LMRA, (c) state pre-emption of the NLRB, and (d) "flags of convenience". Almost simultaneously, the Federal Maritime Commission was handing down a number of important decisions of the issue of cargo diversion.[33] At stake were the employment opportunities for thousands of longshoremen and allied workers who are attached to port regions and distinct geographical areas. By cargo being diverted to newer or more modern facilities, work opportunities diminish for significant numbers of longshoremen. Similar issues await settlement in mini-bridge disputes. In mini-bridge disputes, sea cargo is often sacrificed to long distance rail transport thereby cutting into maritime employment. Government has also continued to overview maritime labor-management relations as demonstrated by Federal Maritime Commission Reviews of a current PMA/ILWU contract and various NLRB rulings over container freight station agreements.

Aside from the question of what is the proper role for government in maritime labor-management affairs, many two-party issues await the collective bargaining calendar. These promise to see the government play an important part in their resolution. Of particular importance to longshore labor and management is jurisdiction over container loading. Another issue involves the consolidation of container facilities in a few ports and the overall impact on longshore job opportunities. While involving mostly longshore unions and Teamsters, container loading affects management and jurisdictional disputes jeapordize the movement of cargo.

H. Potential Growth of U.S. Merchant Marine

One problem the maritime industry will have to address in the immediate future is the need to reassess current manpower requirements. While reduced manning scales and increased productivity sharpen the competitive edge of the industry, labor organizations are still by necessity concerned with job security and employment opportunities. Similarly, pressures will develop to halt the trend or at least insure that employment can be offered at more regular intervals. At issue here is the ease with which the industry can recruit workers in the future and the institutional stability of labor organizations.

Finally, the U.S. merchant marine and the entire waterborne transportation industry will have to look more closely at work stoppages as methods for resolving disputes. A great deal of progress in this regard has been made lately. The 1972 deep-sea negotiations which passed without a maritime strike are a good case in point.

I. Conclusions

After considering labor-management relations and their influence on merchant marine growth, the Panel developed conclusions in three areas.

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[33] *Journal of Commerce*, "PMA Seeking to Overturn NLRB Ruling", February 25, 1974, p. 30.

1. Maritime Work Stoppages

Work stoppages in the maritime industry have had a generally constraining effect on the growth of the industry. From 1963 to 1973, 1,742 strike days were lost to industrial disputes in the offshore and longshore industries alone. (See Table 13.) Such stoppages tend to demoralize management and cause shippers to question the reliability of the carriers affected. Much more should be known about how and why these stoppages occur and what alternatives might be explored to correct the situation.

While the maritime work stoppage situation improved significantly in 1973 and 1974, it is important to the growth of the industry that this improving trend be sustained.

Studies and research should be conducted into the underlying causes of maritime work stoppages and to compare the maritime industry with other major industries where greater stability in labor relations has been achieved. Such studies should identify policies and procedures not prevalent in the maritime industry which have effectively allayed unrest and brought about more stable relations in other industries and which may be expected to provide effective responses to the causes of work stoppages in the maritime industry.

2. Maritime Industrial Relations

Labor-management relations in the maritime industry have been a recognized problem area for many years. Over these years, many techniques and procedures have been recommended from various quarters as a means of reducing the injurious effects of work stoppages and labor-management turmoil. Voluntary arbitration, no strike pledges, uniform contract expiration dates and other methods have been suggested.

A major study effort should be directed to each of these various suggestions in an attempt to determine their probable effect on labor relations in the industry and the possible positive impact on growth potential.

3. Longshore Labor Problems Associated with Cargo Diversion

Cargo diversion refers to the dislocation of traditional cargo flows through technological improvements, or system realignments and institutional changes. For instance, routing cargo by rail from the natural hinterland of one port to another port can cause local employment fluctuations. This problem is particularly acute in the longshore sector of the industry where major changes in cargo flow patterns can affect employment opportunities for large numbers of workers (both increases and decreases).

Cargo diversion often involves technological factors, as well as institutional interaction among corporations, port authorities, and municipal, state and federal governments and unions. Research in this area is necessary to identify the major factors involved in cargo diversion and to assess the overall effects of such activities on all segments of the work force.

CHAPTER 7

USER FACTORS

A. Introduction

The growth of the United States Merchant Marine is directly contingent upon its ability to attract domestic and foreign international cargoes. However, recent statistics indicate that the U.S. merchant marine has not been able to secure a significant share of international cargo; indeed, it has not even been able to secure a major share of U.S. generated cargo.

Despite the increase in U.S. exports and imports in 1974 that enabled most U.S. flag ships to operate at 95% capacity, a prolonged loss of market share might prove critical because of an expected increase in capacity due to the current shipbuilding program. In the long run, the U.S. should take steps to regain its dominant market position. Thus, it is imperative that this Panel address itself to an analysis of why the U.S. merchant fleet has lost a major share of world trade to its competitors. Such an analysis will hopefully reveal areas of needed change that will enable the U.S. merchant marine to once again attain a significant share of world trade.

B. Market Considerations

As in any business venture, the major inducement that the U.S. merchant fleet (i.e., the "supplier") can offer to prospective shippers (i.e., "buyers") is an optimal combination of the following factors: product, price, promotion and place availability. Each of these factors is subject to competitive action by competing suppliers. It is the overall "package"--the optimal combination of these factors--which actually sells the buyer. (Often, it is only when the overall cost benefits of competing shipper packages are equivalent that the aggressive, profit-oriented American businessman can be attracted by nationalistic considerations.)

Consider each of the prime selling factors listed above as they relate to the maritime industry.

- Product and Place Availability -- The product offered by the U.S. merchant fleet is maritime transportation service, of which "place availability" is an important if not overriding feature. The product, therefore, includes both the hardware (such as the ships, containers, barges, etc.) and such service factors as frequency of sailings, ports of call, reliability, claims tracing and documentation support. The replacement of WW II vessels has placed the U.S. merchant marine in a highly competitive posture in terms of hardware. Management must be equally aware of the need to aggressively compete in the service areas.

- Price -- The international conference system has been established to mitigate the influence of rate on competitive action. Its success in so doing is dependent upon (1) its ability to enlist and retain wide conference membership, and (2) the adherence of conference members to rate integrity. Non-conference lines obviously stress rate as their most important competitive feature; however, a low rate in itself does not necessarily comprise the most effective selling package.

- Promotion -- In a highly competitive market place, a superior product at a competitive price does not in itself attract a wide ranging market. What is strongly needed is an effective promotional program--one that keeps prospective buyers keenly aware of the features and availability of the product and the unique ability of the product to satisfy specific needs of the user.

  A good promotional program has three facets: (1) personal selling, (2) advertising (i.e., impersonal selling), and (3) sales promotion.

  In the maritime industry, personal selling is by far the most important component of a strong promotional program. Shipper needs tend to be non-routine, even unique; therefore, the promotional efforts directed at a prospective shipper must be tailor-made to fit his particular requirements.

  It is axiomatic that an effective marketing effort requires well-trained, knowledgeable, innovative sales personnel. There is evidence that those companies that have strong, well-trained sales forces tend to reap better-than-average market share.

In considering current market conditions, it is important to note that the upsurge in U.S. exports and imports in 1974 has created an under-capacity situation on some routes. For instance, in January through July of 1973 total exports amounted to 38,614.4 million dollars; for the same period in 1974, total exports amounted to 55,747.2 million dollars.[34] Interviews conducted by the MTRB staff with steamship industry executives in July and September in 1974 revealed that some companies are running at 95 to 100% of their total outbound cube capacity.[35] While this short-term situation may tend to de-emphasize the need for improved marketing techniques, in the long term, U.S. merchant marine growth must be based on a continuing, full-range, aggressive marketing program.

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[34]U.S. Department of Commerce, Bureau of Census, *Survey of U.S. Export and Import Merchandise Trade*, U.S. Government Printing Office, Washington, D.C., July 1974, p. 5.

[35]Interviews with U.S. Merchant Marine Industry Executives, July-September 1974 by MTRB staff.

C. Market Surveys

The long-term decline in market share of the U.S. merchant marine indicates that in some way the needs of international shippers -- both U.S. and foreign -- are being better satisfied by foreign flag carriers. In an effort to identify the critical variables which are operating to the benefit of the foreign flag carriers, two exploratory surveys were conducted.

Survey 1 was a mail questionnaire of marine transportation consumers designed to investigate their attitudes, policies and practices concerning ocean carrier selection. Survey 2 was a pilot interview study which compared the promotional practices of foreign and domestic carriers.

1. Survey 1 Methodology

A three-page mail questionnaire was directed to three categories of commercial marine transportation consumers: exporters, importers and freight forwarders. (Because of time and monetary constraints, this exploratory survey was necessarily limited to subsamples of domestic users. However, future research should include both foreign and U.S. users.) The questionnaires, though comparable, were not identical; the questionnaire for each sample was specifically tailored to its mode of operations. (Descriptive data concerning each sample is contained in Appendix II.)

(a) The exporter sample was a judgment sample consisting of the 36 major exporters represented on the Eastern Region Shippers' Advisory Board of the U.S. Maritime Administration. The questionnaires were directed to Board members, who for the most part are export managers for their companies and thus responsible for a significant percentage of the exports of this country.

(b) The importer sample consisted of 100 company presidents systematically selected from the New York Journal of Commerce's list of 10,000 U.S. importers. The most recent list available was compiled in 1970; thus 15 percent of the questionnaires mailed to this group were undeliverable, leaving a net sample of 85 importers.

(c) The freight forwarder sample consisted of the presidents of 104 New York City based freight forwarding companies. It is recognized that a sample of freight forwarders more representative of the United States as a whole may have provided different responses to the questions asked; however, as a convenience sample, the list used seemed adequate for an exploratory survey.

The mail questionnaire was designed to include policy, practice and attitudinal questions in addition to descriptive questions concerning the respondents' companies. Because of time and computer access limitations, no cross correlations were computed for this report.

Response rates for each subsample were as follows: exporters: 83%; importers: 26%; and freight forwarders: 31%; for an overall response rate of 40%.

2. Survey 2 Methodology

The survey of promotional practices of shipping companies was conducted by personal interviews with top management personnel of steamship companies located in New York, San Francisco, and New Orleans. Because of the extremely small sample (3 foreign companies, 5 domestic companies) the findings are necessarily highly impressionistic and cannot be considered representative of the entire industry.

D. Findings

Survey 1 revealed a definite preference for the quality of services offered by foreign flag carriers. Survey 2 indicated that foreign flag operators may be more aggressive in terms of marketing practices than their U.S. counterparts. Better marketing practices may in part account for the greater success of foreign flag operators in securing U.S. cargo. The following sections will consider these findings in detail.

1. Shipping Practices

(a) Carrier Selection

In trying to determine who selected the carrier, users in each category were asked to estimate the percentage of time that carrier selection was made by the domestic shipper (or importer), by the overseas consignee (or supplier), and by the freight forwarder (or customhouse broker).

Table 15 shows that 86% of the exporters make the carrier selection over 50% of the time; only 3% reported that their overseas consignee makes the selection over 50% of the time. Exporter responses indicate that the freight forwarder is of very minor importance in carrier selection. (This is not surprising in light of the fact that the exporters surveyed represent major U.S. companies. Because of their great export volume, these companies are most likely to be organized to direct all phases of their overseas distribution and least likely to use the freight consolidation services provided by freight forwarders.)

Only 13% of the importers reported making the carrier selection over 50% of the time; indeed, 64% of them stated that they never make the carrier selection. Fifty-five percent reported that their overseas suppliers select the carrier at least 76% of the time. Importers reported that customhouse brokers (F.F.) have very little influence on their carrier selection.

Contrary to the responses of the exporters and importers noted above, 55% of the freight forwarders who responded claimed to make the carrier selection over 50% of the time. Only 10% reported that the overseas customer makes the selection over 50% of the time. According to the freight forwarders, the domestic exporter has minimal impact on carrier selection. (This response may be more applicable to small clients who use freight forwarders primarily for freight consolidation than to major exporters such as those surveyed in the present study.)

TABLE 15

FREQUENCY OF CARRIER SELECTION BY
DOMESTIC USER, OVERSEAS CONSIGNEE/SUPPLIER OR FREIGHT FORWARDER
BY USER CATEGORY

% of Time	Exporters						Importers						Freight Forwarders					
	Self		Overseas Consignee		FF		Self		Overseas Supplier		FF**		Self		Domestic Customer		Overseas Customer	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
76 - 100%	9	31	-	-	-	-	2	9	12	55	1	5	7	23	-	-	-	-
51 - 75%	16	55	1	3	-	-	1	4	2	9	-	-	10	32	-	-	3	10
26 - 50%	3	10	2	7	-	-	3	14	4	18	-	-	6	20	5	16	1	3
1 - 25%	1	3	19	63	7	23	2	9	4	18	1	4	7	23	16	52	20	64
0	1	3	8	27	23	77	14	64	-	-	20	91	1	3	10	32	7	23
	30	102%*	30	100%	30	100%	22	100%	22	100%	22	100%	31	101%*	31	100%	31	100%

*Rounding Error
**Customhouse Broker

It should be noted that when steamship company officials were asked (in Survey 2) which of the three categories of user was most likely to control carrier selection, they tended to either divide control between shipper and consignee or slightly favor the domestic shipper. Despite the fact that steamship officials felt that freight forwarders had little real control over carrier selection, they stated that salesmen called on them regularly because of the forwarder's ability to influence his principals in this regard.

(b) Decision Makers

In an effort to determine who is the actual decision maker in the designation of ocean carriers, users were asked to supply the position or job title of the person in their organization who decided which ocean carrier was to be used for specific shipments.

The responses indicate that for exporters, most carrier selections are made at middle to low management levels. The importers who responded to this question reported that 41% of the carrier selections were made by top management, some 17% by middle management, and 42% by lower level personnel. Freight forwarders reported that 13% of the carrier selections were made by top management, some 48% by middle management, and some 39% by lower level personnel.

(c) Approved Carrier List

Users were asked if the person in their organization who does the actual routing works from an approved list of carriers. Far more of the exporters than the other two user categories replied that routers did use approved lists; nevertheless, their percentage (50%) is far from impressive. Only 33% of the importers who responded to this question acknowledged the use of an approved list. Only 10% of the freight forwarders reported that their routers worked from an approved list of carriers submitted by the client, despite the fact that 29% indicated that some of their clients do furnish them with lists of approved carriers. Paradoxically, 40% of the exporters and 9% of the importers reported furnishing their freight forwarders with an approved list of carriers. The conclusion must be drawn that many freight forwarders do not feel constrained to make their carrier selections from the lists of approved carriers submitted by clients.

(d) Use of U.S. Flag Ships

In an effort to determine the actual use of American vessels as compared to foreign flag vessels, users were asked to estimate the frequency with which they used American flag vessels during 1973.

As Table 16 indicates, only 37% of the exporters shipped via American flag more than 50% of the time; only 10% shipped American more than 75% of the time. The statistics are worse for importers: of the 21 who responded to this question, only 28% shipped American more than 50% of the time; almost an equal amount (24%) did not ship via American flag at all during 1973. For freight forwarders, the picture is more dismal still: only 13% reported using American vessels more than 50% of the time; none reported using American vessels more than 75% of the time.

TABLE 16

PERCENT OF OCEANBORNE CARGOES SHIPPED
IN AMERICAN VESSELS DURING 1973
BY USER CATEGORY

% of 1973 Shipments	Exporters N	Exporters %	Importers N	Importers %	Freight Forwarders N	Freight Forwarders %
76 - 100	3	10	3	14	-	-
51 - 75	8	27	3	14	4	13
26 - 50	18	60	6	29	14	45
1 - 25	1	3	4	19	13	42
0	-	-	5	24	-	-
No Answer	-	-	1	-	-	-
	30	100%	22	100%	31	100%

2. User Policies

(a) Written Guidelines

In most large companies, written policies tend to be the guidelines which lower and middle management personnel follow in their day-to-day decision-making; unwritten policy is often considered to be no policy at all. Since the designation of carriers is usually made at the middle or lower management levels, a written policy favoring U.S. flag vessels would tend to influence users' decision makers to designate U.S. carriers over foreign flag vessels. For this reason, an effort was made to determine how prevalent among transportation users were written policies concerning selection of ocean carriers. Table 17 compares the prevalence of written policies concerning carrier designation by user category. As Table 17 indicates, exporters are more likely than other users to have written policies concerning carrier selection.

TABLE 17

WRITTEN POLICIES CONCERNING CARRIER SELECTION BY USER CATEGORY

	Exporters		Importers		Freight Forwarders	
Written Policy	12	40%	4	18%	1	3%
No Written Policy	18	60%	18	82%	30	97%
	30	100%	22	100%	31	100%

(Whether such policies favor U.S. flag vessels was not determined.) It is surprising that only 40% of the major U.S. exporters surveyed do have written policies concerning carrier selection, since companies of their size are the ones most likely to have formalized their shipping procedures.

(b) Policy Makers

Of the 12 exporters who reported having written policies, only one reported that his company's policy was drawn up by top management. However, three of the four importers and the one freight forwarder with written policies concerning carrier selection reported that their policies were drawn up at the top management level. This difference in policy derivation is undoubtedly due to the differences in company size between the exporters sampled and the importers and freight forwarders sampled.

(c) Policy Revisions

Of the 12 exporters with written policies concerning carrier selection, five have drawn up these policies since 1969, and ten reported that their policies have been revised since 1970. Only two of the four importers with written policies developed them since 1970; one reported revising his policy in 1974. The one freight forwarder with a written policy developed it in 1973.

3. Shipping Attitudes

If we assume that American vessels, supporting equipment, and ocean freight rates are equivalent to those provided by foreign flag vessels, reasons for the decline in patronage of American ships must be sought in other areas. It was reasoned that shortcomings in service, both present and past, would be reflected in unfavorable attitudes towards American vessels. The following sections report the expressed needs, values and attitudes of ocean transportation consumers.

(a) User Selection Criteria

Users were asked to rank order each of eight factors in terms of their importance to the respondent's company in selection of an ocean carrier. Table 18 lists the weighted index for each factor and its corresponding rank of importance for each user category. It also indicates which factors were ranked as "most important" (i.e., rank order #1). Reliability, Frequency of Sailing, Rate and Speed are the four factors considered most important by users.

Table 18 reveals that reliability (consistent on time service) is considered the most important factor in the selection of carriers by both exporters and importers and third in importance by freight forwarders. Thirty-two percent of the exporters ranked it first among the eight factors listed, as did 50% of the importers and 26% of the freight forwarders.

Frequency of Sailing is considered the second most important factor in the selection of carriers by both exporters and importers, but it is

TABLE 18

FACTORS IMPORTANT TO CARRIER SELECTION
BY USER CATEGORY

	Exporters				Importers				Freight Forwarders			
Factor	Weighted Index	Rank	Most Impt. N	%	Weighted Index	Rank	Most Impt. N	%	Weighted Index	Rank	Most Impt. N	%
Reliability	21.0	1	10	32	16.0	1	12	50	17.8	3	8	26
Frequency of Sailing	18.4	2	4	13	10.4	2	4	17	24.2	1	12	39
Rate	17.0	3	7	23	8.4	4	5	21	19.8	2	8	26
Speed	14.2	4	5	16	9.0	3	1	4	13.8	4	1	3
Equipment	10.6	5	1	3	3.0	5	1	4	4.4	6	1	3
Flag	10.0	6	4	13	2.0	6	0	-	7.4	5	1	3
Documentation	2.0	7	0	-	1.4	7	1	4	4.0	7	0	-
Claims	0	-	0	-	1.4	7	0	-	.6	8	0	-
			31*	100%			24*	100%			31	100%

*Some factors were ranked as equal in importance; thus total replies slightly exceed number of users surveyed.

considered to be the most important factor by freight forwarders. Thirteen percent of the exporters, 17% of the importers, and 39% of the freight forwarders ranked it first among the eight factors listed.

Rate is considered the third most important factor by exporters, fourth most important factor by importers and second most important factor by freight forwarders. Twenty-three percent of the exporters, 21% of the importers, and 26% of the freight forwarders ranked it first in importance of the eight factors listed.

Speed is ranked fourth by exporters and freight forwarders and third by importers. While 16% of the exporters ranked speed as most important, only 4% of the importers and 3% of the freight forwarders did.

Equipment is ranked fifth by exporters and importers, and sixth by freight forwarders.

Of the eight factors listed, flag is sixth in importance to exporters and to importers, while freight forwarders rank it as fifth. Thirteen percent of the exporters and 3% of the freight forwarders ranked it first; however, no importer ranked it as first in importance.

The last two factors listed -- documentation and claims -- appear to be of very minor consideration to all user categories in the selection of ocean carriers.

(b) Perceived Selection Criteria

An effort was made to determine the perceptions of domestic users as to the critical variable affecting the carrier selection decisions of their foreign clients (consignees or suppliers) and the freight forwarders with which they deal. (See Table 19.)

Fifty percent of the exporters felt that rate was most important to their overseas consignee, while 37% regarded flag preference as most important. Frequency of sailing was seen by 17% of the exporters as most important to the freight forwarder.

Thirty-six percent of the importers felt that frequency of sailing was the most important consideration for their overseas suppliers, 27% thought it was rate, and 14% believed it was reliability. Over half (55%) of the importers had no idea on what basis the customhouse broker selected the carrier, while 23% believed that reliability was the most important factor.

Fifty-eight percent of the freight forwarders regarded rate as the most important factor to their overseas client, while 23% thought flag preference prevailed. Their beliefs concerning the critical decision variable affecting carrier selection by their domestic clients were more widely distributed: 29% thought rate was the most important factor; 23% regarded reliability as the most important factor; 20% regarded frequency of sailing as the most important; and 13% regarded flag as most important.

TABLE 19

FACTORS PERCEIVED BY DOMESTIC USERS AS MOST IMPORTANT TO OTHER USER CATEGORIES BY USER CATEGORY

	Exporter				Importer				Freight Forwarder			
	Most Impt. to Overseas Consignee		Most Impt. to Freight Forwarders		Most Impt. to Overseas Supplier		Most Impt. to Freight Forwarders		Most Impt. to Overseas Client		Most Impt. to Domestic Client	
	N	% of Sample	N	% of Sample	N	% of Sample	N	% of Sample	N	% of Sample	N	% of Sample
Rate	15	50	3	10	6	27	2	9	18	58	9	29
Flag	11	37	1	3	2	9			7	23	4	13
Speed	2	7	3	10	2	9			3	10	3	10
Reliability	2	7	3	10	3	14	5	23	3	10	7	23
Documentation	2	7	2	7			1	4				
Frequency of Sailings	1	3	5	17	8	36	1	4			6	20
Miscellaneous	1	3	4	12			1	4	1	3	1	3
No Answer			9	30	1	5	12	55			1	
Total	34*	114%*	30	99%**	22	100%	22	99%**	32*	104%*	31	98%**

*Some respondents listed more than one factor; thus totals exceed number of users surveyed.
**Rounding Error.

A comparison of Tables 18 and 19 reveals a number of discrepancies between actual and perceived critical decision factors among users. For example, while frequency of sailings is the most important factor for freight forwarders in the selection of a carrier, importers believe that reliability is the most important factor for freight forwarders. Both exporters and importers report reliability to be their most important factor in carrier selection (a fact which importers obviously project onto freight forwarders), while freight forwarders believe rate is most important to domestic clients.

(c) Comparative Service Factors

Users were asked to rate American flag and foreign flag carriers on a four point scale ranging from excellent to poor. As Table 20 reveals, American carriers were generally rated second best in such comparisons. For example, only 55% of the exporters consider American carriers good or excellent, while 85% rate foreign flag carriers as good or excellent. Fifty-six percent of the importers consider American carriers good (none consider them to be excellent), while 68% consider foreign flag carriers to be good or excellent. Sixty percent of the freight forwarders consider U.S. flag vessels to be good or excellent, while 84% consider foreign flag vessels to be good or excellent.

Forty-five percent of the exporters consider American vessels to be fair or poor, while only 15% rated foreign vessels fair or poor. Twenty-seven percent of the importers rated American vessels fair or poor, while 22% rated foreign vessels fair or poor. Forty percent of the freight forwarders rated American vessels fair or poor, while only 13% rated foreign vessels fair (none rated foreign vessels as poor).

In summary, foreign flag vessels were rated higher than American flag vessels by every user category; conversely, in every user category, more respondents rated American flag vessels fair or poor than rated foreign flag vessels fair or poor. (Indeed, no freight forwarder rated foreign vessels as poor.)

4. U.S. and Foreign Flag Comparisons

This section will examine more closely specific comparisons between American and foreign flag carrier services.

(a) Comparative Service Ratings

Users were asked to rate specific American flag services as better, the same or worse than those provided by foreign flag carriers. Responses are presented in Tables 21 and 22. The analysis which follows is based on a comparison of "better" or "worse" ratings. Table 21 indicates that almost twice as many users rated American flag services as worse than foreign flag service than rated them better (256 worse vs. 130 better). If the responses of importers are eliminated, the ratio becomes 3 to 1 (242 worse vs. 81 better). The importer subsample was the only user category to almost consistently rate American flag services as better than foreign flag services; yet it is the one user category which appears to have the least experience with American carriers.

TABLE 20

COMPARISONS OF U.S. FLAG AND FOREIGN FLAG CARRIERS
BY USER CATEGORY

	Exporter				Importer				Freight Forwarder			
	American Flag Vessels		Foreign Flag Vessels		American Flag Vessels		Foreign Flag Vessels		American Flag Vessels		Foreign Flag Vessels	
	N	% of Sample	N	% of Sample	N	% of Sample	N	% of Sample	N	% of Sample	N	% of Sample
Excellent	1	3	5	15	-	-	1	4	2	7	4	13
Good	16	52	23	70	10	56	14	64	16	53	22	71
Fair	12	39	4	12	4	22	4	18	10	33	4	13
Poor	2	6	1	3	1	5	1	4	2	7	-	-
Don't Know	-	-	-	-	3	17	1	4	-	-	-	-
No Answer	-	-	-	-	4	-	1	4	1	-	1	3
	31*	100%	33*	100%	22*	100%	22*	98%**	31	100%	31	100%

*Some exporters checked more than one category, obviously referring to experiences with more than one American or foreign flag carrier; thus totals exceed numbers of users surveyed.
**Rounding Error.

TABLE 21

RANKING OF AMERICAN FLAG CARRIER SERVICES
IN COMPARISON TO FOREIGN FLAG CARRIER SERVICES
BY USER CATEGORY

Service	Better				Same			Worse				No Answer		
	E	I	FF	Total	E	I	FF	E	I	FF	Total	E	I	FF
Sales Representation	7	9	6	22	16	4	15	6	1	9	16	1	8	1
Rate Information	4	6	3	13	18	7	21	7	1	6	14	1	8	1
Rate Negotiation Support	5	2	2	9	11	5	7	13	3	21	37	1	12	1
Problem Solving	3	6	4	13	14	4	13	12	2	12	26	1	10	2
Knowledge of Business Needs	5	3	6	14	14	8	16	10	2	8	20	1	9	1
Documentation	-	1	5	6	20	9	9	8	-	16	24	2	12	1
Communications and Information	2	6	2	10	13	5	15	13	1	13	27	2	10	1
Operations	1	6	2	9	19	5	21	7	1	7	15	3	10	1
Short Shipment	1	1	4	6	19	9	22	8	-	4	12	2	12	1
Switching Vessels	4	2	3	9	11	5	11	14	1	16	31	1	14	1
Tracing	1	3	3	7	20	7	17	7	-	10	17	2	12	1
Processing Claims	2	4	6	12	20	6	13	6	2	9	17	2	10	3
	35	49	46	130	195	74	180	111	14	131	256	19	127	15

Key: E - Exporters
I - Importers
FF - Freight Forwarders

TABLE 22

SERVICE FEATURES RATED "WORSE"
IN AMERICAN CARRIERS THAN IN FOREIGN CARRIERS
IN RANKED ORDER (#1 IS WORST)

	Exporters	Freight Forwarders
Communications and Information	1	3
Switching Vessels	2	2
Problem Solving	3	4
Rate Negotiation Support	4	1
Documentation	4	3
Short Shipment	5	-
Tracing	6	5
Operations	6	6
Knowledge of Business Needs	7	8
Processing Claims	8	7
Rate Information	9	7
Sales Representation	-	7

Their lack of experience would tend to limit the usefulness of importers' responses to this question. However, their favorable attitudes towards American flag services suggests that a promotional campaign urging importers to take a more active part in carrier selection would benefit U.S. flag vessels.

Sales Representation -- Exporters were pretty evenly divided on the subject of American sales representation between better (7) or worse (6); however, freight forwarders rated American carrier sales representation as worse (9 vs. 6) than foreign flag carriers.

Rate Information -- Both exporters and freight forwarders ragarded American flag rate information as worse than that provided by foreign flag carriers (exporters: 7 vs. 4; freight forwarders: 6 vs. 3).

Rate Negotiation -- Both exporters and freight forwarders regarded American flag carriers as worse than foreign carriers in respect to rate negotiation (exporters: 13 vs. 5; freight forwarders: 21 vs. 2). Further research should investigate user experiences in this area.

Problem Solving -- Both exporters and freight forwarders found American flag carriers decidedly worse than foreign flag carriers in terms of problem solving (exporters: 12 vs. 3; freight forwarders: 12 vs. 4).

Knowledge of Business Needs -- Both exporters and freight forwarders regarded American carriers as inferior to foreign flag carriers insofar as knowledge of their business needs (10 vs. 5; and 8 vs. 6). Thus, exporters -- the user category most likely to have unique needs -- are the ones least satisfied with American carriers' understanding of their special needs. It would appear that American carrier representatives need to do considerably more research on the special needs of their customers.

Documentation -- Eight exporters reported American carriers as worse than foreign carriers in terms of documentation (none regarded them as better); similarly, freight forwarders found American carriers worse in this respect (16 vs. 5). This finding indicates a decided need for American carriers to improve their documentation services.

Communications and Information -- Both exporters and freight forwarders reported American carriers as worse than foreign carriers in terms of their communications and information services (13 vs. 2 in each category).

Operations -- Both exporters and freight forwarders rated American carriers worse in operations than foreign carriers (exporters: 7 vs. 1; freight forwarders: 7 vs. 2).

Short Shipments -- Exporters reported that U.S. flag carriers are worse than foreign carriers in terms of short shipments (8 vs. 1); freight forwarders were tied in their attitudes toward this problem (4 vs. 4).

Switching Vessels -- Both exporters and freight forwarders rated American carriers as decidedly worse than foreign carriers in terms of switching vessels (exporters: 14 vs. 4; freight forwarders: 16 vs. 3).

Tracing -- Both exporters and freight forwarders rated American flag carriers as worse than foreign carriers insofar as tracing shipments (exporters: 7 vs. 1; freight forwarders: 10 vs. 3).

Processing Claims -- Both exporters and importers rated American flag carriers as worse than foreign carriers in processing claims (exporters: 6 vs. 2; freight forwarders: 9 vs. 6).

(b) Strengths and Weaknesses

Users were asked in an open-ended question to list the strengths and weaknesses of American flag carriers relative to the foreign carrier services available to them. Major strengths of the U.S. merchant marine as reported by respondents are presented in Table 23.

The major strengths cited by exporters were, in rank order, equipment, reliability and speed. Importers cited reliability, speed and frequency; and freight forwarders cited reliability, frequency, equipment, and speed.

Table 24 presents the major weaknesses of the U.S. merchant marine cited by user category in ranked order. The obvious unevenness of service of American carriers is illustrated by the fact that three of the four major

TABLE 23

MAJOR STRENGTHS OF U.S. CARRIERS RELATIVE TO FOREIGN FLAG CARRIERS IN RANK ORDER BY USER CATEGORY

	Exporter	Importer	Freight Forwarder*
Equipment	1		2
Reliability	2	1	1
Speed	3	2	2
Frequency of Sailings		3	1

* Same number in ranking indicates "tie".

TABLE 24

MAJOR WEAKNESSES OF U.S. CARRIERS RELATIVE TO FOREIGN FLAG CARRIERS IN RANK ORDER BY USER CATEGORY

	Exporter**	Importer**	Freight Forwarder**
Reliability*	1	2	2
Rate	2	1	1
Sales Representation	3		
Knowledge of Business Needs	3		6
Operations Management	3		
Business Management	3		5
Equipment*	4		
Documentation	4		4
Problem Solving	4		
Knowledge of Int'l Trade Practices	4		
Communications & Information	4		5
Aggressiveness to Compete	4		
Productivity of Workers	4	2	4
Frequency of Sailings*		2	6
Claims Processing		3	
Operations		3	6
Too Regulated			3
Availability of Space			6

* These factors also appear as major strengths in Table 23 above.
**Same number in ranking indicates "tie".

strengths cited in Table 23 appear as major weaknesses in Table 24. Speed seems to be the only clearcut strength of the American carrier.

Reliability is considered the major weakness by exporters; both importers and freight forwarders rank it as the second major weakness. Conversely, rate is ranked by the exporters as the second major weakness; while importers and freight forwarders rank it as the primary weakness. Exporters also cited sales representation, knowledge of business needs, operations management and business management as major weaknesses of the American carrier. Importers ranked frequency of sailings and productivity of workers even with reliability as major weaknesses of the American flag carrier. Freight forwarders complained that the U.S. merchant marine was too regulated; they also cited documentation and productivity of workers as major weaknesses.

(c) Suggested Improvements for U.S. Flag Carriers

Users were asked in an open-ended question to list the changes or improvements in American flag carrier service which would encourage them to ship more frequently via American flag. As Table 25 indicates, many of the same factors were cited by several user categories. Most of the factors cited can be classified as operations-oriented or sales-oriented. It would appear that improvement in general operations areas would have the greatest influence on the increased usage of American flag vessels. Among those operations areas specifically cited were: improved equipment, more frequent sailings, better worldwide service, more reliable service, better supervision, no switching of cargoes, better documentation, better worker productivity, increased speed and better claims processing.

The specific sales areas which were cited as needing improvement in order to encourage increased usage of American flag vessels were: better problem solving, improved rate negotiation support, better rate information, better knowledge of business needs, improved communications and information, more aggressiveness to compete, improved sales representation, and better knowledge of international trade practices.

5. Promotional Practices

In order to gain some insight into the comparative marketing practices of American and foreign shipping companies, in-depth interviews were conducted with the chief marketing executives of five American flag and three foreign flag carriers (previously described as Survey 2). The purpose of this research was purely exploratory; it was designed to indicate possible shortcomings in American marketing practices which may serve to hinder future growth opportunities. Because of the extremely small sample size, no definitive conclusions can be reached. However, analysis of the interview data suggests a number of areas worthy of future research and development.

(a) Salesmen

The American carrier salesman appears to be a low paid, low turnover, "low end" representative of the shipping business. He ranges in age from the 30's to the 40's, and has been employed by the same company for seven to

TABLE 25

SUGGESTED IMPROVEMENTS IN AMERICAN FLAG CARRIER SERVICES IN RANK ORDER BY USER CATEGORY

	Exporter	Importer	Freight Forwarder
Improved Equipment[o]	1	4	
Better Problem Solving[s]	2		3
Improved Operations[o]	2		
More Frequent Sailings[o]	3	2	
Improved Rate Negotiations Support[s]	3		2
Better Knowledge of Business Needs[s]	3	4	3
Worldwide Service[o]	3		4
More Reliable Service[o]	4	3	1
Improved Communication & Information[s]	4	4	1
Better Supervision[o]	4		
Increased Aggressiveness to Compete[s]	4		4
Improved Sales Representation[s]	5	4	
Stop Switching Vessels[o]	5		4
More Space Availability[o]	5	4	
Better Documentation (Speed-Accuracy)[o]	6		1
Better Rate Information[s]	6		
Improved Operations Management[o]	6	4	3
Less Regulation[o]	6		4
Better Worker Productivity[o]	6	4	3
Lower Rates[s]		1	2
Increased Speed[o]		3	
Better Claims Processing[o]		4	
Better Knowledge of Int'l Trade Practices[s]			4
Brokerage[s]			4

o = Operations

s = Sales

fifteen years. He was not recruited originally as a salesman, but is more likely to have risen through the ranks as an "inside" man. Thus he learned the varied facets of the service he is selling from the inside by working in such areas as documentation, operations, traffic, tariffs, etc., presumably as a clerk. And as a clerk, it is unlikely that he was given decision-making responsibility or experience.

Sales training is very informal; his "inside" background is often the only training the salesman has received. No training is given in the art of salesmanship, in persuasion, in problem-solving, in understanding human behavior. No inservice (i.e., on-going) training is provided.

Furthermore, few companies know precisely how to evaluate the salesman's revenue contributions. Sales analysis and control are somewhat hazy; sales quotas or standards of performance are often nebulous, and salesmen evaluations are very subjective. The American carrier salesman appears to have little status in the industry, which still often refers to him as a "freight solicitor".

Foreign carrier salesmen in the companies queried, on the other hand, appear to be treated as professionals; as one foreign flag executive put it, they are treated "with dignity". They are paid more than American flag salesmen. While they, too, have often risen through the ranks as "inside" men, they are given additional sales training and receive continual on-going training. Salesmen attend seminars on a regular basis to discuss such topics as marketing, pricing, finance and transportation. One company sends its men to trucking industry meetings because of the belief that its salesmen should be experts in domestic transportation. Another company reports sending salesmen to seminars at Arden House (Columbia University), to the Container Institute, the University of Wisconsin, and the University of Houston.

Foreign flag salesmen are trained to be "information processors", and spend a specific part of each week reading journals from all over the world looking for trade opportunities which can be passed onto prospective shippers. Some of the journals cited include *Overseas Digests* in Taiwan, Hong Kong, London, *Journal of Commerce*, *Wall Street Journal*, *Business Week*. Leads are funneled in a systematic way from agents all over the world, disseminated, and discussed for appropriate follow-up. The men are also trained in a problem-solving approach, which is generally considered the most effective sales technique. One company has computerized its weekly sales analyses by account, including the amount of cargo shipped by each customer on the last four sailings, the customer's total annual cargo to date and his total last year. In this way, a "defecting" customer can be identified immediately and followed up for problem resolution before he has a chance to switch loyalties. The company calls this its weekly "Missing Shipper list".

Foreign salesmen seem to be given better supervision; not only do they submit weekly reports of whom they have seen, but they also submit preplanned itineraries specifying whom they plan to call on.

There is an obvious difference in the speed with which foreign carrier salesmen respond to shippers' needs and requests. The foreign flag

respondents said that their salesmen can respond almost immediately to shippers' requests. In those cases where approval is needed from their home offices, if such information is not forthcoming within 24 hours, the decision is made in the local office. Most U.S. customers are not aware that decisions are often made in the foreign headquarters office because of the speed of response. American flag companies, surprisingly, usually take longer to respond.

(b) Customer Orientation

Foreign flag respondents have stressed the importance of adopting the customer's orientation (i.e., the so-called "marketing concept" developed by GE in 1958) while U.S. carrier respondents often complained that customers rarely understood the carrier's problems. This subtle difference in attitude may be a critical sales variable. Foreign respondents have stressed the importance of sales and operations departments working closely together, of meeting together -- daily if possible, or at least weekly -- to resolve departmental differences which may otherwise impede sales.

(c) Advertising

All of the companies interviewed mail out biweekly shipping schedules and do schedule advertising in the transportation journals. Most companies distribute premiums as well. Only one company -- an American carrier which does a great deal of institutional advertising -- makes any attempt to evaluate its advertising (i.e., through Starch reports). Very few companies mentioned "cleaning" their mailing lists, despite their heavy direct mail programs. Very little experimentation is done with advertising media; it seems that most carriers advertise in the same transportation journals in which all of their competition advertises. A few companies reported advertising in commodity journals.

(d) The Competition's View

Perhaps most disturbing was the complacency with which the foreign carriers regarded their American "competition". The following quotes speak for themselves.

"American flag companies are too bureaucratic."

"American lines are not aware of the problems in their international offices ... what is bothering their salesmen ... what they think of their home office."

"DISC (Domestic International Sales Corp.) never affected us. Shippers are not happy with it. MarAd tries to push it but we never felt it. Multinational companies will always have to use third flag carriers. The U.S. merchant marine can only grow by improving its efficiency, not by forcing shippers to ship U.S."

"We give our salesmen the incentive to sell -- we give them pride."

"We do long-range planning but American carriers are strictly short-range."

"We give shippers guarantees on sensitive shipments."

"It costs the U.S. operator more to operate his ships. The U.S. is overfed, fat, very lazy ... being fed by subsidy."

"Worst flag to handle is U.S. Crews are unbelievable, ridiculously expensive, but the subsidy picks up the fat ...."

"On our ships, the master is boss -- can keep to schedules better."

"U.S. management is not hungry, so there is slack. This is true, too, of European conference ships."

"We're aggressive because we have to sell more than a flag. Only * waves its flag last because they are highly organized and well-trained."

"We adhere to the rules ... don't want any taint of malpractice. Despite what American carriers think, we must show a profit. If we don't watch expenses, we're jumped on fast."

"Our rates are approximately 10% below conference rates. We have the ability to be flexible. Some companies have resigned from the conference in order to use us .... We have the ability to react promptly to rate requests."

E. Conclusions

After considering the influence of the user on the growth of the U.S. merchant marine, the Panel developed conclusions in three areas.

1. Promotional Strategies

(a) The prime target for U.S. carrier promotional efforts should be major U.S. exporters who control a significant share of international cargoes.

(b) Strong educational efforts should be directed to U.S. importers who are obviously overlooking the fact that, as the customers of overseas suppliers, they have the right to stipulate carriers of their choice. Importers may not be aware of the benefits which accrue to themselves and to

---

* Name of U.S. company mentioned was deleted.

the U.S. economy by using U.S. carriers. Further, if unofficial rate differentials exist between foreign and American carriers, it is most likely that such rebates do not benefit domestic importers, but rather their overseas suppliers. Domestic importers should become more aware of this fact.

It is interesting to note that the smallest discrepancies in ratings between American and foreign flag carriers occurred in the importer category. Yet this group tends to have the least experience with American flag vessels. Importers as a group would seem to be good candidates for a strong promotional campaign stressing the advantages of shipping via American flag.

(c) An on-going promotional campaign should be directed to freight forwarders.

(d) Efforts to promote the use of American carriers should be directed to every level of the organization, from company president to export clerk. Since explicit policies concerning carrier selection rarely exist, it would be a mistake to ignore the decision-making powers of the "lowly" booking clerk.

(e) All user categories should be encouraged to develop written policies favoring the use of U.S. flag carriers and to furnish specific lists of management approved carriers to those individuals who actually make the carrier selection. This is especially important where the actual designation is made far down the management line. Exporters and importers should be urged to prevail upon their freight forwarders to adhere to such approved lists.

Research indicates that the limited number of exporters who do have written policies concerning carrier selection must find the feedback sufficiently informative for them to keep these policies up to date and timely. The development of a policy format which provides quantitative and qualitative feedback to the user may encourage more users to adopt such policies. The format for such a policy could be developed by MarAd and offered as a model to all water transportation consumers.

Efforts to have written policies adopted should be focused on top management levels, which are more likely to recognize the national interests to be served by shipping via American flag. With policy drawn at the top, lower levels are more likely to adhere to such guidelines in making carrier selections.

(f) Considering the promotional efforts currently being made to convince exporters to ship via American flag, it is interesting to note how relatively unimportant the factor of flag is to all categories of users. It would therefore seem that present promotional themes are inappropriate since domestic users are much more concerned with pragmatic variables which are amenable to cost-benefit analyses. These findings should be reflected in a revised marketing program directed to all user segments.

(g) Domestic and international marketing strategies should be developed which can be targeted to all user categories.

(h) All categories of user should be made more aware of the critical variables that affect each other's selection of ocean carriers. Thus, freight forwarders might be more willing to use higher rated conference ships which can assure reliability if they know this to be the most important factor to clients. Importers who note that frequency of sailing is more important to the freight forwarder than reliability may wish to involve themselves more deeply in carrier selection.

A research study designed to identify the critical decision variables affecting overseas clients' choice of ocean carriers could provide the foundation for an educational program directed at domestic users.

(i) The sales and operations departments of U.S. flag carriers would both benefit from the preparation of a marketing manual specifically geared to the unique marketing problems of the shipping industry.

2. Sales Representation

(a) U.S. carriers appear to have a critical need for improved sales training and supervision.

(b) U.S. carrier sales representatives should be trained to determine the special needs of customers and prospective customers and to assist in problem-solving. They should be better trained in international trade practices.

(c) The U.S. carrier sales representative should become an essential conduit for improved communication and information flow between customers (both present and prospective) and their home offices.

(d) The Maritime Administration should sponsor general sales training seminars on an industry-wide basis and assist individual companies in developing tailor-made training programs which meet their specific needs.

(e) To supplement sales training seminars, MarAd should develop a sales training manual for the maritime industry.

(f) Sales personnel must be carefully recruited, trained and compensated in line with sales compensation in other industries. A salesman's orientation is important. A good salesman can be trained to sell any product or service, while a good inside man -- despite a thorough knowledge of the maritime industry -- may not prove to be a good salesman.

(g) Careful sales analysis techniques should be developed which can quantify a salesman's contribution to his organization. The industry should develop a widespread marketing information system to collect and disseminate market intelligence to domestic carrier sales departments. Companies should make a concerted effort to expedite their decision-making processes as they effect customers. Greater effort should be directed to integrating sales and operations departments.

3. Operations

Problems in various operational areas cited by users must be given urgent correctional attention.

(a) Since reliability is of prime importance to both exporters and importers in their selection of carriers, U.S. carriers must expend every effort to assure reliability of service.

(b) Frequency of sailing is of major importance to all user categories. Thus American carriers should be urged to revise their schedules to compare favorably with those of their foreign competitors.

(c) Both exporters and freight forwarders found U.S. carriers decidedly worse than foreign carriers in terms of documentation services, indicating a definite need for improvement in this area.

(d) Efforts should be made to minimize switching vessels, a problem which both exporters and freight forwarders find more prevalent with American carriers.

(e) The need for improved tracing procedures and improved processing of claims by American carriers was indicated by both exporters and freight forwarders.

(f) Operations management should be more responsive to shipper needs and inquiries (as evidenced by user ratings of communication and information as a major weakness of American flag carriers).

(g) There appears to be a critical need for improved management training and for management control and information systems.

In general, the findings suggest that U.S. transportation users lack confidence in American flag vessels and that they are not constrained by feelings of loyalty to the American flag. However, these findings also indicate the tremendous potential that exists for American flag vessels among American-based water transportation consumers. An overriding challenge facing the merchant marine is one of converting non-users of U.S. flag services into users.

APPENDIX I

ACKNOWLEDGEMENTS

The activities of the Panel studying the opportunities for the growth of the merchant marine spanned a considerable period of time, September 1973 to December 1974, and involved a great many people.

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APPENDIX II

DESCRIPTIVE DATA CONCERNING SUBSAMPLES

In order to develop user profiles in Chapter 7, respondents in each subsample were asked a series of descriptive questions about their company shipping practices. This data is summarized in Table 26.

Exporters

Exporters were asked to estimate the total volume of cargo they shipped in 1973. The 25 exporters who responded to this question (83% of the subsample) reported a volume of 6,058,784,000 lbs., or 3,029,392 short tons. This amounted to an average of 121,176 tons per respondent. When asked to estimate the gross value of their 1973 cargo, the 24 exporters who responded to this question (80% of the subsample) reported a total of $4,354,731,000, or an average of $181,447,120 per respondent. Ninty-two percent of the exporters reported that they shipped over 90% of their cargo via ocean freight (see Table 27).

Total ocean freight costs reported by the 24 respondents to this question amounted to $132,280,000, or an average of $5,511,666 per exporter. Total air freight costs for the 21 respondents to this question (70% of the subsample) amounted to $22,271,000, or an average of $1,060,523 per exporter. Air freight expenditures were approximately 20% of ocean freight expenditures for this group. The principal ports of exit reported by the exporters are New York, Baltimore, Philadelphia and New Orleans; while the principal world markets to which they export goods are South America, Europe and the Far East. Exporters' companies were categorized according to the Standard Industrial Classification scheme. As Table 28 indicates, almost half the exporters who responded to this survey ship chemicals and allied products.

Respondents to the exporter survey are members of the Eastern Region Shippers Advisory Board of the U.S. Maritime Administration and appear to be by their titles in charge of the export traffic function in their companies.

Importers

The 15 importers who responded to this question (68% of the subsample) reported total 1973 imports of 279,910,000 lbs., or 139,955 short tons. This amounts to an average of 9,330 tons per importer. Seventeen respondents (77% of the subsample) estimated the total value of their 1973 imports at $120,891,000, or an average of $7,111,235 per importer. As Table 27 indicates, 95% of the importers use ocean freight at least 90% of the time. Ocean freight costs reported by 9 respondents (41% of the subsample) amounted to $4,190,192, or $465,577 per respondent. (Only two importers submitted air freight costs; they amounted to $14,000 per respondent.)

TABLE 26

AVERAGE 1973 SHIPPING HISTORY
OF RESPONDENTS
BY USER CATEGORY

	Exporters	Importers	Freight Forwarders
Average Total Volume Cargo 1973	121,176 Tons	9,330 Tons	52,151 Tons
Average Gross Value Cargo 1973	$181,447,120	$7,111,235	$136,401,407
% shipping 90% or more cargo via ocean freight	92%	95%	80%
Average Total Ocean Freight Costs	$ 5,511,666	$ 465,577	$ 5,000,690
Average Total Air Freight Costs	$ 1,060,523	$ 14,000	$ 55,050
Principal U.S. Ports	New York Baltimore Philadelphia New Orleans	New York Baltimore S. Francisco New Orleans L. Angeles Houston	New York Baltimore NC, SC New Orleans L. Angeles
Principal World Markets	South America Europe Far East Worldwide	South America Europe Far East Asia	South America Europe Far East Worldwide

APPENDIX II (Cont.)

TABLE 27

PERCENT OF 1973 CARGO SHIPPED VIA OCEAN FREIGHT BY USER CATEGORY

	Exporter		Importer		Freight Forwarder	
	N	%	N	%	N	%
100%	1	4	14	70	3	15
95 - 99	19	73	4	20	9	45
90 - 94	4	15	1	5	4	20
85 - 89						
80 - 84	1	4			4	20
75 - 79	1	4				
70 - 74			1	5		
	26	100	20	100	20	100
N/A	4		2		11	
	30		22		31	

TABLE 28

NATURE OF EXPORTER'S BUSINESS

SIC #		N	Percent
28	Chemicals and Allied Products	14	47
36	Electrical Machinery	4	13
39	Miscellaneous Manufactures	3	10
37	Transportation Equipment	2	7
38	Professional Scientific and Controlling Instruments	1	3
35	Machinery Except Electrical	1	3
33	Primary Metals	1	3
32	Glass	1	3
30	Rubber and Miscellaneous Plastics	1	3
20	Food and Kindred Products	1	3
13	Crude Petroleum	1	3
		30	98%*

* Rounding Error

Principal world sources reported by the importers are Europe, the Far East, South America and Asia. Principal ports of entry are New York, New Orleans, Los Angeles, San Francisco, Baltimore and Houston.

Even though this survey was addressed to the Presidents of the import firms, only 14 of the 22 respondents (64%) appeared to be top management; the rest appeared to be middle or lower management personnel.

Freight Forwarders

Seventeen freight forwarders (55% of the subsample) reported handling a total of 1,773,131,473 lbs. of cargo during 1973, or 886,566 short tons. This amounts to an average of 52,151 tons per freight forwarder.

The gross value of their 1973 tonnage was estimated by 9 respondents (29% of the subsample) at $1,227,613,292, or an average of $136,401,407. As Table 27 indicates, 80% of the respondents report using ocean freight over 90% of the time. Ocean freight costs for 1973 were estimated by 14 respondents (45% of the subsample) at $70,009,664, or an average of $5,000,690. Air freight costs were estimated by 16 respondents (52% of the subsample) at $8,808,000, or an average of $55,050 per respondent.

Principal U.S. ports used by respondents are New York, Baltimore, North Carolina, South Carolina, New Orleans and Los Angeles; principal foreign markets reported are Europe, Far East, Worldwide, South America and Asia.

TABLE 29

SIZE OF FREIGHT FORWARDING COMPANIES RESPONDING BY NUMBER OF EMPLOYEES

Number of Employees	N	Percent
250 and over	3	10
50 to 100	6	19
25 to 49	9	29
10 to 24	9	29
2 to 9	4	13
	31	100%

The respondents to this survey were almost all top management. Company size varied from two employees to 537 employees. Table 29 lists the size of the companies by the number of employees in the firm.

GLOSSARY

ARA-American Radio Association	A labor union.
Barge Carrier	A barge carrier is a large merchant ship with the capability of loading, unloading, and transporting loaded and unloaded barges.
Bilateral Trade Agreement	Bilateral trade agreement refers to an agreement made by two trading nations that may reserve cargo for ships owned and operated by each of those nations.
Break-Bulk Ship	A break-bulk ship refers to a conventional vessel with its own gear for loading and unloading cargo. The cargo handled by this ship is generally not packaged in units but rather stowed by piece in the vessel's hold.
CAB-Civil Aeronautics Board	An independent air transportation regulatory agency.
Cabotage Restrictions	Cabotage refers to restricting trade in coastal waters or between two points within a country, to ships flying that country's flag.
Cargo Diversion	Cargo diversion refers to the diverting of cargo away from traditional flow patterns due to institutional, operational or economic changes.
Cargo Preference	A policy whereby a government specifies that some cargoes will be carried by vessels registered under its own flag.
Cargo Sharing	(1) Cargo sharing refers to the practice of operators on some trade routes of sharing available cargo among themselves, and (2) it might also refer to the practice of trading partner nations of reserving cargoes for ships registered under the flags of their respective countries.

CDS-Construction Differential Subsidy	An instrument of federal aid under the Merchant Marine Act of 1936.
Code of Conduct for Liner Conferences	A proposal for cargo sharing between trading partners developed under the United Nations Committee on Trade and Development.
CONASA-Council of North Atlantic Steamship Associations	A maritime employers association.
Containership	A containership is a vessel that is capable of carrying standardized shipping containers in specially constructed cells.
Conventional Ships	Conventional ships refers to break-bulk vessels with their own loading and unloading gear.
DWT-Deadweight Ton	A unit of measure of 2,240 pounds referring specifically to the vessel's lifting capacity when loaded in salt water to her summer free board marks.
FMC-Federal Maritime Commission	An independent maritime transportation regulatory agency.
General Cargo	General cargo refers to miscellaneous goods carried in quantities which vary in weight, size, condition, nature and class. Generally moves from any one shipper in less than shipload lots.
Gross Ton	A unit of capacity of 100 cubic feet used for ascertaining the legal or registered tonnage of a vessel.
Gross Tonnage	The gross tonnage or gross registered tonnage of a vessel consists of its total measured cubic capacity expressed in units of 100 cubic feet.
ICC-Interstate Commerce Commission	An independent domestic transportation regulatory agency.
ILA-International Longshoremens Association	A labor union.
ILWU-International Longshoremens and Warehousemens Union	A labor union.

IMCO-International Maritime Consultative Organization	An instrument of the United Nations.
Intermodal Ships	Intermodal ships refers to vessels that carry unitized loads that can be transferred readily from ocean-going ships to trucks, trains, airplanes or inland waterway vessels.
IOMMP or MMP-International Order of Masters, Mates & Pilots	A labor union.
Jones Act Protection	Jones Act Protection refers to cabotage legislation which reserves cargoes in the continguous and non-continguous domestic trade to vessels of U.S. flag only. Section 27 of the Merchant Marine Act of 1920.
Liberty Ship	A Liberty ship refers to a conventional break-bulk ship of World War II vintage.
Liner	A liner refers to a vessel normally engaged in general cargo trades that maintains a specific schedule.
LNG	Liquefied Natural Gas.
LNG Carrier	Liquefied Natural Gas Carrier - A vessel constructed for the carriage of liquefied natural gas.
Longshoreman	A man who works at loading or discharging vessels either aboard ship or on the wharf or quay.
Management Information Systems	Management information systems refers to electronic or manual systems that collect, process or disseminate financial, operational and personnel information to management.
MarAd	Maritime Administration, U.S. Department of Commerce.
MCS-Marine Cooks & Stewards	A labor union.
MEBA-Marine Engineers Beneficial Association	A labor union.

MFU-Marine Firemens Union	A labor union.
MSC	Military Sealift Command, U.S. Navy, Department of Defense.
MSO-Marine Staff Officers	A labor union.
NMU-National Maritime Union	A labor union.
NYSA-New York Shipping Association	A maritime employers association.
OBO-Ore/Bulk/Oil	Combination bulk vessel that can be used to carry either ore, oil or other bulk commodities such as grain.
ODS-Operating Differential Subsidy	An instrument of federal aid under the Merchant Marine Act of 1936.
PMA-Pacific Maritime Association	A West Coast employers organization.
Protected Trades	Protected trades refers to those ocean routes covered by cabotage legislation which limits competition to national flag operators only.
Reliability of Service	Reliability of service refers to the consistency with which an operator meets a schedule.
RO/RO (Roll-on/Roll-off)	Refers to a ship in which unit loads can be driven, pushed or pulled to and from a dock to a ship.
Short Shipments	Short shipments refers to goods that are shut out of a vessel through lack of space, late arrival or error.
Steamship Conferences	Steamship conferences refers to organizations of operators serving the same trade routes which are formed for the purpose of standardizing rates and publishing tariffs.
Subsidized Carrier	A subsidized carrier refers to a U.S. operator who is receiving operating differential subsidy.
SUP-Sailors Union of Pacific	A labor union.

UNCTAD-United Nations Committee on Trade and Development	**An instrument of the United Nations.**
ULCC-Ultra Large Crude Carrier	**Super tanker in excess of 250,000 deadweight ton capacity.**
Victory Ship	**Victory ship refers to a conventional break-bulk vessel of World War II vintage.**
VLCC-Very Large Crude Carrier	**Super tanker in excess of 100,000 deadweight ton capacity.**

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This report describes the development and current status of the U.S. merchant marine with special emphasis on the influences of government, management, labor, and users. The report describes a wide spectrum of maritime activities, including the roles of various government agencies, the organization and effectiveness of U.S. merchant marine management, the structure and impact of labor-management relations, and the reaction of current and potential users.

The recommendations are listed in priority order and range from major research on the effects of bilateral trade policies to less comprehensive studies on the ways and means of encouraging the study of ocean transportation in major colleges of business administration. Recommendations are also made for studies in marketing, labor relations, and government activities.