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Volume I

GOVERNMENT-OPERATED ENTERPRISES IN THE PANAMA CANAL ZONE

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GOVERNMENT-OPERATED ENTERPRISES IN THE PANAMA CANAL ZONE

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WITH AN INTRODUCTION BY

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TO MY WIFE

PREFACE

THE American public has been informed from time to time of the construction, sanitation, and defense problems which have accompanied the construction and maintenance of the Panama Canal, but very little is popularly known about the government-owned corporation which has been active on the Isthmus for thirty years, about the ramified business services which the government operates, and about community life in the Canal Zone. To present this side of the picture is the purpose of the present study.

The writer's administrative survey, which led to the writing of this monograph, was conducted at the invitation of the Secretary of War. In his letter of October 28, 1933, addressed to Mr. Louis Brownlow, Director of Public Administration Clearing House, the Secretary of War said in part:

> I should be most happy to have your organization undertake this study, so as to give the War Department the benefit of a fresh, outside viewpoint. I have no reason to think that the present administration of the Panama Canal is not highly efficient and I am frank to say that I shall be surprised if you find much to criticize. However, all successful corporations insist upon an annual independent audit and it is in this spirit that I invite you to make the foregoing study, if you care to do so.
>
> Incidentally, this study might be of especial interest in another direction. I believe that the Panama Railroad Company is one of the oldest examples of conducting a Government function by means of a corporation. This method of carrying on public business is becoming very common. Indeed, hardly a day passes that some new Government corporation is not organized in Washington to conduct an activity in connection with the Administration's recovery program. In view of the fact that the Panama Railroad Company is about the oldest corporation of this type, it has been suggested that a comprehensive study of its organization and methods of operation would not only be timely, but might be helpful to some of the newer Government-owned corporations which are just being launched.

Mr. Brownlow requested the University of Chicago to sponsor the research, and this was done by drawing upon the Public

Administration Fund and by releasing the writer from university duties for one academic quarter.

Information concerning administrative organization, historical development, the shipping line, and purchasing operations could be, and was, obtained in Washington and New York. However, most of the data were acquired as the result of a three months' trip to the Canal Zone.

The only published materials relating to the present investigation were those of general historical and social interest. The annual reports of the Panama Railroad Company, the Governor's annual reports, the minutes of the Board of Directors of the Panama Railroad Company, the very complete files of the Canal Zone administration on the Isthmus, and special studies which have been conducted by staff members all proved very useful. The author wishes to pay special acknowledgment to recent studies which have been conducted by a staff of engineers under the direction of the Engineer of Maintenance. These surveys relate to railway management, commissary operations, depreciation policies, and hotel administration; and although material was extracted from them, specific acknowledgment could not be given in all cases.

Most of the information contained in this study was acquired from interviews and personal observations. The author did not confine his inquiries to officials and employees, but attempted to secure criticisms and suggestions from as wide a variety of sources as possible. This was done with the knowledge and approval of the Canal Zone officials, who were afterward very helpful in verifying and checking information received.

This study is one in public administration, as broadly and humanly interpreted. It draws upon business administration, economics, history, international relations, and sociology—again illustrating the close relationship between the social sciences in attacking certain complex problems.

The present research also throws light on the state as entrepreneur. In the Canal Zone the United States government

owns and operates a greater number and variety of economic services than it does in any other place. That these enterprises are not insignificant is attested by the fact that the government has invested almost six hundred million dollars in the Isthmian development. What success has the government had as owner and operator of steamships, railway trains, hotels, department stores, manufacturing plants, recreation centers, and other activities which are usually privately controlled? It is hoped that this study may add to the knowledge required in dealing with larger social problems, particularly the choice between regulation and direct operation as the future policy for national development.

The experience of the government-owned Panama Railroad Company may be of some practical value in guiding the government's policy relative to existing or prospective government-owned corporations. If, for example, the country's railroad system were placed under a public corporation, as official quarters have suggested, all of the available knowledge concerning government-owned corporations would be greatly needed. It was largely with these considerations in mind that chapter ix, entitled "Principles Underlying Government-owned Corporations," was written.

Finally, there is developing what may be called public commercial administration—the management of government-operated economic services. It is hoped that this study may make some contribution to that body of knowledge and experience.

Not all of the business services in the Canal Zone have been analyzed in detail. The operation of the canal itself was not considered; nor were so-called business units, such as the Mechanical Division and the Electrical Division—as important as ship construction and repair, electrical power, and telephone service unquestionably are.

This study is chiefly concerned with the principal enterprises owned by the Panama Railroad Company—the railroad line, the steamship service, and the commercial and manufac-

turing units. All of the services have been dealt with in a sense, however, because the administrative set-up and functioning of the entire Canal-Railroad establishment has been criticized from the standpoints of public administration and business management. The overhead organization and control is of greater concern, for the present purpose, than the individual enterprises. It will be recognized, though, that the records the individual enterprises are the gauge of the success of t organization as a whole.

For assistance, in conducting the study and preparing t manuscript the author is primarily indebted to Mr. Lewis Sims, Research Assistant in the Department of Politi Science, the University of Chicago. Mr. Sims made the t to Panama and afterward labored over the manuscript. had a hand in every part of the research except the act writing and the interviewing.

The officials in Washington, in New York, and in the Ca Zone could not have been more accommodating than they w in supplying information and providing entrees and assistan The author is particularly grateful to Governor Julian Schley; Lieutenant Colonel Clarence S. Ridley, Engineer Maintenance; and Major William R. Gruber, Executive sistant, War Department, all of whom read the manuscript a made helpful criticisms and comments. Thanks are also to Mr. T. H. Rossbottom, Vice-President of the Panama R road Company, and to his assistant, Mr. W. R. Pfizer, wh courtesy will long be remembered. Acknowledgment is due many persons, but the author is particularly anxious to m tion the names of the following: A. L. Flint, Chief of Offi The Panama Canal, Washington, D.C.; R. B. Walker, Gene Manager, Panama Railroad Company; Elwyn Greene, Au tor, The Panama Canal; Major William Covell, Assist Engineer of Maintenance; W. J. Sheridan, Commissary P chasing Agent, Panama Railroad Company; A. W. Goul General Manager, Commissary Division; H. A. McConaugh President, Panama Metal Trades Council; John H. Smi

Chief Clerk; Seymour Paul, Chief Statistician; Roy R. Watson, Chief Quartermaster; E. A. Erbe, Assistant Statistician; J. H. K. Humphrey, Assistant Chief Quartermaster; C. W. Lee, Assistant to General Manager and Commercial Agent, Panama Railroad Company; E. D. Mason, Chief Clerk, Panama Railroad Company; L. A. Poltrino, Secretary to the Governor; W. H. Kromer, Assistant Auditor; Nelson Rounsevell, Editor, the *Panama-American;* and Mrs. Thomas Reynolds, President, Canal Zone Women's League.

For assistance in preparing the manuscript the author is also indebted to Mr. Elton D. Woolpert, Research Assistant, Department of Political Science, and to Miss Jean Schneider, Secretary to the Chairman of the Social Science Research Committee, the University of Chicago. The general subject matter of this study was covered in the form of six public lectures which were given under the auspices of the University of Chicago between April 24 and May 29, 1934.

MARSHALL E. DIMOCK

CHICAGO, ILLINOIS
May, 1934

INTRODUCTION

THAT governments do operate enterprises that are in essential respects of the same character as those operated by private persons is a fact that sometimes attracts less public attention than it deserves. So much is said and written about enterprises that should be taken over by government, and so much about why government should not invade the fields held sacred for private operation, that it is worth while, once and again, to inquire into some of the things that are being done in this general field.

If one does so inquire, one probably will be impressed by the circumstance that both governments and private persons use certain tools and certain methods to advance the fortunes of these business enterprises, and that the same tools and the same methods are often employed, whether the ownership and direction is governmental or private.

One such tool is that of the corporation. Private business men, with, of course, the aid of governments which alone may create corporations, have used it most widely and have developed, with its help, modern business. Governments are coming to use it also.

In the Panama Canal our own United States government uses the corporation through the Panama Railroad Company—the stock of which it owns—for some purposes while for others the direct operation through governmental agencies is employed.

In this book Dr. Dimock has analyzed the operations carried on under both plans, has weighed their advantages and disadvantages, and has not hesitated to pronounce judgments and to make recommendations as to what should be done further to improve an already excellent administration of the business enterprises carried on by this great government-owned and government-operated public utility.

Great, and due, meed of praise has been freely given by all the world to the feats of engineering and sanitary science which cut the Isthmus and opened a mid-continental waterway from the Atlantic to the Pacific. Even the political and diplomatic devices which were used to get the chance to build the canal have been defended, or, if not defended, condoned, in the light of the results obtained and the money settlements made. The financial success of the canal likewise has justified most of its promoters.

Just now, when governments are expanding their activities in business enterprises, sometimes as partners, sometimes as friendly bankers, sometimes as owners and operators, it is useful to review what the United States government has done in Panama. It means not only to review what it has done with the canal itself, but also, and quite literally, with ships and shoes and sealing wax. It operates a railroad and a shipping line; hotels and a cemetery; department stores and butcher shops; schools, libraries, and playgrounds; laundries and ice plants; dairies and truck gardens.

In many of these things the corporate device has materially advantaged the success that has been obtained, so Dr. Dimock finds, and he recommends that this useful implement be employed for the whole vast congeries of enterprises.

Not only will the student of government-owned corporations be interested in what is here recorded and analyzed in the operation of the Panama Railroad Company, but he will also find food for thought and the basis for further researches into the whole general problem of the corporate device in governmental activities.

The statesman, too, will find here guidance with respect to matters of policy, especially in a time when the United States government and many state and local governments are turning to the government-owned corporation as a means for control and administration of public commercial undertakings.

LOUIS BROWNLOW

CHICAGO, ILLINOIS
June, 1934

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CHAPTER I

BACKGROUND OF ISTHMIAN ADMINISTRATION

SO CONSPICUOUS were the medical and engineering feats which attended the construction of the Panama Canal that, by comparison, few persons are aware of the contemporary significance of this workaday enterprise and its adjuncts in world-trade, international transportation, Caribbean politics, social experimentation, public administration, and public utility organization and control. The Panama Canal, the railroad, the steamship line, the commissaries, the hotels, the harbor-terminal operations, the coaling plants, the real estate business, the manufacturing plants, the telegraph and telephone systems, and certain minor activities which the United States government operates on the Ithmus—these services comprise a great international public utility of which Americans should have knowledge and in which they should take pride. Although the purpose of the present study is to survey the management and control of the above-mentioned public service enterprises, attention should be given to the conditioning factors of importance—such as trade routes and social conditions—which underlie administrative operations on the Isthmus. Special studies require general settings.

ECONOMIC VALUE OF THE PANAMA CANAL

The completion of a water route from the Atlantic to the Pacific in 1914 brought to fruition the dream of commercial nations throughout a span of five centuries. The completion of the task, begun first in 1881, was made possible by the presence of a railway spanning the Isthmus—a line which was opened by American capitalists in 1855. This constituted the initial link in the services of the Panama Railroad Company, which was incorporated under the laws of New York State in 1849 and was taken over by the United States as a government-

owned corporation in 1904. During the long period between 1855 and 1914 the railway built up a record in transportation and in finance which, for glamour and varied fortune, is probably not equaled in the life of any other carrier. The Panama Railroad Company now owns most of the ancillary commercial services in the Canal Zone and has continued to make an excellent financial showing since canal operation began in 1914. With the completion of the canal, however, the railway became, from the standpoint of transportation, merely an adjunct to the waterway.

The economic value of the Panama Canal depends largely upon its influence over ocean steamship routes. Its value in relation to older established routes has grown considerably in the last generation. Although the expenditure of nearly $400,000,000 in the construction of the Panama Canal was large in comparison with the relatively small cost and larger traffic of the Suez Canal, there is no longer any question about its financial success or its economic significance. At the end of the first year of operation the Panama Canal had handled net tonnage amounting to 4,888,454 tons, whereas 15,266,155 tons passed through the Suez during the same twelve months; by 1925, however, the amount of business done by the two interoceanic canals was almost equal. All of the principal ocean highways are increasingly affected by the establishment of a main trunk-line route to the west coast of the Americas and to the Pacific.

Traffic is routed via Panama chiefly because of the savings in distance and time which the canal makes possible. The distance from New York to San Francisco is 7,873 nautical miles shorter via Panama than by way of the Straits of Magellan; and the saving in distance between New York and Valparaiso, Chile, is 3,747 miles; Iquique, the great Chilean nitrate port, 5,139 miles; and Guayaquil, Ecuador, 7,405 miles. The distance from New York to Yokohama via Panama is 3,768 miles shorter than via the Suez Canal, and the saving on voyages to Shanghai is 1,876 miles; to Sydney, 3,932 miles; and to Wel-

lington, 2,493.[1] The canal is primarily of benefit to American commerce because the saving in distance afforded by the Panama Canal is greater on shipments to and from American ports than on those which clear or enter at the ports of Europe.

In a sense the Panama route is but an extension of the Caribbean route, because formerly large amounts of freight were transhipped between the Atlantic and the Pacific by rail across the Isthmus of Panama and the Isthmus of Tehuantepec. At the same time we should not lose sight of the fact that much distinctively new traffic has been created by the Panama Canal, not only because it stimulates the international commerce of the world but also because it has developed the intercoastal and Latin-American trade of the United States.

The Panama Canal has been a real benefit to the domestic commerce of the United States. During the fiscal year ending June 30, 1916, only 444,388 tons of intercoastal trade moved through the locks at Panama, while by 1933 this amount had grown to 7,858,733 tons. This represented 37 per cent of the total business of the canal. Trade with Central and South America has also been stimulated. The canal has been of great benefit to the American merchant marine, particularly to that branch of it engaged in intercoastal shipping. When it is recalled that for an almost unbroken period prior to the World War the steamship trade of the Western United States was virtually monopolized by the Pacific Mail Steamship Company, the strides made by the south and west branch of the American merchant marine are all the more impressive. To be sure, factors other than the Panama Canal and the growth of the merchant marine enter into the trade development to the south of the United States. Among these elements are foreign investments, banking and credit relations, the use of effective trade practices, and political relations.

[1] Johnson and Huebner, *Principles of Ocean Transportation* (New York, 1920), p. 85.

THE CANAL AND NATIONAL DEFENSE

The building of the Panama Canal was dictated by reasons of national defense, as well as by purely economic reasons. It is difficult to tell which consideration bulked larger at the time, although the matter is not of any great practical importance today. However, the defensive function is every bit as important now as it ever was. A navy which can be moved speedily from one coast of the United States to the other is the crux of war-time strategy. The same savings in sailing distance and time enjoyed by merchant ships are also shared by naval vessels. Naval squadrons concentrated at either entrance of the canal can reach the midpoint of the Pacific Coast in nine days and the center of the Atlantic Seaboard in five days.

The United States Navy does not maintain a large permanent force at the Canal Zone. The principal naval bases are located in the United States, and a submarine base is the only strictly naval establishment on the Isthmus. The forces of the Army are proportionately much greater, the reason being that the canal must be thoroughly protected from every attack in order to assure the Navy's ability to transit the canal in war time.

The problem of civil administration and the conduct of commercial operations on the Canal Zone are affected very appreciably by the naval and military requirements of this strategic strip. About eleven thousand persons, almost one-third of the Canal Zone population, are accounted for by the Army and Navy forces stationed there. Because the Panama Canal is so essential to the national defense, due consideration of this fact must be taken when clashes of interest arise between the civil and the military organizations on the Isthmus. The Canal Zone must be in a position to bring about a speedy transition from peace to war-time conditions. Partly on this account, and largely because engineering was the primary consideration during canal-digging days, an Army engineer has invariably been appointed Governor of the Canal Zone since

the creation of that office in 1914. He reports to the Secretary of War in Washington.

Important as the defense function undoubtedly is, sight should never be lost of the primary purposes of the Canal Zone services. "The Canal Zone, above all other places in the world," said Governor Morrow in 1921, "is a government reservation with one broad mission, viz., to serve the world's commerce expeditiously and well, and to bend all governmental functions to this end along practical and economic lines."

Shortly after the Panama revolution in 1903 several important statements relative to the government's purposes in the Canal Zone were made by President Roosevelt, Secretary of War Taft, and others. From these pronouncements it appeared that the intentions of the United States were very circumscribed indeed. "We have not the slightest intention of establishing an independent colony in the middle of the state of Panama, or of exercising any greater governmental functions than are necessary to enable us conveniently and safely to construct, maintain, and operate the canal under the rights given us by the treaty," President Roosevelt stated in 1904. This was the policy of the government then and it is today. But words such as "necessary," "conveniently," and "safely" are subject to infinite expansion. With the final drive to complete construction it was found that adequate attention to the health and welfare of Americans working in a disease-infected tropical region underlay all other considerations. This meant a civil government, schools, pure water, electricity, stores, entertainment—all of the requirements of modern life in the United States. Afterward health conditions had to be maintained, and life in the Zone had to be made attractive, if the best type of Americans was to be retained. Life in the tropics requires men and women of fine mettle. The point is that many of the functions which are carried on in the Canal Zone are not to be explained simply by the engineering and commercial requirements of the canal and the railroad. Many of the services

maintained in the Canal Zone are not primarily for use by the outside world. These social developments are local rather than international utilities. Hence, it is simply stating a fact to say that in actual practice one of the primary objectives of the Canal Zone administration is that of developing and of maintaining the health, welfare, and enjoyment of all employees located in this self-contained Isthmian stronghold.

COMMUNITY LIFE IN THE CANAL ZONE

Nothing is more natural than that Americans, many of whom have devoted their entire adult lives to the canal administration, surrounded as they are by a people largely of another color, a foreign tongue, and unfamiliar customs, should develop a strong feeling of local pride. Someone has called the Canal Zone a "complete socialism," inasmuch as all essential services are publicly provided. Residents of the Zone are proud of their community life, of their public services, and of the way in which a naturally beautiful spot has been made a show-place of the world. The American in Panama is hostile toward anyone who attempts to deprive him of the fruits of community co-operation, just as some business men in Panama and in the United States are piqued because they cannot compete for employees' business and the profits which would result therefrom. There is probably as much local pride in the Canal Zone as there is anywhere in the United States. Appreciation of this fact is essential to a knowledge of Isthmian administration.

In an area of land as small as the Canal Zone, having nowhere to travel except by sea, close beside an intermingling of races unsurpassed by few places in the world, and living within a heavily fortified encampment, it is natural that American residents should turn inward—make the best of their environment and opportunities. In the Republic of Panama outside of the Zone there are roughly 50,000 whites, 85,000 Negroes, 33,000 Indians, 3,000 orientals, and 268,000 mestizos, i.e., persons of mixed blood. In the Canal Zone, an area of five miles

a point of friction which has existed for many years. Similarly, on the Pacific side Balboa, Balboa Heights, and Ancon (all in the Canal Zone) are contiguous to Panama City, again separated merely by an imaginary line. The Administration Building and the seat of government are located at Balboa Heights, in a beautiful spot overlooking the Pacific.

Because of the proximity of the principal Panamanian municipalities, Colon and Panama City, the Canal Zone administration realized from the outset that health and sanitary conditions would have to be controlled across the imaginary line if Americans in the treaty area were to be safe. Hence, streets were built with American money, sanitation was improved by American health officers, and a healthful water supply was furnished to Colon and Panama from the American side. The government of Panama still receives assistance from the Health Department of The Panama Canal, and the water supply remains a unified administration under American control.

Although practically every need of the residents is supplied by the government, the average individual soon becomes used to paternalism and thinks nothing about the circumscription of traditional American individualism. He realizes that he is living in a national fortress. As a matter of fact, the Canal-Zoners are as individualistic as any other group of Americans, while at the same time they are contented with the collectivist fulfilment of their wants. No one owns his own house; all residences were built by the government and are turned over to the individual during his active employment on a monthly rental basis. The furniture in Canal Zone residences is also owned by the government rather than by the employees. All medical needs are supplied by Canal Zone hospitals and their staffs. From the commissaries every household need can be supplied—including foodstuffs, clothes, and luxuries. In convenient locations all over the Zone recreation centers have been established by the Canal administration. These are the equivalent of social clubs; and in addition to the ordinary games which are popular with Americans, motion-picture perform-

ances are offered regularly.[2] The employees and their families pay for these services in the form of rent, script, or cash. Also, one finds available the ordinary services of an American community, such as schools, libraries, playgrounds, and swimming pools.

The plan of life in the Panama Canal Zone was not laid out by Socialists, contrary to the ideas apparently held by some conservatives in the United States. The only striking similarity between the Canal-Zoners and the Socialists is that both groups demand honesty and ability in public life, and hence they conclude that government can be as efficient and as constructive as any other organization. But the fundamental explanations of the Zone's "complete socialism" are to be found along other lines. In the first place, real estate cannot be owned in the Canal Zone by individuals or by private corporations. Then, too, the Canal administration has had to assume the responsibility for supplying the necessities and the conveniences of life in order to maintain the caliber of morale that would assure permanence and efficiency. Life in the tropics takes the starch out of a man, and it is particularly hard on women and children. Latent dangers to health exist which were never found in so virulent a form in the United States. The policy has naturally been to make the Americans in the Canal Zone as comfortable and as contented as possible. This is the generally accepted program of corporations and of foreign governments which have established settlements in tropical areas. The Canal Zone development is paralleled by the community centers of the United Fruit Company and other large trading concerns. At times certain members of Congress state that Canal-Zoners are "coddled" too much. If they themselves were to live in the tropics for two years or more they would undoubtedly change their minds.

[2] The Bureau of Clubs and Playgrounds provides bowling, billiards, cards, motion pictures and theatricals, dances, reading-rooms, restaurants, cigar and news stands, barber shops, bathing beaches, swimming pools, athletic fields, playgrounds, and gymnasia.

RELATIONS WITH PANAMA

Although the purpose of this study is confined to the administration of the government-owned economic services in the Canal Zone, underlying many questions of importance is the past, present, and future of American relationships with the Republic of Panama. As a matter of fact, probably no other aspect of the Governor's responsibilities gives him so much concern as the effort to secure and maintain cordial relations with the Panamanian government. Although he lacks authority to carry on official diplomatic relations, the Governor must be a real diplomat. Every diplomatic issue of importance arises in the Canal Zone. The Latins and the North Americans are thrown into greater propinquity on the Panamanian Isthmus than in any other sector of Central or South America. The relations between Panama and the United States are so complicated that even persons with years of experience are left puzzled by the intangible factors coloring the problem. All we hope to do in this brief compass is to mention some of the outstanding problems which have a direct or inferential bearing on the administrative services which we will survey.

The first article in the treaty that was signed between Panama and the United States after the revolution of 1903 provides that "the United States guarantees and will maintain the independence of the Republic of Panama." It grants to the United States the right and authority to intervene "for the maintenance of public order in the cities of Panama and Colon and the territories and harbors adjacent thereto in case the Republic of Panama should be, in the judgment of the United States, unable to maintain such order." The treaty provides that the United States may take whatever measures it considers necessary for the safety and protection of the canal, that it may employ its land and naval forces to execute such measures, and that it may establish fortifications to protect the canal. The treaty then goes on to give the United States the ten-mile-wide Canal Zone strip in perpetuity, also the use, occupation, and control of any other lands outside the Zone which may be

necessary for the construction, maintenance, operation, sanitation, and protection of the canal or any auxiliary canal or other works. It gives the United States in perpetuity a group of islands in Panama Bay and further stipulates that the United States may acquire any lands in the cities of Panama or Colon, or adjacent to their harbors, by the right of eminent domain. The right to carry on all sanitary activities in Panama and Colon, Panama's principal cities, is also guaranteed to the United States.

By a contract entered into between the Panama Railroad Company and the government of Colombia in 1867, the corporation was given exclusive transportation rights across the Isthmus. The monopoly of trans-Isthmian travel by land is still possessed by the government-owned Panama Railroad Company. Within recent years the Republic of Panama has represented that it wishes to build a motor highway across the Isthmus, paralleling the railway. The United States has indicated open-mindedness about waiving monopoly rights in case the road can be adequately financed and is otherwise satisfactory. Nevertheless, Panama is impatient and critical.

The contract of 1867 stipulates that the Panama Railroad Company shall have "the exclusive right to establish across the Isthmus of Panama . . . . any class of carriage roads whatever, from one ocean to the other. The Colombian Government binds itself not to undertake for itself, nor to permit any other company or person to undertake, within said Zone any other carriage-road, either macadamized, or of plank, or of any other class suitable for the use of wheeled vehicles, between the two oceans across the Isthmus of Panama." At the time the agreement was made the Colombian government was so anxious to have a transportation system, which it was unable to provide for itself, that the concession appeared entirely reasonable. Panama, the successor to Colombia in this agreement, wants the Panama Railway Company to waive its exclusive right. But if Panama is permitted to build a road, what will the effect be on the government-owned railway? Could it compete

successfully? Perhaps new sources of revenue could be uncovered as an offset. There is a possibility that the road may be built within the Canal Zone by the United States.

The real estate of the city of Colon, second largest city in Panama, is the property of the Panama Railroad Company except an equivalent of about eleven city blocks which the company transferred back to the Panamanian government for municipal purposes. However, these blocks were used to house the restricted district and part of the business district, and it became necessary to rent to the Panamanian government, at nominal sums, additional lots for municipal buildings, such as schoolhouses, police and fire stations, etc. The government of Panama exercises civil control and collects building taxes from those who lease land from the Railroad company. The Republic of Panama contends that all, or at least most, of the land owned by the Railroad should be relinquished as soon as possible. The Panama Railroad Company points to the fact that it filled in the land, converting it from a swampy morass; also, the financial interest of the company must be safeguarded. Perhaps the problem can be speedily solved by a *quid pro quo* agreement which will be mutually advantageous to both American and Panamanian interests.

The Panama Railroad operates the commissaries—grocery and department stores rolled into one—in the Canal Zone. Practically as soon as the United States began to increase its forces on the Isthmus in 1904, it was apparent that the local business concerns were not equal to supplying the needs in the way of subsistence, clothing, etc., and that they were charging exorbitant prices; consequently in 1905 the Isthmian Canal Commission resolved to rectify this situation by extending the Panama Railroad commissary service. This move brought forth violent protests from the merchants of Panama and those who were at that time located in the Canal Zone. Naturally, they objected to the government's going into business in this fashion, because they would have liked to have had the business themselves. Panama City is thriving and prosperous in

comparison with other non-industrial capitals of Latin America. However, the merchants say that Canal Zone business means little to the rich United States, but that it would mean much to them if all of it came their way. They object particularly to the sale of "luxuries," such as rugs, perfumery, and jewelry. A provision of the Hay-Bunau-Varilla Treaty provides that the United States may import at any time into the Canal Zone, free of customs duties, "all provisions, medicines, clothing, supplies, and other things necessary and convenient for the officers, employees, workmen, and laborers in the service and employ of the United States and for their families." Panama contends that "necessary and convenient" has a more restricted meaning than the Zone officials have given it. In past years she has also complained about the use of commissary privileges by those who were not strictly employees of the United States government in the Canal Zone or employees of the Panama Railroad Company. Recently this phase of the problem has been settled to the satisfaction of the Panamanian government, as has also the right of Panamanian merchants to sell their wares to ships traversing waters within the Canal Zone.

The adjustment of major controversies, and of other minor ones which need not be mentioned in this discussion, requires the close co-operation of the diplomatic representatives of the United States with the Canal Zone administration. The temperamental differences, the historical residues, the political intrigues, the *raison d'être* of newspaper invective, the seeming impossibility of satisfying a weaker nation which has come under the wing of a powerful one—these are some of the baffling factors which complicate Canal Zone relations with Panama.

GOVERNMENT OF THE CANAL ZONE

The government of the Canal Zone has raised some new and interesting problems for the political scientist. One of the most important questions which constantly arises—because it influences almost every other issue—is the legal and governmental status of the Canal Zone and the Panama Railroad Company.

The Panama Canal occupies a singular position within the constitutional framework of the United States. It is neither a territory nor a possession. As General Goethals once said: "A novel problem in government was presented by the necessity of ruling and preserving order within the Canal Zone. While some experience had been gained in the insular possessions, a new situation existed which had to be solved, and after various changes there was evolved a form of government which was unique, differing from any established methods of administration."

By the terms of the treaty which was ratified by the United States and Panama in 1903, the United States was granted in perpetuity the use, occupation, and control of a strip of land ten miles wide extending across the Isthmus, five miles on either side of the canal that was to be constructed. The transfer of sovereignty from the Republic of Colombia to the Republic of Panama vested in the latter all rights (e.g., reversion after the expiration of the lease) which the former held in the Panama Railroad Company, and these rights were transferred to the United States by a specific provision in the treaty. In other words, the United States gained control of the Canal Zone and the Panama Railroad Company at one and the same time.

A large part of the discussion relative to the legal status of the Canal Zone government appears to have been speculative rather than practical. However, these analyses have frequently thrown new light on the subject. Hugh Gordon Miller, in his book, *The Isthmian Highway*, has pointed out that although the United States has acted as physician, policeman, and laborer in the Canal Zone, "this does not mean that the United States claims a sovereignty over these regions or ownership in fee simple and absolute." Still it may be said that "perpetuity" is a rather long time! But, it will be objected, the important question is not the time factor but the permissible powers of the United States as defined in the treaty. General Davis, the first Governor of the Canal Zone, regarded the United States'

jurisdiction as "assigned sovereignty," while others have attempted to draw an analogy to a "mandate" as developed under and recognized by the League of Nations. The latter notion clearly appears to be far-fetched and misleading. The Canal Zone is customarily referred to as a "perpetual concession" or as "territory under the jurisdiction of the United States."

A fruitful line of pursuit is to analyze the actual limitations upon the United States' complete jurisdiction in the Canal Zone. The United States would not be expected to alienate the property in the Zone; this is patently of no practical importance. The United States has agreed not to impose customs or other duties on the commerce of Panama or of other countries. These agreements are not absolute limitations upon the United States, but they might be changed by later action between the two countries. So it is with all implied or express limitations under which the Canal Zone is governed; they are in the nature of abnegations and comity rather than rigid legal prohibitions.

Article 3 of the treaty provides that the United States shall have all the rights, power, and authority which "the United States would possess and exercise if it were the sovereign of the territory . . . . to the entire exclusion of the exercise by the Republic of Panama of any such sovereign rights, power, or authority."

The government of the United States bought all of the stock of the Panama Railroad Company in 1904. The treaty with Panama provided for this action, which meant that the French canal company was divested of its ownership of the Railroad Company. Since that time the Secretary of War, representing the United States government, has voted the stock of the corporation. The Governor of The Panama Canal automatically becomes president of the government-owned corporation. But the corporation's actual powers are stipulated in its charter, which was granted by the state of New York in 1849. Like other early charters, the Panama Railroad's is extremely liberal, leaving room for almost any activity the corporation

might wish to undertake. The treaty with Panama recognized the existent (1867) contract between the Railroad and the Republic of Colombia, which had extended the lease of the Panama Railroad Company to 1966 and stipulated that all reversionary rights should pass to the government of the United States at the expiration of the contract.

Having been incorporated in the state of New York, the Panama Railroad Company is subject to the jurisdiction of American courts. The corporation has power to sue and to be sued, such actions usually being brought in the Federal District Court of the Canal Zone. Cases in which Panama is interested as a sovereign state, however, must clear through diplomatic channels. Panama receives an annual franchise tax of $250,000 from the United States. This obligation was originally incurred by the Panama Railroad Company, but the government has since chosen to make the payment itself. Under the terms of the contract of 1867 the Railroad Company is exempt from any and all forms of taxation by Panama. This immunity applies to the corporation's holdings in Panama proper, involving most of the city of Colon. These and other jurisdictional problems will be discussed more fully below.

The Canal Zone has, for such a small area, a singularly large number of co-ordinate jurisdictions. Few areas of similar size in the United States present more difficult problems of governmental relationship. In addition to The Panama Canal administration, the Panama Railroad Company's interests, and the civil government (all of which are subject to the Governor's control), there are separate and independent jurisdictions under the Army, the Navy, and the United States Department of Justice. The Attorney-General's department maintains the District Court, the district attorney, and the minor judicial officials. In most cases the several establishments mentioned above are wholly independent of each other. When issues arise affecting two or more establishments, such as joint use of the canal or of land by the Zone administration and the Army, the jurisdiction is co-ordinate. The Army has been granted

certain reservations on the Zone within which it carries on its activities but which are "subject to the civil jurisdiction of the Canal Zone authorities in conformity with the Panama Canal Act," as provided in the Executive Orders of the President setting aside such reservations.

There is no legisative body in the Canal Zone government; all laws pertaining to the Zone must be passed by Congress. Not all provisions of the Constitution apply to the Canal Zone, and only those laws of Congress do which expressly provide therefor. American citizens living on the Isthmus never have occasion to vote—unless they return to their homes in the United States.

When the problem of governing the Zone arose, Congress provided for an Isthmian Canal Commission of seven members. This body, members of which were appointed by the President and confirmed by the Senate, functioned between 1904 and 1914. Its defects soon appeared. Irresponsibility, vacillation, partisanship, and frequent clashes among members became chronic complaints. Finally General Goethals and other Army officials who were in charge of construction rebelled openly against the system. A board, in the Army's view, is long, hard, and narrow. Secretary Taft also called the President's attention to the cumbersome and unwieldy character of the Commission's proceedings. In 1908 all authority was vested in the Chairman of the Isthmian Canal Commission. Thereafter the Commission merely ratified executive actions when required. "This arrangement," General Goethals later wrote, "permitted the subordination of everything, including the Panama Railroad, to the construction of the canal, and resulted in the establishment of an autocratic form of government for the Canal Zone."

The Isthmian Canal Commission was not abolished until the provisions of the Panama Canal Act went into effect. General Goethals was appointed Governor by President Wilson in 1914. There have been only five governors appointed since that time; all of them have been Army engineers, and all have made a conspicuous success of the office.

The Governor is appointed by the President and confirmed by the Senate for a four-year term. Every Governor since Goethals has gone to his office after serving as Engineer of Maintenance, the office next in importance to the Governor's. The Engineer of Maintenance generally serves four years. Realizing that succession to the Governor's office is customary, great care has been taken by the Secretary of War in selecting a man for the position of Engineer of Maintenance from those recommended by the Chief of Engineers of the War Department. It is no exaggeration to say that freedom from partisan appointments and the experience which a Governor has when he comes into office have been largely responsible for the honesty and excellence of Panama Canal administration. The plan is miles ahead of the system of political appointments usually employed in the case of other American possessions. The present system of executive leadership in the Panama Canal may not be the best possible, but at least it has succeeded in putting men in office who were honest, able, and devoted in their relations to the government-operated utilities in the Canal Zone.

ADMINISTRATIVE PROBLEMS

The problems of public administration in the Canal Zone are as ramified as the services themselves. Because of the isolated character of the Zone they are somewhat unusual and highly interesting. At this juncture we shall merely mention some of the basic problems which will require consideration at later stages.

The most important and at the same time the most difficult problem is that of effecting the best possible division of work between The Panama Canal, which operates on Congressional appropriations, and the Panama Railroad Company, which succeeds or fails on its own financial showing. Is the present division of business functions between the canal administration and the railroad corporation satisfactory, or should additional services be transferred to the corporation? Then, too, is it not objectionable to have certain business units, such as

the commissaries, hotels, and electric signals, owned by the corporation but managed by Panama Canal personnel? If so, the problem arises of suggesting a practical method of correcting the working relationship. Perhaps a new corporation should be formed, incompassing both of the existing organizations. These are tough practical problems which Canal Zone officials have been mulling over for years.

We shall have to discover whether the Canal Zone administration is an integrated one, assuring unity of direction and adequate supervision. Are the departments organized along functional lines, and are there too many or too few of them? Financial administration and personnel management hold central positions of importance in any undertaking, and hence we shall have to look into the organization and effectiveness of these Isthmian staff agencies. Attention must also be given to purchasing operations and to public relations activities.

The conduct of public economic services by governments raises distinctive problems of management and control. Light is thrown on many of these questions by the history and methods of The Panama Canal and the Panama Railroad Company. How essential is it that business activities should be given self-contained finance, operating autonomy, and freedom from legislative and financial interference? The accounting methods of government-owned corporations should be as modern and as thorough as those of any private corporation. To what extent can the efficiency of these undertakings be measured by financial yardsticks, and what other factors, if any, have to be considered?

There is a serious question as to whether business services can be operated efficiently under Civil Service regulations. The hiring, firing, and promotion policies of the government-operated services on the Isthmus are objects of great interest. Remuneration scales and the other factors which go to produce morale will be observed with special attention, because morale and efficiency are much harder to sustain under tropical skies. Within an isolated domain it is natural to expect an inbreeding

bureaucracy. What are the advantages and disadvantages of such a system? Should the present career basis be modified in any respects? These are some of the large questions which underlie an examination of all phases of the study. We need to find out why the Canal Zone services succeed or do not succeed and what the principles are which should control the operation of government-owned corporations.

CHAPTER II

DEVELOPMENT OF BUSINESS FUNCTIONS

THE Panama Canal and the Panama Railroad Company are the proprietors of practically all of the public service undertakings located on or related to the Canal Zone.[1] The Governor of the Canal Zone is the head of both organizations, and the United States owns every dollar of the capital investment. But The Panama Canal[2] is an administrative unit directly subject to Congress, the President, and the Controller-General of the United States, whereas the Panama Railroad Company is a government-owned corporation, having its own Board of Directors and being only indirectly controlled from Washington.

SCOPE OF ECONOMIC ACTIVITIES

Both The Panama Canal and the Panama Railroad Company operate public utilities, but the railroad corporation exists solely for this purpose, whereas The Panama Canal is concerned with civil government as well. The Panama Canal owns and operates the ship canal and its appurtenances, the most important economic service in the Zone. It is a great international public utility. The Canal administration also owns and operates other business activities.[3] One of them, the Mechanical Division, performs services for nationals of countries other than the United States, as well as for the Canal, the

[1] Private companies operate the Isthmian airplane service, cable communication, a short line of street railway, certain bus lines, commercial motor boats on Gatun Lake, and the gas service to the United States Army.

[2] Any use of the title "The Panama Canal" (note capitalization of "The") refers to the legal and administrative entity created by Congress as distinguished from the physical aspects of the canal. This is the customary usage.

[3] The term "business activity" as employed by The Panama Canal means any service which is not directly connected with transit and for which profit-and-loss accounts are kept.

Railroad, and the United States Navy and Army. The Fuel Oil Division, which sells a small amount of oil itself and collects handling charges from private companies for the use of its facilities, is a Panama Canal subsidiary. The water supply is owned and operated by the Canal administration. The Electrical Division, one of the principal business functions, and one of the most profitable, falls within the same category.

The government-owned Panama Railroad Company, on the other hand, owns the railroad line, the steamship line, the baggage-transfer service, the Colon stables, the Cristobal docks and piers, the coal plants, the telephone system and the electric clocks, real estate located in Colon and Panama City, the Washington Hotel, the cattle industry and dairy farms, the commissaries, and the plantations.

The list of services operated in the Canal Zone, given in chronological order, may help to impress upon the reader the various stages by which Isthmian enterprises have developed (see Table I). Only the more important of these economic services will be dealt with in detail.

While the division of ownership of property between The Panama Canal and the Panama Railroad Company is definite, the administrative relationship is complicated. In some cases there is ownership by both and operation by one, as in the case of the wharves on the Pacific and Atlantic entrances to the canal. In other cases there is ownership by the Railroad and operation by the Canal, such as the telephone system and the commissaries. Finally, there is ownership by the Canal and operation by the Railroad, the Hotel Tivoli being the only instance of this. These relationships, and the overhead control by which they are co-ordinated, will be the subject of discussion in the next chapter. The extent and complexity of the relationship has been referred to at this point in order to emphasize the scope of the operations and the resulting necessity of furnishing a historical perspective as a background on which to locate the existing services. In other words, the purpose of the present chapter is to trace the origin and expansion of

TABLE I

YEAR IN WHICH ISTHMIAN ENTERPRISES WERE STARTED

PANAMA RAILROAD COMPANY	
Railroad line proper:	
First train from Aspinwall to Gatun	1851
First through train from Aspinwall to Panama	1855
Steamship line	1855
Coal plants	1876*
Docks, piers, etc.	1877*
Real estate operations	1878*
Telegraph stations	1878*
Commissary	1885
Telephone system	1904*
Bakery	1906
Hotel operations	1906
Ice-manufacturing	1907
Coffee-roasting plants	1908
Industrial laboratory	1908
Ice-cream plant	1908
Colon stables	1909
Clocks, electric	1910
Baggage transfer	1913
Plantations	1915
Cattle industry	1915
Abattoir	1915
Dairy farms	1917
Printing telegraphs	1925
THE PANAMA CANAL	
Water supply	1904
Electrical service (power plant built in 1898 by P.R.R. at La Boca)	1904
Postal system	1904
Hospitals	1904
Rental of lands	1904
Storehouse operations	1904
Animal transportation	1905
Building construction and maintenance	1905
Panama Canal Press	1905
Postal savings	1911
Panama Canal proper	1914
Fuel and Diesel oils	1914
Ship chandlery	1914
Motors	1915
Salvage operations	1916
Rental of quarters	1922
Ferry service	1927

* Probably begun prior to this date.

the respective services performed by the Panama Railroad Company and The Panama Canal.

EARLY IMPORTANCE OF THE RAILROAD

At the present time the canal is without doubt the most important development on the Isthmus; it gives life and vitality to everything else. The railroad and the other services are merely adjuncts of the canal. But it should be observed that this situation has existed only since the completion of the canal in 1914, while during the much longer period from 1855 the railroad held the limelight. In the early years of its operation the railroad—the first transcontinental railroad to be completed in the Americas—was hailed as a marvel quite as much as was the canal years later. Hence, if we are to obtain historical perspective and if we wish to follow the evolution of the first American enterprise on the Isthmus of Panama, the railroad rather than the canal should be considered first.

Since 1849, when the Panama Railroad Company was first chartered, we may note three principal periods of public utility development. The first period ended in 1904, when the United States government took control from the French company; the second period came to an end in 1914 with the opening of the canal to commerce; while the period since that time has been characterized by the expansion of the older services and the creation of new ones. The entire span of years from 1849, and earlier, has witnessed the paramount importance of American initiative on the Isthmus, except for the years 1881–1904, when two French companies successively controlled the Panama Railroad Company and attempted to dig the canal.

The route across the Isthmus of Panama was a heavily traveled one long before American interests commenced to concern themselves in its possibilities about 1835. The old Las Cruces Trail, with its stony surface worn smooth by thousands of horses' hoofs, may still be seen in a state of good repair not far from the Madden Dam site. An effort to secure the transportation rights across the Isthmus was begun by an American

named Biddle as early as 1835, and his overture to the government of New Granada eventually resulted in his securing a decree permitting the construction of a railroad across the Isthmus. Nothing further was done until 1848, when three Americans—William H. Aspinwall, Henry Chauncey, and John L. Stephens—secured a concession from New Granada (later the Republic of Colombia) for the building of an Isthmian railway. The charter of the Panama Railroad Company, which they secured from New York State in 1849, is the present charter of the government-owned corporation.

The story of railroad construction, which was completed in 1855, is thrilling indeed and has been well told by several authors.[4] Suffice it to say here that the financial venture, which was on the point of collapse, was saved by the California gold rush. The company charged first-class passengers $25 for the forty-seven-mile ride across the Isthmus. Immediately upon completion of the road, the company had all the freight it could haul, with the result that the line became a money-maker. The original investment amounted to over $8,000,000. In the following years Panama Railroad stock became one of the most popular issues in the New York stock exchange, and men like Russell Sage swelled their fortunes on its earnings. Annual gross earnings of from 50 to 100 per cent on the investment were realized in some years, the most prosperous year being 1868. During the first ten years of its operation the railroad transported over $700,000,000 worth of specie and 300,000 bags of mail. After a period of security skyrocketing on the stock exchange, the railroad fell on evil days. It was mismanaged. However, between 1883 and 1892 the average annual dividends amounted to 7.2 per cent. Operations in the following year, the panic year of 1893, resulted in a deficit, the first loss to be recorded.

A new ninety-nine-year contract was signed with Colombia

[4] F. N. Otis, *History of the Panama Railroad* (New York, 1867); Robert Tomes, *Panama in 1855* (New York, 1855); Tracy Robinson, *Panama, 1861–1907* (New York, 1907); Forbes Lindsay, *Panama and the Canal Today* (Boston, 1926).

in 1867. This agreement, as has been said, has controlled the fundamental relationships between the Panama Railroad Company and the Republic of Panama since the revolution of 1903.

With the granting of a concession to build a canal to the French "Panama Canal Company," De Lesseps and his confrères found it necessary to obtain control of the Panama Railroad for construction purposes. In 1881 the French interests succeeded in buying all except a few of the shares of the company, whereupon they reduced rates on the railroad in order to lessen the expense of constructing the canal. This action naturally resulted in greatly reduced earnings. As a consequence, the holders of the outstanding stock in the United States applied to the Supreme Court of New York for an injunction, alleging the deprivation of their property without due process of law. The injunction was granted. As a conciliatory move the French company reconstituted the Board of Directors, appointing several American members. However, the first French company failed in 1889, and canal construction completely collapsed. The second company was organized in 1893 and continued operations until, in accordance with the treaty of 1903 between the United States and Panama, the French investments in the canal and the Panama Railroad Company were secured by the government of the United States.

GOVERNMENT OWNERSHIP AND OPERATION

The price paid by the United States was $40,000,000, and of this amount $7,000,000 represented the capital investment in the Panama Railroad Company. The capitalization remains the same to this day. When the railroad properties were taken over, they were in a state of utter disrepair. Renewals and depreciation had been completely neglected during the final years of the ill-starred project. Yet the canal could not have been built without the railroad, and since 1904, when the United States government secured control of the company, dividends

aggregating 125 per cent upon the capital stock have been declared by the Board of Directors; these dividends, amounting to $8,744,905, have been turned over to the Treasury of the United States. Probably no corporation in American history has had a more colorful financial record than the Panama Railroad Company. This observation applies to the depression years since 1929 as well as to the early period.

When the United States government took over the Panama Railroad Company it found itself the owner of a shipping line—the Panama Railroad Steamship Line. This fact greatly disturbed Mr. Taft, who wanted to keep the government out of business; but after a complete survey of the situation he and the other directors concluded that the service should be continued. Weekly sailings between New York and the Canal Zone still take place. At certain periods in the past the shipping line of the Panama Railroad Company has been of considerable size and importance. The company first organized a shipping line in 1855, and at one time or another operated to the Pacific Coast, to the west coast of South America, and to Central America. A separate chapter will be devoted to this part of the corporation's activities.

Work on the Panama Canal was recommenced in 1904, and the locks were opened to the first ships just before the outbreak of the World War. During this ten-year period the railroad was worked harder than at any time in its entire history. With the flooding of what became Gatun Lake, a large part of the railroad line had to be rebuilt in a new location. The shipping line also performed an invaluable service during the canal-digging decade. So burdened were the facilities of the Panama Railroad Company that traders on both coasts justifiably complained that their shipments were delayed. Every energy was being spent to complete the canal.

During this period the Railroad Company began to be subordinated to the interests of the Canal. This was entirely natural at the time, but its significance did not end with the completion of construction. The character of the Railroad cor-

poration has been continually altered up to the present day, particularly in respect of its independence and autonomy of administration.

A second tendency also developed and became fixed during the decade of canal construction—Army officials rapidly assumed the positions of greatest responsibility. Where formerly civilians such as Ralph Budd and John F. Stevens had been the dominant figures on the Isthmus, after construction got well under way the Goethals type dominated—if, indeed, a singular man of steel like Goethals can properly be called a "type." To this day the two highest positions in the Canal Zone have been held by Army engineers.

ANCILLARY SERVICES OF THE RAILROAD

The Panama Railroad Company had available for use in canal construction several invaluable ancillary services in 1904. Feeding and provisioning the hundreds of employees was simplified because the Railroad had a commissary system already in operation, with a purchasing department in New York and a steamship line to make deliveries. So important did the commissary's work become that in 1908 it was put on a separate basis so far as plant, amortization, operation, and revenue were concerned. Docks and piers, coal plants, and a baggage service were all functioning. The company's real estate holdings in Colon and Panama City had already been acquired.

The development of activities and the fact that a particular service is connected with the Railroad or the Canal often is explained solely by expediency. No farsighted plan of expansion has ever been devised. In 1908 the Washington Hotel was transferred from the Canal to the Railroad, and in 1911–13 it was rebuilt. However, the hotel on the Pacific side of the Isthmus, the Tivoli, continued to be operated by the Canal until 1929, and legal title is still vested in The Panama Canal. It was finally turned over to the Railroad because, in the words of former Governor Burgess, "it was found very difficult to operate a commercial business like the running of a hotel and

strictly conform with government rules and regulations, which could be obviated by transferring the operation of the hotel to the Panama Railroad Company."

The Panama Railroad Company went into the stable business as a move toward better sanitation. The private stables were a source of disease. The Governor desired cement ones and the Railroad had the necessary money.

The cattle industry sprang up, a unit of the Railroad, because a local supply of meat was considered necessary in case of a war-time blockade. The dairy farms and the plantations are also owned by the Panama Railroad Company. There is a close relation between them and the commissary, which is owned by the Railroad but not operated by it.

GROWTH OF CANAL FUNCTIONS

The minor functions of The Panama Canal have evolved in much the same way. A supply of pure water was an absolute necessity; the Canal supplied it. Electricity was needed for power and lighting; Canal Zone engineers have made a large and cheap supply of it available. Employees needed living quarters and recreation facilities; the Canal provided them. A great deal of printing had to be done; the Zone operates a first-class printing establishment. Ships transiting the canal require repairs, as does equipment located on the Isthmus; hence the Mechanical Division. Fuel oil was needed on the Zone and by craft transiting the canal. The Panama Canal became the filling-station proprietor.

The outstanding financial success of the Panama Railroad Company has already been mentioned. The results achieved by The Panama Canal have also been gratifying. Between 1914 and 1933 the net appropriation expenses of The Panama Canal amounted to $154,648,154, while the net revenues during the same period were $172,799,585. If throughout its history a capital interest charge of 3 per cent on the present investment of $539,200,059 is made, the net earnings are found to fall only $17,343,666 short of a 3 per cent profit. Between 1926

and 1930, years of prosperity, the Canal earned a surplus over and above the 3 per cent capital interest charge of $8,308,330.[5] An arbitrary capitalization of The Panama Canal was not adopted until 1922, nor were interest charges computed prior to that time.

The Panama Canal is run as a government department; it receives appropriations, and its revenues automatically go into the United States Treasury. The Panama Railroad Company, on the other hand, is run like any other corporation; it makes its money before it can spend it, and it builds up surpluses. Are the differences between the nature of the work performed by the two organizations so different that one should be run wholly as a business undertaking while the other is only partly so? If The Panama Canal is a prosperous international utility, why should it not be operated as one? Why should it not be a mixed business corporation like the Suez Canal or a government-owned corporation like the Panama Railroad Company? Whether or not this type of organization and control would be desirable may be judged in part from any conclusion reached relative to the merits of the Railroad corporation. Whether a transformation of The Panama Canal's legal and financial status is practicable and possible is still another question—tougher than the first. Perhaps a reorganization and regrouping of services which are at present partly under Railroad control and partly under Canal management is the most desirable solution of the problem. This plan is also fraught with practical difficulties. It may be that the *status quo*, crazy quilt of historical accidents that it is, provides a desirable plan of operation and control. The next chapter, in which we shall examine institutional relationships and overhead control of administration, should afford some of the data which enter into a final judgment on this the most important of all issues raised by the present study.

[5] *Annual Report: Governor of The Panama Canal* (1933), pp. 124, 142.

CHAPTER III

RELATIONSHIPS AND CONTROL

THE combined establishment of the Canal and the Railroad is essentially an industrial, or public utility, concern, differing widely from the usual governmental department, the principal function of which is to perform certain non-remunerative services with funds appropriated for the purpose. Narrow limits are set as to the use of said funds. The Canal-Railroad establishment, on the other hand, performs services of all kinds in the nature both of an international public utility and of a public service corporation supplying local services. Experience the world over proves that business functions can be handled best by business-like methods rather than under the narrow restrictions placed by the legislature on appropriations and by the legislative body and the Treasury on expenditures of public funds.[1]

The departments of the Canal-Railroad can be grouped, from the standpoint of financial practice, into three classes: (1) those of the Railroad, which are free to use their revenues to pay the cost of operation and maintenance, to set aside reserves for replacement, to accumulate a surplus for expansion, and to resort to commercial methods of procurement; (2) so-called "business divisions" of the Canal, which enjoy some of these advantages and which are freer in important respects than the ordinary government department; and (3) so-called "transit divisions," which have considerable revenues but also rely upon appropriations. There is a certain amount of overlapping between the last two groups of activities.

RELATION TO CONGRESS

There is a great difference between The Panama Canal and the Panama Railroad Company so far as their relation to Con-

[1] For evidence supporting this conclusion the reader is referred to the author's study entitled *British Public Utilities and National Development* (London, 1933).

gress is concerned. Between the Canal and Congress the relationship is direct and constant; between the corporation and Congress it is indirect, the legislature's power being held in reserve. Every policy affecting the Canal administration is an appropriate subject for Congressional attention; in the matter of appropriations its action is imperative. The policies of the Railroad corporation, on the other hand, are threshed out by its Board of Directors. The theory is that the members of the Board act as trustees for the national interest; Congress merely keeps a general surveillance over the corporation's activities and interferes only when a given course of action conflicts with other interests of the United States. The corporation is thus freed from "politics" and the vicissitudes of party fortune. In the day-to-day conduct of its affairs it is left alone by Congress. Therefore, in theory at least, it possesses the freedom of choice and the elasticity of management which the successful conduct of business enterprises requires.

The amount of discussion and time spent by Congress on the affairs of The Panama Canal is not very great, but the number of general and special acts relating to the Zone is rather considerable. The Canal Zone is so far away that Congress cannot keep a finger on it constantly, as it does in the case of the District of Columbia. Except for an occasional speech on relations with Panama or the requirements of national defense, most of Congress' legislative responsibility devolves upon the subcommittee which holds hearings relative to The Panama Canal appropriations. It is not legislative oratory that makes a practical difference in the conduct of The Panama Canal, or in the operation of any other economic service conducted by the government, for that matter; the principal difference is in finance—in restrictions upon purchasing operations and general financial policies.

The number of times that Congress has legislated since 1904 with direct reference to the Panama Railroad Company is relatively few. The following summary of acts affecting the Railroad will reveal the nominal nature of the relationship:

By act of March 4, 1906, the bonded debt of the Panama Railroad was paid off by an appropriation of Congress. An act of May 27, 1908, prohibits the Railroad from carrying fire or marine insurance. For many years, by the annual appropriation acts for The Panama Canal, Congress has provided that all moneys received by the United States from the Railroad Company need not be covered into the Treasury. By acts of September 7, 1916, and June 4, 1924, federal compensation for injured employees is made to include the employees of the Railroad living on the Isthmus. Again, by act of June 9, 1920, the Railroad was authorized to sell certain lots on the Isthmus, it then being assumed that an act of Congress was essential to legalize this transaction. In comparison with this meager legislative output, the laws relating to The Panama Canal cover nearly eleven hundred pages in four volumes.

In recent years certain members of Congress, particularly some of them on the subcommittee which deals with War Department appropriations, have demonstrated that they either do not comprehend the principles which should guide the conduct of government-operated enterprises or else desire to disregard them. An instance of this attitude will soon be cited, and later we shall discuss the policies which Congress should observe in its relations with the Panama Railroad Company and other public enterprises of a corporate character.[2]

FINANCIAL CONTROL

The Panama Canal, as we have said, has more financial freedom than have the ordinary departments in Washington. Each year the estimates of Panama Canal expenditures are drawn up on the Isthmus, after which they are defended before the subcommittee on appropriations which deals with War Department appropriations. In drawing up the estimates the anticipated revenues for the fiscal year are computed, and to this figure is added any amount which may be necessary. Prospective expenditures are shown in great detail. Any amount which Congress may have to add to the estimated revenues is

[2] See *infra*, chap. ix.

called the net appropriation. The net appropriation for 1933 was $11,026,293, while during this same period the cash disbursements of The Panama Canal amounted to $98,246,973. The Canal is enabled to operate in this manner largely because of the existence of a revolving fund amounting to over four million dollars (represented mostly in stores' stock) and also because the law limits the expenditure of revenue from business divisions.

Appropriations to The Panama Canal are in the form of lump sums, permitting considerable elasticity when necessary. For example, more than $200,000 was spent on land purchases for the Madden Dam, in order to prevent speculation in property values, before a cent of the Congressional appropriation was available. Surpluses from other accounts were diverted in this case, and the readjustment was made after the appropriated sum was available. If there is a prospective surplus from (say) the salaries' account and it is needed for a prospective deficit in another account, the diversion may be made without getting approval beforehand from Washington. Unlike the Railroad, however, The Panama Canal is tied down by ordinary government requirements in its purchasing operations, and all net profits from whatever source must annually be covered into the Treasury of the United States. The Panama Canal may spend what is appropriated; the Panama Railroad may spend what it earns. The Canal relinquishes its profits; the Railroad pays a dividend to the Treasury of the United States of $700,000 annually but retains or reinvests the remainder.

The financial freedom of the Panama Railroad will be analyzed at a later point, but at this juncture it seems desirable to call attention to a recent attitude of certain members of Congress which seems to threaten the financial and business advantages enjoyed by the government-owned Railroad corporation. That the danger is real is proved by Congress' recent action in calling upon the reserve funds of the Panama Railroad Company for $2,800,000 this sum to be applied to the

carrying-on of construction work on the Madden Dam pertaining to The Panama Canal. Referring to this unprecedented breach of corporate immunity, the President of the Railroad stated in the 1932 *Annual Report* of the company as follows:

No corporation can be considered as successfully operated unless it sets aside as part of the current costs proper charges to cover replacement, and retains the funds so accumulated for use in making replacements when necessary. The accumulation of such a reserve fund has been a basic practice of your company, which is one of the few successful government-owned corporations of the United States. The practical direction of the Board of Directors by the Appropriations Committee to utilize a large amount of the company's reserve fund for application to a purpose quite foreign to that for which the funds were set aside indicates that the Appropriations Committee did not realize how serious the effect of destroying the reserve funds of the Panama Railroad will be on the operations of the company.

The most disturbing evidence of Congressional shortsightedness which the writer has discovered occurred in a hearing before the Senate subcommittee on appropriations in 1933. The official transcript reads as follows:

MR. FLINT [Chief of the Washington office, The Panama Canal]: There is just one question that perhaps ought to be elucidated a little—the question raised about auditing the accounts of the Panama Railroad Company.

SENATOR MCKELLAR: I hope you are not going to object to that. You have a wonderful enterprise there. Apparently it is making money, and it is one of the few Government institutions that are making money. Surely you gentlemen ought not to object to an outside concern examining your accounts. I hope you will not.

MR. FLINT: There would be no objection to examining the accounts and making reports to Congress; but he should not have jurisdiction in controlling the business in any way like he would with Government-operated funds. You see, these funds are not appropriated to the railroad by Congress.

SENATOR MCKELLAR: I am distressed to hear you interpose an objection to the Comptroller General auditing your accounts.

MR. FLINT: And, being a corporation, it would be. . . . .

SENATOR MCKELLAR: No, sir; you are not a corporation. You are part of the Government; and the sooner you get that in mind, I think, the better it will be. You do not own that stock. The Government owns it.

MR. FLINT: It has to handle its business as a corporation would; and Government checks on purchases, and things like that, ought not to operate; and the comptroller ought not to have jurisdiction to prescribe the methods of expenditure, or anything like that.

SENATOR MCKELLAR: I am deeply disappointed at the attitude you take about it.

MR. FLINT: I should like to say that there is no objection to his going into the accounts and making report to Congress; hut to have jurisdiction like he does over Government departments I think would be a clog on the operations of the railroad.

SENATOR COPELAND: It would be legislation, anyhow; would it not Senator McKellar? You could not put it on this bill?

MR. FLINT: The point is, there is no objection to having the accounts audited. The accounts are open; but if the Comptroller General had the same jurisdiction as he has over a Government department, I think that would clog the operations of the corporation.

SENATOR REED: We can consider that in executive session.

MR. ROSSBOTTOM [Vice-President of the Panama Railroad Company]: If he had to approve every voucher, every payment we made on demurrage, every demurrage bill, and things of that kind, it would make a very serious situation.[3]

Such disregard for the essentials of government-owned corporations bodes ill for the future, unless some future enlightenment can take place.

RAILROAD BOARD OF DIRECTORS

Throughout the period since government ownership began in 1904, the Panama Railroad Company has had a Board of Directors which really functions. This is one of the best reasons why Congress and the Controller-General should stay off the back of the government-owned corporation. In effect, Congress delegates its responsibility for the routine control of the government-operated service to a small group of men who by experience and interest are qualified to guide the corporation. These men are trustees for the government.

The Board of Directors of the Panama Railroad Company

[3] *Hearings before the Subcommittee of the Committee on Appropriations* (War Department Appropriation Bill for 1934, H.R. 14199; U.S. Senate, 72d Cong., 2d sess.), pp. 99–100.

consists of thirteen members, this having been the number for many years. The headquarters of the corporation is at 24 State Street, New York City, where the Vice-President is located and where the shipping and purchasing (for the commissary and ships) activities are carried on. Whenever vacancies occur in the Board of Directors, appointments are made by the Secretary of War upon receiving suggestions from the Governor (who is also President of the Railroad). Before the appointment is actually made, the selection is formally approved by the Board of Directors.

Great perspicacity has been shown in choosing new members, with the result that at all times men of experience, judgment, and courage have served on the Board. Several cases have arisen in the last three decades where the Directors were urged, or were even instructed, to take some action which they considered injurious to the corporation's interests; when such crises have arisen, members have stated flatly that they would resign rather than acquiesce. One of the most recent examples of such dogged independence was the Board's refusal to carry out Secretary Hurley's "instructions" relative to the discontinuance of shipping connections with Haiti ten days before the Hoover administration went out of office.

One reason that the Board of Directors has really functioned, has stood its ground when it has been convinced that it was right, is that former governors of The Panama Canal have stayed on as members of the Board. They have learned to fight. At the present time the membership of the Board includes Jay J. Morrow and M. L. Walker, both of them former governors. On the Board at present there are also three or four permanent officials, namely, the Vice-President, the General Counsel, the Auditor of The Panama Canal, and the head of the Washington office of The Panama Canal. The Secretary of War, the Governor of The Panama Canal, the Engineer of Maintenance, and the War Department official detailed to Canal activities are also members of the Board at the present time. This means that only three or four of the remaining

members can be classified as lay members, as contrasted with those who hold or have held an official position in either the Railroad or the Canal.

The failure of the Panama Railroad Company to utilize the services of men from other walks of life, who might bring to the conduct of the business fresh points of view, is a criticism which may properly be brought against the corporation. The business could not possibly be more honestly conducted. The Directors who are drawn from the Army and the Zone services represent as fine a type of public service philosophy as the United States has ever produced. The only danger is that of inbreeding, getting into a rut. On the other hand, it has proved difficult to secure highly qualified persons from the outside.

Directors receive no financial compensation, only expenses. The practice of giving remuneration was discontinued many years ago, the argument being that a service to the government required no compensation. The writer does not hesitate to express his disapproval of this policy. Experience with gratuitous services rendered by citizens to government services of a comparable nature indicates that remuneration is preferable. If this is true of (say) city councilmen's positions, the argument is certainly far more convincing in the case of a government-owned business corporation. The British, who have done more than we have to develop the public corporation, invariably compensate their directors ("trustees" they are usually called), and in some cases handsomely. To be sure, a prospective appointee who would be influenced unduly by the prospect of compensation is patently not the man to appoint; but a good workman is worthy of his hire, and annual Directors' fees are just as surely an appropriate charge against the revenues of the Panama Railroad Company as they are in the case of the New York Central or the United States Steel Corporation.

CORPORATION AS AN ADJUNCT

Another point of possible criticism relative to the overhead control of the Panama Railroad Company is that the member-

ship of the Board of Directors is overweighted in the direction of Canal representation. This is a deliberate policy which has been in effect ever since the United States government came into control. In an Executive Order of May 9, 1904, President Roosevelt laid down the following policy:

> By virtue of the ownership by the United States of about sixty-nine seventieths of the shares of the capital stock of the Panama Railroad the general policy of the managers of said road will be controlled by the United States. As soon as practicable I desire that all the members of the Isthmian Canal Commission be elected to the board of directors of the road, and that the policy of the road be completely harmonized with the policy of the Government of making it an adjunct to the construction of the canal, at the same time fulfilling the purpose for which it was constructed as a route of commercial movement across the Isthmus of Panama.

Since that time the Railroad has increasingly been subordinated to the interests of the Canal, both financially and administratively. Beginning with the theory that the Panama Railroad Company was merely an adjunct of the Canal, a constant transference of administrative positions from the Railroad to the Canal has taken place, with the result that the corporation has lost a large part of its administrative autonomy and, in the eyes of the Canal-Zoners at least, its identity. At times when funds have not been available for purposes desired by the Canal, the reaction has been, "Let the rich Panama Railroad pay for it." The corporate character of the Railroad, with all its financial, administrative, and legal implications, is almost completely lost sight of in the Zone, except when the liberal provisions of the corporation's charter can be used by the Canal-Railroad establishment.

In a historical account of the Panama Railroad which was written in the Canal Zone some years ago, and which later became the basis of a publication in England,[4] there appears this analysis, which is thought to be a typical point of view: "The management of the road," stated this observer, "has been more

[4] R. W. A. Salter, "The Panama Railroad," *Railway Magazine*, XLI (1917), 77–84.

pense has probably been reduced as a result, and greater efficiency has been secured by combining a unit of one organization under the same supervision as a unit of the other, when the two units have had a similar purpose or character. This mingling of units of the Canal and Railroad inevitably led to a unified administrative organization on the Isthmus. Theoretically, the results may be somewhat regrettable; practically, there is no other alternative except complete amalgamation of the Canal and the Railroad under a new charter.

SECRETARY OF WAR'S RESPONSIBILITIES

The Secretary of War is the chief to whom both the Canal and the Railroad turn for common direction. The Secretary is the connecting link between Congress and the President, on the one hand, and the Panama Railroad Company and The Panama Canal, on the other. Both Congress and the President are relieved of a great deal of responsibility because of the control over policy exercised by the Secretary of War. The Governor of the Panama Canal is appointed by the President and confirmed by the Senate, but the recommendation comes from the Secretary of War, and thereafter all questions involving administrative policy clear through the Secretary of War, even though they may interest the President directly. The Secretary of War is a Director of the Panama Railroad Company and votes the stock of the United States. Then, too, he controls the Army establishments located on the Isthmus. In view of this fact it is surprising that there has not been more cooperation at times between the civil and the military jurisdictions in the Zone.

The Secretary of War has real authority in the affairs of the Canal and the Railroad; his is no nominal power. His practical control over the Canal administration is clearly greater than that which he exercises over the Railroad, owing to the corporate character of the latter and the fact that its Board of Directors acts as a buffer in some cases. The Secretary's authority over the corporation should not be absolute and unlimited;

other members of the corporation are individually responsible for the financial health of the company. His ultimate power to guide the Governor, and through him The Panama Canal, is, and should be, complete—so long as he has judgment enough not to interfere with detailed administration. In actual practice the Secretary puts great reliance upon the advice and judgment of the Governor—as he should. The Secretary of War has authority to bring about reorganizations, to change accounting procedures, and to alter fundamental divisions of responsibility and policies of management. However, it has been held that the transfer of a Canal property to the Railroad requires an Executive Order issued by the President. The Secretary's authority is very extensive and applies to matters which have not been expressly provided for in legislation.

The Secretary of War is a busy man with a multiplicity of duties. He is therefore aided by a Staff Assistant in his own office who acts in an advisory capacity. These advisory functions are concerned with the supervision of the external relationships and the internal management of the Panama Canal and its adjuncts. In addition, the Staff Assistant supplies needed information; unhampered by duties of administration or execution, he studies and recommends to the Secretary the necessity for concentrated attention upon those problems which require the attention of the latter.

WASHINGTON OFFICE OF THE PANAMA CANAL

The Washington office was established in 1904 for the convenient execution of the Canal's business. The present establishment was created by an Executive Order of March 2, 1914, which provided that "the Washington office of The Panama Canal shall be the headquarters and the principal office of the Purchasing Department of The Panama Canal." The office is located in the Munitions Building, some distance from the War Department. It handles all purchasing, administrative, and appointment matters relating to The Panama Canal. The Chief of Office reports to the Governor of The Panama Canal

on the Isthmus and to the Secretary of War in Washington; in practice he is almost exclusively the agent of the Governor. The Panama Canal is not a part of the War Department, but is, by direction of the President, under the personal supervision of the Secretary of War. It is important to keep this distinction clearly in mind.

The Chief of Office keeps close watch of all legislation affecting The Panama Canal or the Panama Railroad Company. The Governor considers him his agent in the United States and transacts most of his business with Washington through the Chief of Office as intermediary. When the proposal has been made that all of the duties affecting The Panama Canal should be consolidated in one office under the immediate jurisdiction of the Secretary of War, the move has been objected to very strongly by the Governor. The disadvantage in the present set-up is that the sources of information are complicated by the existence of two channels in Washington, both dealing with Panama Canal bnsiness; and hence administrative guidance of Panama Canal affairs is probably more difficult than it would be under a consolidated plan. On the other hand, the files of The Panama Canal office in Washington are always open to the Secretary's advisers, and the Chief of Office is always glad to supply data which are needed or desired. Moreover, the Washington office is primarily a routine agency; it transacts a great deal of detailed business which could not be transferred conveniently to the immediate jurisdiction of the Secretary of War. Purchasing operations alone amount to $3,500,000–$6,000,000 a year. If all purchasing activities were turned over to the Panama Railroad Company (a possibility which will be discussed), then it might be desirable to unify the Canal's business in Washington and to draw it more closely under the Secretary's supervision. On the other hand, the Washington office of the Canal is a symbol of the semi-independent existence of The Panama Canal and of the Governor's undivided authority. It gives The Panama Canal a *locus standi* in Washington comparable to that of a government-owned corporation. If its

affairs were to be too meticulously ordered by the Secretary of War, the net result would unquestionably be decreased administrative efficiency. A strong man in the Governor's chair will refuse to be a marionette.

THE FUNCTIONS OF THE GOVERNOR

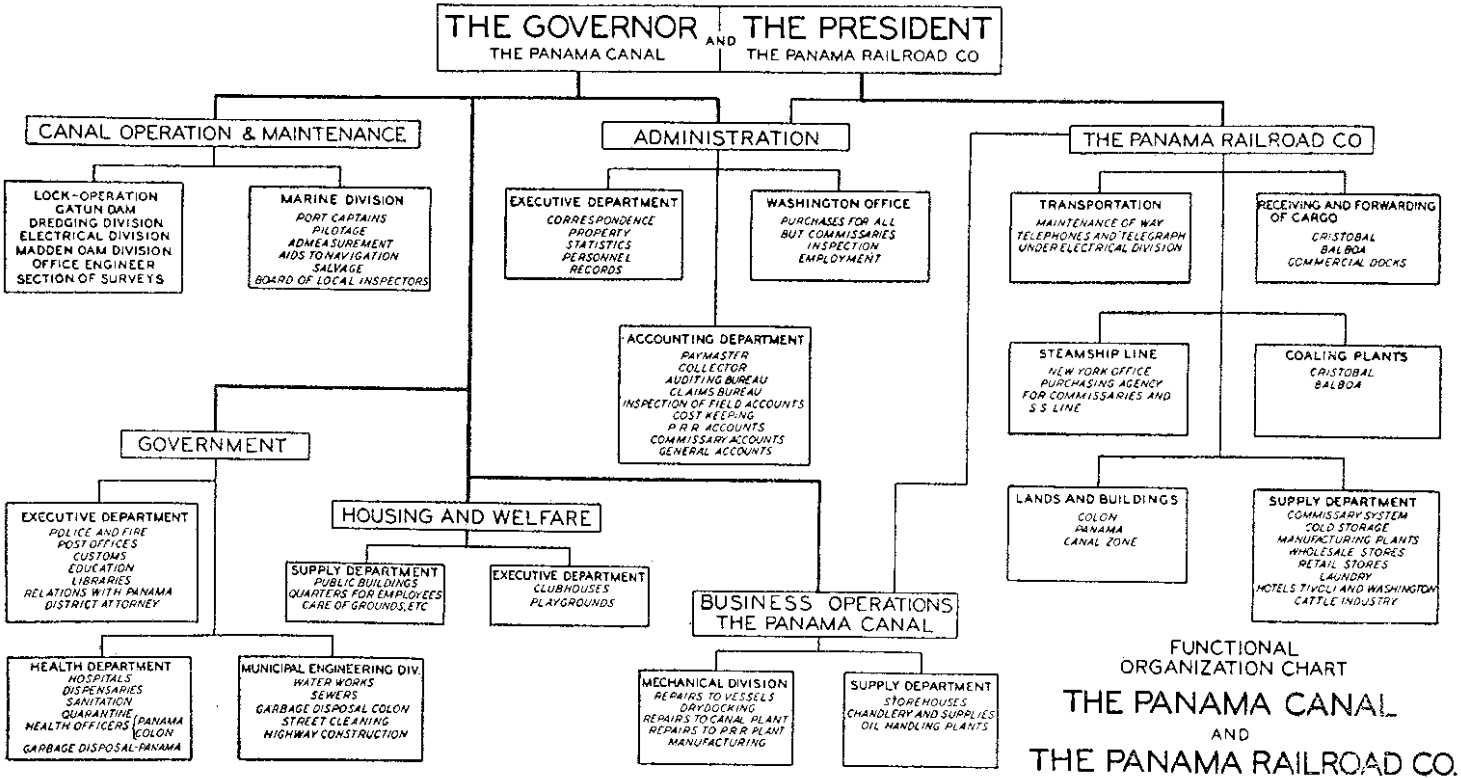
The Governor has real power. He is the ceremonial head of the Canal Zone, the executive of the civil government, and the responsible chief of operations of both the Canal and the Railroad on the Isthmus. The Governor of the Canal Zone, as has been said, also fills the office of President of the Panama Railroad Company. The functional analysis of the Governor's powers is disclosed by Chart I. The Governor is in reality the general manager of the Canal-Railroad establishment; he is the directing head of the utility services.

The 1921 Commission proposed that the Engineer of Maintenance (or a man from civil life) should be made the General Manager of a large part of the Canal-Railroad functions in order to relieve the Governor of some of his load.[5] The Governor did need relief and has adopted the idea to the extent of relieving the Engineer of Maintenance of most of his routine duties so that he could be the Governor's assistant. But the Governor is still weighted down by a mass of detail. All matters of any importance (and some matters of little moment) still pass over the Governor's desk for action. Canal Zone administration is highly concentrated, theoretically at least.

The office of Governor depends very largely upon the personality and the desires of the person occupying it. His duties are not outlined in detail by an act of Congress. The Panama Canal Act of 1912 contains the broad provision that the President is authorized to operate the Panama Canal and to govern the Canal Zone "through a governor of The Panama Canal," who is to "have official control and jurisdiction over the Canal Zone and shall perform all duties in connection with the civil

[5] *Report: Special Panama Canal Commission* (Washington: U.S. Government Printing Office, 1922), pp. 15, 56.

CHART I



FUNCTIONAL
ORGANIZATION CHART
THE PANAMA CANAL
AND
THE PANAMA RAILROAD CO.

government of the Canal Zone. . . . ." Further, by Executive Order dated January 27, 1914, it is provided that the organization for the operation of the canal and for the government of the Canal Zone shall consist of a number of enumerated departments and that all of them are "to be under the direction of the Governor, subject to the supervision of the Secretary of War." On the other hand, since the canal was built certain general and special policies relating to administration have been developed, and every Governor has followed them in a large part of the management and in many of his decisions and actions. As a matter of fact, principle and tradition play a large part in administrative services headed by executives chosen from the Corps of Engineers.

The Governor holds office for four years, and thereafter he, an Army engineer, is transferred to some other post. Every Governor to date has come to the position with four years of practical experience in the Zone as Engineer of Maintenance. The present Engineer of Maintenance was also Assistant Engineer of Maintenance, giving him seven years of experience prior to his eligibility for the Governorship. Governors of The Panama Canal have had the immense advantage of going into office knowing a great deal of what it is all about.

The Governor must perform a variety of functions. Part of his time is consumed by social obligations. Sooner or later, it is said, every person of importance passes through the Canal Zone, and this is usually the occasion of a greeting or a reception by the Governor. A considerable portion of the Governor's attention must be devoted to the subtleties of attempting to carry on friendly relations with Panama. Then, again, the Governor must give his attention to the civil government of the Canal Zone. This duty entails burdens which are comparable to those of the mayor of a fair-sized municipality. In recent years expenditures for civil departments have amounted to around $1,000,000 per annum.[6] This burden has largely devolved upon the Executive Secretary, who administers most of

[6] *Annual Report: Governor of The Panama Canal* (1933), pp. 94–119.

the local services, and the Assistant Engineer of Maintenance, who is responsible for the Municipal Engineering Division.

The three responsibilities which have been mentioned, social, extramural (including relations with Washington as well as with Panama), and civil government, constitute a considerable burden. In addition, the Governor assumes the active management of the Canal-Railroad establishment. The historical explanation of the Governor's attention to detail is easily found. Construction tasks, the purely engineering functions, were originally the all-important features of Canal Zone administration. That is why an Army engineer first became Governor. Afterward there was danger of fresh slides in Culebra (now Gaillard) Cut, a great deal of dredging was necessary, and new construction was taking place. A first-class engineering job is in progress at Madden Dam at the present time, for that matter. But it is important that we should not fail to see that the technical side, the engineering function, has grown constantly less in the sum total of Canal Zone management. Today the principal consideration is what may be called "operating" engineering as distinguished from "construction" engineering.

FUTURE OF GOVERNOR'S OFFICE

The fundamental requirement of the Governor nowadays is that he should be an administrator—a person of comprehension, co-ordinating genius, tact, leadership, personality, initiative. In some quarters it has been asked whether the governorship requires an engineer at all. Why should not the Secretary of War recommend an officer with a flair for administration, even though he be in the infantry or the coast artillery? The writer sees the theoretical support of this argument but is convinced that the present system of choosing and promoting Army engineers is the best rule and that it should not be interfered with. The Corps of Engineers of the War Department is an exceptionally accomplished group of men. They are thoroughly trained before going into the service. In river and harbor work they get a great deal of widely varied experience.

As a class they are aware of the importance of the art and science of administration—as is the Army generally, to a more marked extent than any other service in the United States government. Moreover, the engineers know more about the management of public utility undertakings than does any other group in the War Department. Since about three-fourths of Canal administration is concerned with public utilities, the War Department engineer is clearly the person for the job.

The future success of the existing system of recruitment and selection for the governorship would seem to depend upon whether or not a man of native ability can be given sufficient opportunity to develop the qualities which he will need as Governor before going into the office himself. These qualities, such as the ability to co-ordinate administrative services, success in delegating responsibilities, effectiveness in dealing with the public and with political agencies, are not necessarily acquired in the life of the average practicing engineer. But officers in the Corps of Engineers do have exceptional opportunities in this regard, as an examination of the life-histories of the present and former Canal Zone executives clearly shows. Outside of their military experience officers of the Corps of Engineers by the time they reach the age of the Governor generally have had many years in responsible charge of administrations, large and small, performing a variety of tasks, meeting the business and political public, and acquiring a general executive and administrative viewpoint and experience. Moreover, it is believed that the process of apprenticeship developed in the Canal Zone supplements this opportunity very satisfactorily. When the Governor is away, as he must be at least twice a year when he appears before a Congressional committee, the Engineer of Maintenance becomes Acting Governor, and many of his detailed duties are shifted to the Assistant Engineer of Maintenance.

The Special Panama Canal Commission of 1921, as we have stated previously, recommended that a high-powered business executive should be imported to run the Canal-Railroad estab-

lishment as General Manager. Such a plan seems neither necessary nor desirable. The type of men who have guided the Canal could command in private life the $25,000 which would probably be paid to the business executive. Besides, they have been imbued with the public service philosophy, and they have attached a great deal of weight to the interests of employees living in the Canal Zone. These things could hardly be expected of the hard-boiled business man who, if the recommendation of the 1921 Commission were put into effect, would be sent to the Zone to squeeze out every dollar of profit he could get.

The idea may have occurred to the reader that, even though the importation of a General Manager from the outside appears to be inadvisable, the Engineer of Maintenance should be definitely given the responsibility for general management. Such is the relationship which usually exists between the president and the general manager of a private corporation. It may be argued that the Governor should confine his attention to general matters of policy arising in the operating services and leave the supervision and control of the economic services to the Engineer of Maintenance, who would fulfil the functions of a general manager. In further support of this position it may be said that the Governor should be freed from managerial duties in order that he may devote more attention to relations with Panama, to dealings with Washington, to matters of civil government, and to obligations of an official character. In theory this sounds like a wise division of functions.

Because of the peculiar circumstances of Isthmian administration, however, the creation of a separate office of General Manager—apart from the Governor's office—appears to be impossible and undesirable. If integral parts of the Isthmian organizations and functions were turned over to a real General Manager (i.e., one who had independent control over the operating services), it would lead to duplication, lack of co-ordination, lost motion, and extra effort. The Governor alone is responsible to the government of the United States. The high-

er decisions, management, and responsibility required of a real general manager must always attach, under the present set-up, to the Governor-President, or otherwise he would become merely a figurehead.

What is possible, and what may be recommended, is that the Engineer of Maintenance, as the Governor's assistant, should be intrusted with the principal part of the detailed supervision and control over the operating services. The best solution of the problem appears to be in the general sharing of executive authority by the Governor and the Engineer of Maintenance; in practice the subdivision of duties will depend inevitably upon the individual abilities, methods, and preferences of the two men. As a rule, the Engineer of Maintenance needs his first year of duty in order to grasp the local detail and background required in the efficient operating direction of affairs. The fact that either the Engineer of Maintenance or the Governor is absent one-third of the year is also a factor supporting an elastic division of responsibility. The existing relationship is just such an elastic one, and, with the further extension of the policy of devolving a greater part of the managerial detail upon the Engineer of Maintenance, it is thought that the problem of overhead control is working itself out satisfactorily. In order to emphasize the executive nature of the Engineer of Maintenance's function, and in order to provide a title of office which is more appropriate to his duties today, it is suggested that the designation, Engineer of Maintenance, be changed to Lieutenant-Governor. This title is appropriate inasmuch as the Governor's Assistant has invariably succeeded him as Governor, and should continue to do so.

OVERHEAD CONTROL OF ADMINISTRATION

The executive control over the Panama Railroad is bifurcated; operations in New York are carried on by the Vice-President whereas administration on the Isthmus is directed by the Governor and the Engineer of Maintenance—President and Second Vice-President, respectively, of the corporation.

The Vice-President of the Panama Railroad Company, a civilian, is appointed by the Board of Directors and holds office during an unlimited tenure. The present incumbent has been with the company for forty-six years, having begun his career as a messenger.

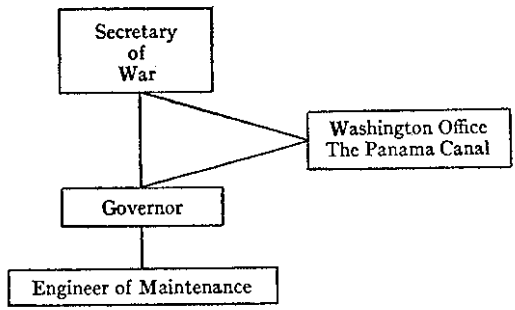
The Vice-President performs most of the duties of a general manager in a private corporation. The Board of Directors looks to him as the chief executive of the corporation and expects him to see to it that the corporation earns a satisfactory profit each year and that its affairs are handled efficiently. Yet the Isthmian services are not under his immediate control but are solely subject to the direction of the Governor-President. This is one of the anomalous features of the existing organization and relationship. The Panama Railroad Company does not have an autonomous administrative organization or unified executive direction.

There is a General Manager of the Railroad, located on the Isthmus, but his jurisdiction applies only to part of the services owned by the Railroad, and he reports to the Governor's office just as does the head of any other department. True, the General Manager is charged with the general responsibility of looking out for all of the Railroad's interests, and he carries on frequent correspondence with the Vice-President in New York; nevertheless his independence and real power are very limited. He is appointed by the Governor rather than by the Board of Directors of the Railroad, and his jurisdiction is confined to railroad operation, steamship interests on the Isthmus, receiving and forwarding, wharves and piers, the coaling station, the baggage transfer, and the Colon stables. The General Manager does not even handle all of the work which customarily falls within the operating division of a railroad; roundhouses and car inspection are under the Mechanical Division, and the electric-signal system is under the Electrical Division of the Canal. In addition, several of the services owned by the Railroad are managed by Panama Canal staff; these include the commissaries, the telephone system and elec-

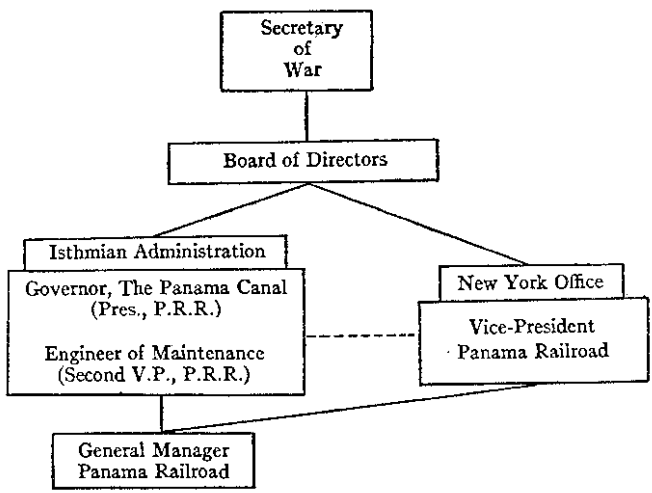
CHART II

OVERHEAD CONTROL AND INTERRELATIONS, THE PAMANA CANAL AND PANAMA RAILROAD COMPANY

a) The Panama Canal



b) Panama Railroad Company



tric clocks, the cattle industry, the dairy farm, and the plantations. Finally, as will be explained, all of the Railroad's "staff" needs on the Isthmus—including accounting, the health service, the personnel bureau, the supply department, the correspondence division—are supplied by departments of The Panama Canal, and the Railroad is charged a pro rata share of the overhead.

In the New York office, on the other hand, all of these functions are controlled by the Vice-President. Hence, the Panama Railroad Company can be compared to an animal having a head and a body; the head (New York office) is directed from the brain (Vice-President), but the body is controlled from another part of the body, namely the Governor and the Engineer of Maintenance of The Panama Canal (President and Second Vice-President of the company) residing on the Isthmus. Chart II may help to explain the situation.

Not only is the relationship between the Panama Railroad Company and The Panama Canal complex, but the organization of the administrative services in the Canal Zone is also complicated. The number of independent units would seem to militate against effective integration and control by the Governor and the Engineer of Maintenance. The present administrative organization is fundamentally a historical accident—the result of a gradual process of accretion. Very few alterations of organization have been made in the last thirty years, and these have been minor ones. Are changes in administrative reorganization necessary? The problem will be analyzed and an attempted solution will be offered in chapter x, wherein a chart of the existing departmental organization will be found.[7] The chapters which follow immediately will attempt to bring to focus the principal problems of the operating services and their relationship to overhead organization and general administration.

[7] See *infra*, p. 227.

CHAPTER IV

THE PANAMA RAILROAD

HAVING provided a general background for the study, and having just analyzed some of the principal problems of organization and control, the central portion of the book will be concerned with the principles and problems of the government-owned Panama Railroad Company and its financial and administrative relationships to The Panama Canal. We shall begin with the original unit of the company's services, the railroad line itself, and analyze the principal difficulties confronting it. Following that, we shall deal with the Railroad Company's steamship line, also one of the earliest parts of the organization and one that, like the railway, is beset by many current and prospective difficulties. Then we shall want to deal with the principal ancillary services, the profitable but much-criticized commissaries, the manufacturing units, and the other sources of the Railroad Company's revenue. Having then obtained a knowledge of the more important utility services, we shall be better prepared to deal with the principal administrative problems growing out of the study. Some of the important ones are the division of financial and administrative responsibility between the Railroad and the Canal, the organization and policies of the financial establishment, problems of personnel management, the organization and methods of the purchasing units, administrative reorganization, and the principles which should control the conduct of the government-owned Panama Railroad corporation.

ECONOMICS OF RAIL TRANSPORT ON THE ISTHMUS

From the standpoint of financial stability the future of the railway line is clearly the most important problem confronting the company today. It represents a fixed-capital investment of $11,413,571, or one-third of the corporation's total assets.

So long as the railroad maintains its monopoly of land transportation across the Isthmus, there is no question but that it can operate profitably. Of course, during the present depression its business has been severely curtailed, as has been the case with all classes of business throughout the world. Fortunately, during the last two years it has received the benefit of the traffic due to the construction of Madden Dam and has therefore made more profit than would otherwise have been the case in these depression years. However, the fact that the road is still in good earning condition is attested by the fact that in the first six months of the fiscal year 1933 the railroad made a profit of more than $70,000 exclusive of the Madden Dam freight. Assuming that present conditions will continue, therefore, the future condition of the railroad line seems assured.

In years to come, though, the monopolistic feature of the railway's land transportation across the Isthmus may disappear. If a motor highway is built parallel to the railway line, what will be the effect upon the railway's income? This is a matter to which Canal Zone officials are keenly alive, but they feel that there will be time to meet the situation if and when it arises. It would probably cost between $2,000,000 and $3,000,000 to build a first-class highway across the Isthmus. If an inferior type of road is built, the competition from trucking naturally will be very small. Moreover, from the standpoint of the economics of the problem, it is important to note that in normal times about 57 per cent of the freight business and 52 per cent of the passenger traffic are governmental and can be controlled. Tourists want to see the Panama Canal and will, in all probability, still ride on the railway. Furthermore, factors of safety, security, and dependability will operate in the Isthmus more heavily than in the United States.

But this does not mean that the results of road competition can be ignored. Two things need to be done right away, and they are being taken care of. In the first place, the efficiency of the present railway system must be improved to the fullest ex-

extent; and, second, methods of meeting possible competition should be worked out in advance.

The main line of the Panama railroad from Colon to Panama is less than 48 miles, but it travels through a dense jungle much of the way and across a high fill in Gatun Lake for another considerable distance. The road reaches a summit about halfway across the Isthmus, at which point the elevation is 263 feet. The canal is not far distant from the railroad all of the way, but it is visible less than half of the time. The total length of line maintained by the railroad is 145 miles; Panama Railroad tracks account for 102 miles, while The Panama Canal owns 37 miles and the United States Army 6 miles.

Throughout a large part of its history the Panama Railroad Company was the busiest road in the world for its size. This observation was particularly true, of course, during canal-construction days, but during the entire period prior to the opening of the canal the railroad did an enormous business. Its principal source of revenue was the trans-shipment of freight across the Isthmus; cargoes would be deposited on one side of the Isthmus by ships and picked up on the other side by connecting vessels. By developing its harbor facilities and by speeding up its hauls, the company developed a highly remunerative business in freight and passengers destined for the west coast of South America and the two coasts of the United States.

With the opening of the Panama Canal to commerce, the Railroad Company's transshipping business melted away. It might appear at first thought that there would still be a certain amount of transshipping; there are many ships that do not transit the canal but, instead, put in at Cristobal and discharge and receive cargo bound for or coming from west-coast ports. The railway does not get this business, however, because the small coasting vessels that cover the Central and South American ports find it possible to pass through the canal and put in at Cristobal, and then again transit the canal in order to get back to the regular routes, at a rate less than that which the railway charges. This has become a lucrative business for small

ships because canal tolls are computed on the basis of cubical measure.

The main business of the road is the hauling of maintenance supplies for the Canal Zone. The bulk of these shipments originate in New York, while most of the operating services in the Zone are located on the Pacific side. Hence, it is necessary to haul a large proportion of all shipments destined for Zone use or consumption over the entire distance of the railroad.

The Panama railroad is the only connecting link overland between Colon and Panama City, the two largest cities in the Republic of Panama. Hence, the line is used by Panamanians to a considerable extent, both for passenger travel and for freight. The local traffic supplied by Panama also furnishes a certain amount of business for the railroad. On the shores of Gatun Lake, forming a boundary between Panama and the Canal Zone, several native villages have grown up. In addition to these villages and their surrounding territory there are numerous small holdings of land along the line of the railroad; these have been leased to native and other Canal laborers largely as an offset to unemployment. A large proportion of the local traffic is lost, however, because it is now handled principally by a combination of truck and launch.

Tourist travel is another revenue-producer for the railroad. During the winter months, especially, many ships dock at Cristobal and do not pass through the canal. Sightseers travel across the Isthmus to the Pacific side, and usually they make the round trip by rail, although a few do return by airplane. These trips are usually handled by tourist agencies, which provide an opportunity to see the locks in operation, to shop in Panama, and to patronize the Railroad Company's hotels. The Panama Railroad Company co-operates in every way with these tourist agencies, employing special trains when the number of passengers is sufficient and also providing motor-driven cars for smaller parties.

The railroad also performs an essential service in the transportation of Canal employees who are stationed at various

points along the canal and are engaged in maintenance and operation. Parties of workmen can be moved from one part of the Isthmus to another, thereby reducing the overhead expense of maintaining permanent settlements in the interior. A large proportion of the passengers on the morning and evening trains operated by the Panama Railroad Company are employees of either the Canal or the Railroad. The road is also indispensable to the Army in moving men and supplies between the terminal points and the eight permanent posts situated at different places on the Isthmus.

RATE POLICIES

The railway's place in the Isthmian organization has become analogous to that occupied by a railway line operated by a large steel company; it is primarily a local carrier used as a link in a larger industrial process, but it still retains something of the character of a public carrier. This situation creates a complex problem, particularly when the effort is made to evaluate rate policies. A common carrier in the United States is subject to the regulations of the Interstate Commerce Commission and must conform to national standards relative to rate bases and charging practices; the Panama railway is not controlled in this manner. The factor of competition does not operate. The conditions of Isthmian transportation are so different that comparisons with railway practices in the United States are usually hazardous or unfair. Hence, it is difficult to choose satisfactory criteria for judging the rate policies of the Panama railway, and there is bound to be room for a great deal of unavoidable difference of opinion.

It will be generally agreed that the Isthmian railway is a common carrier rather than merely a local service existing for the purposes of the canal and the Zone. About one-half of its business comes from sources outside of the Canal Zone and its enterprises. Hence, in considering rate bases and charging practices, we must take the interests of traders and the traveling public into consideration. This is where we begin to run

into difficulties. Is it justifiable for the Canal-Railroad establishment to charge itself less for freight and passenger transportation than it charges others? If so, what is the justification for establishing rate differentials? So long as the railway line makes profits on its existing rate base, is there any ground for criticism of its rate policies? Or can we say, when the railroad is operated economically and when no service is rendered below cost, that the various rates should secure the maximum business from each rate and produce the net profit desired? This is said to be the present policy of the administration. But its difficulties are instantly obvious. How do we know when the railway is operated economically; can the cost of an individual service be accurately measured in practice; and how can we tell when the maximum business is being secured from each rate? These suggested tests hardly provide a definite principle upon which to build a rate base.

The Panama railroad charges full commercial rates on the freight and passenger business of outsiders and on a small proportion of its own freight; on the rest of its own transportation and on Panamanian agriculture and Army and Navy business it allows substantial discounts. It may be seen, therefore, that tariff rates are charged on only 30 or 40 per cent of the railway's business. The first-class passenger rate is 5 cents per mile, or $2.40 for the forty-eight-mile trip across the Isthmus; the second-class fare is $1.20. Freight rates have been divided into six schedules, following the general classification worked out by the Interstate Commerce Commission; the sixth class pays 20 cents a hundred and the first class 50 cents a hundred.

It will be observed that these rates are higher than corresponding ones in the United States. On the other hand, the tariffs compare favorably with those of other Central American lines. In 1933, for example, the average revenue for passenger transportation on the Panama railroad was 2.37 cents per mile, whereas the railroads in Ecuador, Nicaragua, and Venezuela charged from 4.34 to 4.97 cents per mile. Compari-

sons of this kind are interesting, but they do not prove very much. We should expect the Panama railroad line to be conducted more efficiently than other Central American roads (the Isthmus gets more traffic to begin with), while comparisons with railways of the United States are usually unreliable because of natural differences in density of traffic, in original construction costs, and in maintenance and operating expenses. Moreover, is it not natural and justifiable that the Panama railway line should, to a certain extent, take advantage of its monopoly?

Studies which have been made of railroads which have encountered financial difficulties sometimes reveal that the railroads' plight is attributable to a policy of granting free passes and discounts of various kinds. The Panama railway does all of these things but has managed to make money. However, it may be asked whether full tariff rates are not as high as they are, in part at least, because of the existence of passes and discounts. Would the Interstate Commerce Commission permit the present policy of giving passes and of allowing discounts? It is recommended that the present rate structure and financial practice be carefully re-examined with these ideas in mind.

One feature of the present system is seemingly unavoidable. A treaty provision requires the Panama Railroad Company to supply officials of Panama with free passes on the railway. Cabinet officials and police officers are the principal beneficiaries of this concession. A stipulated number of blank passes is issued to the government of Panama, and it in turn distributes them. Difficulties have naturally been experienced with the transference and sale of passes. The total number of passes granted to Panama is now over twenty thousand each year.

Panamanian agriculture enjoys the benefit of a treaty provision which states that native produce shall pay only 50 per cent of the full rate on the Panama railroad. These concessions are part of the original franchise price, of course; but the system is thoroughly bad from the standpoint of business management. This conclusion is confirmed by experience elsewhere

with such concessionary agreements. It is recommended that a more business-like form of payment be substituted for the existing arrangement as soon as the two countries can agree to do so.

Up until ten years ago the Army made an annual lump-sum payment to the Railroad Company for expenses involved in transporting troops and supplies, but this payment has since been discontinued. The value of such service at the government rate will approximate $20,000 per year. In defense of this policy it is said that the Army has lacked funds for the purpose, and that even if payment were made it would merely mean transferring money from one pocket of the government into another. The latter argument will be examined in just a moment.

The Panama Canal pays full commercial rates on only a small percentage of the freight shipped on its account. Other payments are in the form of lump sums. For example, the Commissary Division pays the Panama Railroad Company a lump sum of $10,000 a month for overland freight services, irrespective of the total number of tons transported. The amount has not been reviewed or adjusted since 1925. When the figure was first fixed, the sum arrived at probably represented the true value of the service, but it unquestionably does not today. The Canal Zone administration clearly needs to have another adjustment made and should not permit so much time to elapse before another lump-sum computation is ordered.

The Panama Canal, as a whole, is given a rate that is lower for important classes of freight than the full commercial tariff. The Army and Navy are also given these reduced rates. The principal discount to the Canal is on maximum freight-car loadings of $100. Inasmuch as most of the Canal's freight requirements are for construction and engineering purposes, this is the schedule that makes a really important difference. The Canal's freight payments to the Panama Railroad Company have fluctuated from about $12,000 a month to as high as $40,000 a month during the construction of Madden Dam.

The same sort of situation exists so far as passenger traffic is concerned. The Panama Canal pays the company a lump sum of $10,000 a month for all of the passenger service required of the railroad, whereas it would have paid $12,000–$17,000 a month in recent years if the regular tariff had operated. The Canal also issues unlimited passes to persons engaged on official business, and this privilege is likewise accorded to the higher officers of the Army and Navy. Reduced rates are also given to the ordinary personnel of The Panama Canal, the Panama Railroad, and the Army and Navy, even when not engaged on official business. For the trip from Panama to Colon the first-class employee rate is $1.45 instead of $2.40, but no reduction is made in the second-class rate.

The facts of the existing situation have been gone into with some detail in order to bring out more clearly the fundamental policies involved. Three major issues arise, namely, the justifiability of discounts, the use of lump-sum payments, and the policy of not charging other government departments on the ground that it is merely a bookkeeping transaction.

Should the policy of granting discounts to the Isthmian services be continued? From the standpoint of business practice, this policy probably should not be permitted, and if the Interstate Commerce Commission had jurisdiction, it clearly would not be allowed.[1] The practice is discriminatory in that it involves the payment of higher rates by other users of the service in order to meet the total financial requirements of the company. On the other hand, it is argued that the discounts represent service at cost and, also, that this policy is justified in the case of the railroad because it is not called upon to pay taxes and certain other items of commercial expense. A policy

[1] Under the terms of the Interstate Commerce Act, as administered by the Interstate Commerce Commission, a common carrier railroad owned by an industry must charge the same rates to the parent-industry as to all other shippers served by that common carrier (Interstate Commerce Act of 1887, 24 U.S. Stat. 379, §§ 2 and 3, as amended by the Hepburn Act of 1906, 34 U.S. Stat. 584; I. L. Sharfman, *The Interstate Commerce Commission* [New York, 1931], I, 21, 42; II, 152–53).

of cost plus a slight differential might be justified if the difference between the reduced rate and the full commercial rate were very small.

Payments in the form of lump-sum remittances are not necessarily objectionable. In contrast with measured payments, they save a great deal of bookkeeping, time, effort, and expense. Criticism is justified, however, when periodic alterations are not made, thereby causing a discrepancy between the charged value of the service and the payment made.

The remaining issue is a basic one, and we shall run up against it many times. Why charge all a service is worth, or why charge at all, when the government of the United States assumes the financial burdens and pockets all of the profits? Why should one service bill another for work done when the transaction is merely a bookkeeping one? The answer is that an accurate financial picture is the best method of judging the efficiency and success of an economic service; and when the enterprise happens to be a corporation which supposedly operates on the same business principles as private enterprises, the necessity of strict accounting is even greater. The policy can be carried to an extreme, but as a rule it is applied too infrequently rather than too meticulously.

The financial showing of the railroad has been satisfactory, the total net revenues for the thirty-year period 1903–33 amounting to $16,504,194. The net revenues from railroad operation fell from $705,330 in 1903 to $123,924 in 1933, the high-water mark of $1,453,803 having been reached in 1912. In only one fiscal year, 1921, was there a deficit. From 1908 to 1914, inclusive, net revenues of over $1,000,000 were earned each year. As might be expected, there has been a downward tendency in recent years.[2] But on the whole there is no ques-

[2] The net revenues from railway operations since 1922 are as follows:

1922	$165,632	1928	$329,768
1923	160,883	1929	338,668
1924	76,698	1930	302,355
1925	182,068	1931	157,052
1926	130,811	1932	56,588
1927	331,910	1933	123,924

tion that, in comparison with most other railways, this is a very satisfactory financial record. In connection with the future financial prospects of the railway, however, two points need to be noted. The first one is that for many years the railroad proper has earned far less than the average earnings of the corporation as a whole. The second important observation is that the railway's net revenues have been declining rapidly and that in all likelihood the railway's sources of income will be curtailed in the future. The Madden Dam business will come to an end; competition by road seems likely; an airplane line operating across the Isthmus has already cut into the railroad's passenger revenue. Will there come a time when other services will have to make up deficiencies resulting from railroad operations? One possible means of providing for this contingency is to develop new sources of revenue for the Panama Railroad Company; it is likely that this will be done. But at the same time the efficiency of the railroad organization should be improved as much as possible and the railway's service should be made as attractive as possible in order that the line may compete with rival forms of transportation. Studies along this line have already been initiated by the Engineer of Maintenance. It is the purpose here to examine some of the problems and some of the possible lines of development, with attention focused upon the economic and administrative factors rather than upon the engineering and operating ones.

RAILWAY MANAGEMENT

Administrative changes in the organization of the railroad have undoubtedly improved the efficiency of Isthmian management in recent years. The creation of the office of General Manager of the Panama Railroad Company by Governor Burgess in 1931 was clearly a move in the right direction. Prior to this change the chief operating official of the railway was called Superintendent, and his powers and duties were more limited than are those of the General Manager at present. A former Auditor of The Panama Canal was commonly referred to as the real manager of the road. With his present powers

the General Manager has control over everything pertaining to the management of the railroad proper except roundhouses, car inspection, electric signals, and the issuance of passes, and there appear to be good reasons for not having made these transferences. Creating the position of General Manager has had a beneficial effect in many directions. The morale of the organization has been improved; there is someone who is a real boss and who is looking out for the company's interests. Operating costs have been gradually reduced along certain lines, although further improvements clearly need to be made. Moreover, the General Manager has been alert to see that the railroad is not overcharged by Canal divisions, such as the Mechanical Division, which do work for the road. The most he can accomplish in this direction, however, is to get the Governor's approval of maximum expenditures upon (say) car repairs and other service charges which lie outside of the General Manager's supervision. Within the last two years, expenditures on rolling-stock repairs, as supplied by the Mechanical Division, have been reduced from $27,000 to $15,000 per month.

Very little weight can be attached to comparisons of operating costs and statistics as between the average of railroads in the United States and the Panama railroad. However, some months ago the Canal administration initiated a thorough study and comparison of all phases of the railway's operation. This was done with a view to checking up on present methods and policies for the purpose of developing all possible retrenchment in order to meet present or future reduced traffic. Final conclusions are not yet available in all cases. The following are some of the tentative results which have appeared and some of the questions which are being considered.

The Panama railroad apparently has a superfluity of rolling stock, particularly of engines and of freight cars. For years it has been the policy to "set out" freight cars which were old and which needed extensive repairs. The percentage of engines and freight cars still in use, as compared with the average number

on a mile of road in the United States, is high. This is to be expected because the equipment needs are greater on a short road, especially when (in contrast to the United States) an interchange of rolling stock between lines is impossible. The recent "setting out" of 20 per cent of the Panama railroad's cars is clearly a further step in the right direction. Why keep cars in first-class condition when there is no present use for them and when future needs would appear to require further reductions? The possibility of slides temporarily closing the Panama Canal and hence diverting a heavy burden to the railroad is no longer seriously considered. Also, the necessity of having on hand in case of war a surplus of rolling stock does not justify an extravagant oversupply of railway equipment during peace times. If military necessities require it, a motor highway should be built as a supplementary artery of communication.

A possibility that may have to be considered in the future, and one that probably should be given attention anyway, is the writing-down of the railroad's capital account. Ample precedents for such action may be found in both public and private enterprises, and the railroad has already paid for itself many times over. If gross revenues should steadily decrease while operating expenses remain constant, an adjustment of the railway's capital assets would appear necessary. One factor favoring this course of action is the fact that large sums for deterioration and replacement are carried on the accounts of the railroad proper even when, as in some cases, it is definitely known that the equipment (e.g., freight cars) will never be replaced. In several cases depreciation accounts are completely matured, while in other instances items are overdepreciated on the basis of their original cost (which, ordinarily, was higher than present costs). Irrespective of the justifiability of this procedure as a sound financial practice, it does appear that sums thus accumulated for renewals might be diverted to some other purpose and that this might be a possible means of reducing the capital account.

Studies which have been made in the Canal Zone show that the total operating ratio of the Panama railroad is high compared to the average of railroads in the United States. Comparisons may be misleading because of the radically different conditions, but general inferences may be fairly drawn on certain subjects. In 1931 the operating ratio of the Panama railroad was 90.7 per cent, while that for the United States was 77.0 per cent. In that year the fixed capital charge at 3 per cent[3] was $300,517.20. To have met this amount the operating ratio would have had to have been 82.2 per cent.

Comparisons between the Panama Railroad Company and railroads in the United States are even more unfavorable to the former because, in addition to the high operating ratio of the Isthmian road, the Panama railroad's capital investment is very high. The investment per mile of road in 1931 was approximately $240,000 against about $80,000 for the United States as a whole. "The roadway," states a recent engineering report prepared in the Canal Zone, "amounts to 72 per cent of the capital investment, and its cost was abnormally high because of its forced location, on account of the canal, through the high, hilly country east of Gaillard Cut and at an unnaturally high level across Gatun Lake. It seems from the preceding that a part of the cost of the roadway could have been charged justifiably against the Panama Canal." However, this statement is somewhat misleading, because, as a matter of fact, when the capital accounts were adjusted in 1921 after the canal was open, this matter was taken into account and a fair division of capital cost was made between The Panama Canal and the Panama Railroad Company. The foregoing statement was not intended to show that an improvement in the ratio of the Panama railway could be made by an adjustment of the capital account but only to show the necessity of a low operating ratio. The operating ratio, of course, could be improved by

[3] This percentage is taken as the basis of interest on the investment for all business functions in the Canal Zone.

reducing the operating expenses or by increasing operating revenues.

A comparison between Class I steam railroads in the United States and the Panama railroad reveals that between 1927 and 1933 the average annual maintenance costs were $937 for the Panama railway line compared with $831 for the United States roads as a group. The entire difference can probably be accounted for by local peculiarities, such as the lower efficiency of tropical labor, the distance from source of supplies, tropical deterioration, and the use of less machinery on the part of the Isthmian railroad. If it were not for these differences in operating conditions, the maintenance costs on railroads in the United States should be greater because of heavier traffic. In 1931 the gross ton miles (freight and passenger) per mile of road were 5,030,000 for the United States and 2,110,000 for the Panama railroad.

The cost of owning and operating the electric-signal system is somewhat out of line with corresponding costs in the United States, but most of the difference is accounted for by differences in operating and maintenance conditions—conditions caused by the short length of the line and the effect of tropical climate. "It cannot be denied that the automatic block-signal system is expensive," said a former Assistant Engineer of Maintenance, "but the Panama railroad committed itself to this expense when the system was adopted, and there is no prospect of making any considerable saving at this time unless the system is abandoned and a less expensive one substituted for it." He concluded that electric signals are imperative under the conditions existing on the Isthmus. The railroad officials contend that the management of the electric-signal system should be turned over to them and that, if it were, the system could be operated much more economically; this conclusion appears to be extremely doubtful.

MEETING COMPETITION

As a means of increasing the attractiveness of the railway's service in case of stiff road competition, the possible electrifica-

tion of the road has been given some thought. For this purpose there is in the Canal Zone a large supply of electricity available at a low cost. Electrification would be the means of modernizing the railroad's equipment, but the capital outlay would be at least two million dollars. Would it pay? Electrification has been found economically justifiable to date only when there is a density of travel, where great speed is possible, and where trains need to be run more closely together than they are customarily on steam passenger lines. None of these factors operates in the case of the Panama railway line. The running time of one hour and forty minutes over the distance of forty-eight miles could not be safely increased very much without a considerable expenditure. However, when the shells of the present locomotive boilers need to be replaced, as they must be in eight or ten years, it would clearly be desirable to consider an alternative form of locomotion, either the Diesel engine or a motor-driven one. Perhaps this change should be made before that time arrives.

Service on the road is comfortable and reliable. The roadbed is exceptionally smooth. The fastidious tourist finds very little difference between the Panama railroad and the best American roads except wicker seats (necessary in a tropical climate) and oil-burning lamps in the railway carriages. These relics of the history of illumination are found even in the modernized coaches of the railway and are patently inadequate.

It has been suggested by some that the Panama Railroad Company should build the Isthmian motor highway and, by charging tolls, amortize its investment at the same time it protects its railroad franchise. This action would undoubtedly call forth the dog-in-the-manger accusation. A possible alternative is to have the road built by some other agency and then to operate an attractive bus service both as an alternative form of travel and as a feeder to the road. This plan appears to possess merit.

Another means of dealing with competition would be for the Panama Railroad Company to operate the Isthmian air serv-

ice, which at the present time is run by a private licensee. The service was commenced about two years ago and has been on a sort of sufferance basis, only a nominal license fee being received by the Canal Zone administration. The air service now makes an appreciable dent on railroad-passenger receipts. Agents of Transisthmian Airways are permitted to solicit passengers on Panama Railroad trains, encouraging them to turn in their return tickets on airplane transportation. The railroad refunds the full cash amount on any tickets so secured. During the past year two thousand dollars in passenger receipts were relinquished because of this practice. There appears to be no reason why the Panama Railroad Company could not operate the air service successfully as an adjunct to its transportation service on the Isthmus. There may be military reasons, as well, in favor of putting Isthmian air travel under public operation.

HARBOR-TERMINAL OPERATIONS

In addition to the operation of the railway line, the General Manager has under his control the receiving and forwarding of freight, the baggage-transfer service, the coaling stations, and the Colon stables. These duties fit into the general pattern of railway management, and this part of the properties owned by the Panama Railroad Company has been co-ordinated into an effective operating unit.

The Receiving and Forwarding Agency is one of the most profitable and one of the most reliable of the Railroad Company's activities. The major portion of the business is located on the Atlantic side at the Cristobal dock; the Pacific terminal at Balboa is also under the same management. Roughly 85–90 per cent of the cargo handling occurs on the Atlantic side. The Receiving and Forwarding Agent reports to the General Manager of the Panama Railroad.

The docks and piers of the Panama Railroad Company are probably the finest facilities for handling commercial cargo to be found anywhere in the world. The company has expended almost five and one-half million dollars on its terminals, the

major portion of the investment being on the Atlantic side. Needless to say, the permanent first-class construction adds to the overhead which must be carried.

The Railroad Company has the exclusive control of all docks and of the distribution of cargo for all parts of the world to the different steamship companies. The company possesses absolute control of the trans-shipment of freight from one line to another at the canal. Furthermore, the Receiving and Forwarding Agent is charged with the responsibility of segregating and dispatching freight for delivery by the railroad at points on the Isthmus. The net result is that no other steamship line is permitted to own or lease dock facilities at the Panama Canal and that no other concern may employ its own dock laborers to handle cargoes for delivery or trans-shipment.

The Panama Railroad Company becomes the custodian of all freight which clears at Cristobal or Balboa. The company separates cargo according to lands and ports, controls all employees on the docks, and accepts complete liability for freight received in sound condition. In addition, the company issues all manifests and documents for vessels under its agency. Finally, the Receiving and Forwarding Agent takes care of the sale of tickets on the docks when special tourist trains are run; the Receiving and Forwarding Agency is thus the connecting link between the railroad line and the steamship service. A good idea of the scope of harbor-terminal operations may be gained from the Railroad Company's latest *Annual Report*, which states:

> The gross revenue from harbor terminal operations during the fiscal year was $1,257,256.58, and operating expenses were $899,804.72, leaving a net revenue of $357,451.86 as compared with $286,379.97 in 1932, an increase of $71,071.89, or 24.8 per cent, for the year. The gross tonnage of cargo stevedored, handled, and transferred during the fiscal year amounted to 1,357,369 tons, as compared with 1,301,370 for the previous year, an increase of 55,999 tons, or 4.3 per cent. Cargo stevedored amounted to 331,241 tons during the fiscal year, as compared with 311,836 tons for the previous year, an increase of 19,405 tons, or 6.2 per cent.
>
> During the year "Hold for Order" cargo amounting to 10,979 tons was received and 10,948 tons were reforwarded and delivered locally, as

compared with 14,001 tons received and 14,886 tons reforwarded and delivered locally in 1932. The revenue for handling and storage amounted to $28,033.91 as compared with $37,159.87 for the previous year, a decrease of $9,125.96, or 24.6 per cent for the year.

During the year 3,593 cargo ships and 900 banana schooners were handled, as compared with 3,480 cargo ships and 1,020 schooners last year. Agency services were furnished to 197 vessels as compared with 192 in the preceding year.[4]

The charges made for receiving and forwarding are probably reasonable considering the liberality of treatment afforded to shipping companies. The rate for the conveyance of cargo from ship to ship, including thirty-five days' free storage, is $1.80

TABLE II

Year	Net Revenue*	Year	Net Revenue*
1921	$ 22†	1929	$404
1923	279	1931	328
1925	320	1933	357
1927	276		

* In thousands.
† Deficit.

per ton. The storage provision is extremely liberal, but its value is not so great as formerly. In this day of breakneck ocean transportation everything depends upon speed. Hence, the company's storage facilities, contrary to the situation a few years ago, are usually almost empty.

The financial results for representative years show the profitableness and consistency of the harbor-terminal operations (see Table II). Between 1921 and 1933 the average net revenue was $290,000 on an average net investment of $3,653,000, and the average percentage of profit was 7.8 on the net investment.

Shippers, particularly those in the United States, have leveled considerable criticism at the harbor-terminal operations of the Panama Railroad Company.[5] A large part of the com-

[4] *84th Annual Report: Panama Railroad Company* (1933), pp. 10–11.

[5] For a summary see Chester Leasure, "Our Unfair Government," *Nation's Business*, January, 1929, pp. 21 ff.

plaint is attributable to the organized campaign against government operation and also to the monopolistic character of the undertaking. Criticisms of high charges probably have some justification, particularly during the period of depression. It is suggested that a fresh survey of comparative charging practices be made and that ways and means of reducing rates be inquired into. The shipping world is in general agreement that the service rendered is satisfactory, and very few lines would look with equanimity upon the control of harbor-terminal operations at the Canal Zone by a private company or by any other private interest. It is incumbent upon the Panama Railroad Company, therefore, to see that its charges are as equitable as they can possibly be. The company should set the pace and beware of the temptation to take advantage of its privileged position.

THE COALING PLANTS

Within the last two years the coaling plants, which are located at the canal entrances on the Atlantic and the Pacific sides, and which are owned and operated by the Panama Railroad Company, have been consolidated with the Receiving and Forwarding Agent's department. Here we have a good example of what can be accomplished by administrative reorganization.

The coaling services of the Panama Railroad Company are almost as old as the company itself, and they made a handsome return on the investment until 1919. The principal fueling station for American ships in the Caribbean area was naturally located at the Isthmus of Panama. Ships of all countries transiting the canal found that, with the exception of the coaling stations in the West Indies, their only source of fuel was the Railroad Company's plants; and because of the fact that coal was purchased in large quantities and was duty free, the price was attractive. In addition, of course, the railroad's locomotives and other steam engines on the Isthmus have long been supplied from this source.

All went well until ships began to change from coal to fuel

oil boilers. Since that time and until recent months, the coaling plants have done a waning business; with the advent of the depression years and the altered exchange rates, the number of ships transiting the canal was greatly reduced, leaving the overhead represented in plant and equipment a deadening weight for declining revenues to carry. During each of the depression years of 1922 and 1923 the plants actually showed a deficit. Then, beginning in 1931 the company began to sustain heavy losses in this department, and the coaling plants came to be regarded as white elephants.

Consolidation and reorganization took place about this time. On October 1, 1932, the coaling plants, which had formerly been independently managed, were placed under the Receiving and Forwarding Agent. This was a logical move, because fueling stations are intimately connected with harbor-terminal operations. A reduction of staff took place, and some of the remaining employees were put at part-time tasks on the docks. The coaling plants have again begun to make money. During the first six months of 1933 they showed a profit of $27,000 as compared with a loss of $49,500 during the same period of the previous year! The slow improvement in world-conditions, it need hardly be said, cannot fully account for the rapid convalescence of the coaling plants.

MINOR SERVICES

The baggage-transfer service has always been a relatively unimportant part of the Panama Railroad Company's business. The gross revenue in 1933 amounted to only $10,000, involving a net loss of $736. The company has never intended to make baggage transfer a source of profit, but, with the exception of the last two or three years, it has usually produced a small net revenue. Several years ago the Railroad Company leased the baggage service to a contractor in Panama. The experiment was not successful, because of damage claims against the corporation for theft and careless handling. Another venture of this kind might prove successful, to be sure, but, on the other

hand, the company can very well handle the business itself—just as do some railways in other parts of the world. The Panama Railroad Company's ownership and control of the Colon stables is also a responsibility of the General Manager. The company built the concrete stables at a considerable expense when all wooden ones under Canal Zone control were confiscated as a health measure. So long as horse-and-buggy travel was popular the investment was a good one. The company still realizes a small annual profit on the rental of the stables, for that matter; but the petty administrative task of securing reliable lessees and of superintending the stables' condition is onerous. The relationship to the railway business is rather remote, although not entirely illogical. But as horse-drawn conveyances tend to disappear, the corporation's investment comes to be less secure. Less than half of the company's original investment of $95,000 has been amortized. If sanitary conditions can be safeguarded, it is undoubtedly the best policy to dispose of the property.

SUMMARY

The unification and reorganization of the transportation facilities coming within the jurisdiction of the General Manager of the Panama Railroad Company have helped to improve the efficiency of the services and has afforded a check on the charges imposed upon the corporation by Panama Canal departments. The railroad line proper has fared far better during depression years than have railways generally. Its financial future seems to be secure so long as present circumstances remain about as they are. However, methods of meeting possible competition need to be looked into seriously. It is encouraging to observe that the efficiency and service of the railway line have been improved in recent years, and further improvements appear to be in the offing. On the whole, the accommodations supplied by the railroad compare favorably with those of the general run of railways in the United States. However, the rate policies seem to need reconsideration in certain respects,

particularly with reference to free passes and discounts of various kinds. The ancillary services of the railway line have strengthened their financial positions considerably in recent times, and the records of the harbor-terminal facilities and the coaling stations are particularly gratifying. The transportation services now form an integrated unit under the General Manager—an administrative organization which appears to augur well for the future.

CHAPTER V

THE SHIPPING LINE

THE steamship service of the Panama Railroad Company was commenced soon after the company began railway operations on the Isthmus in 1855, and ever since that time it has been a link of the greatest importance between the United States and all of the interests located in the Canal Zone. Its principal value to the United States has been as a transport agency during canal-construction days, as a feeder to the railway line, and as a conveyor of supplies, equipment, and personnel needed in the maintenance of the Panama Canal and other Isthmian activities. But the Railroad's shipping line has not confined its attention to Canal Zone business; it has been in competition for commercial cargo since the earliest years of its existence. For many years the Panama Railroad Steamship Line (commonly called the "Panama Line") was the main reliance of the United States in the shipping competition of Central and South America. The Panama Line was a power in the development of the American merchant marine. However, with the establishment of several American private lines, which now operate in Central America, the Canal Zone, and the west coast of both Americas, the government-operated shipping line has had to withstand attacks of increasing vigor from private shipping interests. In recent years the discontinuance of the Panama Railroad Steamship Line has been one of the major objectives of the campaign to keep the government out of business. Then, too, the marine department of the Railroad has incurred rather serious deficits in recent years.

The problem of recommending a future policy relative to the shipping line is a difficult one. Granted that its competitors are also failing to make a satisfactory financial showing, is it not possible, nevertheless, that the balance sheet of the govern-

ment-owned line might be converted from the red into the black? The effects of discontinuing the service altogether need to be considered, while at the same time the merits of modernizing and improving the line deserve attention. In other words, an analysis of the steamship line's operation and maintenance is so inextricably connected with some of the major issues of the American merchant marine as a whole that these larger issues of policy must be given consideration.

SCOPE OF STEAMSHIP OPERATIONS

The company's present steamship service between New York and the canal was inaugurated over forty years ago. In 1893 the Directors of the Panama Railroad Company, having become dissatisfied with the traffic results of the steamship line operated between New York and Colon by the Pacific Mail Steamship Company under a long-term contract that expired that year, decided to reinstate the company's service to the Isthmus. Many years prior to this, however, the company commenced the operation of a line of American flag-sailing vessels between New York and Aspinwall (later named Colon). Since then it has operated steamships during various periods not only on the Atlantic but also on the Pacific Ocean (between San Francisco and Panama, between Central America and Panama, and to the east and west coasts of South America). At one time in its history the Panama Railroad Steamship Line operated no fewer than fourteen ships.

When the United States government succeeded the French canal company as owner of the Panama Railroad Company in 1904, the question of what to do about the steamship service was one of the knottiest problems awaiting solution. On general principles Secretary of War Taft was adverse to the government's ownership of ships which would come into competition with those of private companies. The shipping interests and the transcontinental railroads besieged Congress and the administration, confident that the steamship line would be disposed of as one of the first moves of the new administration. In this ex-

pectation they were to be disappointed. The *New York Mail and Express* of March 17, 1905, after referring to the fact that "Uncle Sam now owns his first merchant steamship line," quoted Secretary of War Taft as saying: "It is the best thing that this country ever did to own and operate its own steamship line. It ought to be a profitable venture, besides saving enormous sums in the shipment of machinery and material for the construction of the canal." The administration made it clear that the desirability of owning its own steamship line was the government's chief reason for continuing the service. Further light is thrown on Secretary Taft's policies, however, by his statement a month later: "The Panama Railroad Company owns three steamships which ply between New York and Colon. We shall make the rate on these ships as low as possible, consistent with paying a reasonable compensation for the carriage and investment." When the government of the United States undertook the construction of the Panama Canal, the Panama Railroad Steamship Line was the only one operating vessels of American registry in commerce with the Caribbean countries and with Central and South America. Its competitors were foreign-flag steamship lines operating from the United States as well as from other countries.

At the present time the Panama Railroad Steamship Line consists of four ships, representing a total displacement of 24,000 tons. Only two of them carry passengers, and none of them is of modern type and construction. Two large twin ships, the "Ancon" and the "Cristobal," were purchased for the use of the company under an act of Congress approved in 1908, and two "lake"-type freight steamers were later purchased by the company from the Shipping Board. These steamers operate on a weekly schedule to Cristobal, calling at Port-au-Prince, Haiti. The principal traffic they carry consists of employees of the Panama Canal and of other government departments located in the Canal Zone, as well as the employees' families; supplies and materials for the Panama Canal and for the company's commissaries in the Zone; and goods consigned to merchants in the cities of Colon and Panama.

Between 1922 and 1933 the southbound freight tonnage of the Panama Railroad Steamship Line fell from 106,228 tons to 79,346 tons, while the tonnage of the northbound traffic dropped from 114,187 to 32,176. Of the total southbound freight in 1933, almost 73 per cent was destined for the Isthmus of Panama, while Haiti received about 15 per cent, south Pacific ports about 5 per cent, Central America slightly over 4 per cent, destinations in Colombia about 2 per cent, and Mexico an infinitesimal percentage. The origins of northbound cargoes in 1933 were as follows: ports in the south Pacific 59 per cent, the Isthmus of Panama slightly less than 29 per cent, Haiti over 11 per cent, and Central America less than 1 per cent. Needless to say, although the amount of commercial cargo transported is not large, it makes an enormous difference in the financial showing of the company.

ORGANIZATION AND MANAGEMENT

The shipping line is managed from the New York office of the Panama Railroad Company and is under the personal supervision of the Vice-President. It is unquestionably one of the most efficiently conducted steamship services under the American flag. Mr. T. H. Rossbottom, the Vice-President, is primarily interested in ocean transportation; his worth was recognized when, in 1921, he was loaned to the United States Lines as General Manager, an office he filled with great success for five years. Under his immediate jurisdiction in New York there are the following departments: auditing (which is primarily concerned with the shipping line), a treasurer's office, purchasing (which buys for the Canal Zone commissaries and the ships), the freight and passenger departments of the steamship line, and the Port Superintendent.

The Panama Railroad Steamship Line is not an aggressive competitor for passenger business. Since the war it has been afraid to go out and compete for patronage in the United States because powerful interests were constantly attempting to have it put out of operation altogether. A clerk in the New York

office takes care of all of the passenger service, which for the most part merely amounts to validating transportation vouchers which have been sold to employees in the Canal Zone. Only about a hundred commercial passengers each year use the facilities of the Panama Railroad Steamship Line. Advertising and solicitation have not been employed; the service is available, but the company has not entered into active competition with other lines. The fare is less than for first or cabin class on the private lines, and the cuisine and service are excellent. Except for a few weeks out of each year the company could supply accommodations for many more tourist passengers if a positive policy of competition were adopted.

The freight department is much larger and is more aggressive than the passenger department. There are twenty-four employees of the freight department in the New York office. In addition, the General Manager of the Panama Railroad Company is responsible for soliciting freight in Panama and for trans-shipment; in the month of January, 1934, 79 per cent of the total tonnage for Panama was solicited on the Isthmus. An agent of the company is located in Panama City. In addition, the company has agents on a commission basis in Chicago, Pittsburgh, and Montreal. There are also agents in certain South American ports, but this work has become unimportant since the cessation of the west-coast business.

The Railroad Company acts as agent for steamship lines which are active in shipping at Panama Canal ports. Through these contacts a large portion of the company's trans-shipment business is secured. At one time the Panama Railroad Company represented no less than twenty-three steamship companies at the ports of the Canal Zone, but although the number is now only nine, these companies operate eighty-nine ships.

The administrative oversight of the steamship line's affairs on the Isthmus is in the hands of the General Manager of the Panama Railroad Company. A single clerk stationed at Cristobal, and reporting to the New York office, has charge of the passenger department. The real work for the passenger serv-

ice is taken care of by the Transportation Clerk in the office of the Executive Secretary, Balboa Heights. Travel arrangements for all employees are handled in his office.

The organization of the steamship line is complete with the Port Superintendent's department in New York City. A few years ago, as an economy measure, the offices of Port Engineer and of Pier Superintendent were combined, and the one office is now called "Port Superintendent." The functions of the Superintendent are to handle freight and stevedoring, to take care of dry docking and the engineering requirements, to employ all except the higher officers on the ships, and to handle the financial disbursements involved in port operations and ships' payrolls. From the city of New York the company leases Pier 65, advantageously located on North River.

The Port Superintendent's department, like all other divisions of the steamship line, is closely controlled by the Vice-President. All requisitions for repairs and all items of expenditure must pass over his desk for approval. The Port Steward must operate the dining service, including the passenger cuisine, on fifty cents a day per person. This means that waste, especially the careless throwing away of food, cannot exist. No seaman can be dismissed without an adequate justification to the Vice-President, and none of the officers can be discharged without a hearing before the Vice-President. The result is that there is a very small labor turnover, and employees are loyal and contented. Union wages are paid throughout, and employees are said to be better treated in every way than are the employees in most steamship services.

Rigid economy of operation is attained by the Vice-President's close surveillance and control. An executive of extraordinary experience, vigor, and business acumen, the present incumbent of the Vice-President's office is unquestionably one of the best steamship men in the game today. If government-owned corporations could be sure of holding men like him, public commercial services would become as efficient and as progressive as any business undertakings in the world. He is

paid a salary of fifteen thousand dollars a year—the highest salary paid in the Canal-Railroad organization. If the Panama Railroad Steamship Line did not have to operate with the full force of the private shipping interests set against it, the line would undoubtedly be one of the largest and best managed under American registry.

FINANCIAL RESULTS AND RATE POLICIES

Although the steamship service has incurred constantly growing deficits for the last four years, the total financial statement for thirty years of government operation shows a profit, as the record in Table III indicates. The deficit in 1933 was over $320,000, however, causing a serious drain on the company's earnings from other services. The time has clearly arrived when drastic steps of some kind must be taken in order to make the financial results of steamship operation more satisfactory. Relative to the deficit incurred in 1933 the *Annual Report* of the company said:

> Freight traffic of The Panama Canal and other departments of the United States government was carried at a reduction of 25% from established tariff rates. Passenger traffic for account of these government departments, including Panama Canal employees and their families, was carried at reductions from established tariff rates that range from 25% to 80%. These reductions in freight and passenger charges amounted to $420,642.54. Had the steamship line been credited with its tariff rates on this freight and passenger traffic carried for account of the government, its operations would have resulted in a profit of $100,157.89.[1]

The position which the company takes relative to deficits incurred in steamship operation was stated as follows a few years ago by the Vice-President: "For the past five year period," he said, "the net revenue of the steamship line showed a deficit of $298,261. The saving to the government, because of the application to its traffic of reduced instead of tariff rates, was $2,502,068. The saving to the government approximates $500,000 per annum; a discontinuance of the steamship line would make necessary an additional annual appropriation of $500,000 for

[1] *84th Annual Report: Panama Railroad Company* (1933), p. 7.

its freight and passenger transportation between New York and the Canal Zone." Even if the foregoing argument is accepted without reserve, it is clearly apparent that such hypothetical

TABLE III

RESULTS OF OPERATION OF PANAMA RAILROAD STEAMSHIP LINE UNDER UNITED STATES GOVERNMENT OWNERSHIP

Year	Deficit	Profit
1904 (1 yr.)		$ 209,192.67
1905 (10 mos.)		58,730.01
1906 (8 mos.)	$ 37,158.21	
1907 (1 yr.)		158,562.95
1908 (1 yr.)	179,810.67	
1909 (1 yr.)		104,995.98
1910 (1 yr.)		167,952.25
1911 (1 yr.)		77,187.97
1912 (1 yr.)	305,742.85	
1913 (1 yr.)		221,489.92
1914 (1 yr.)		314,296.36
1915 (1 yr.)		499,853.42
1916 (1 yr.)		1,004,373.05
1917 (1 yr.)		1,162,800.46
1918 (1 yr.)		1,359,208.00
1919 (1 yr.)		3,125,812.24
1920 (1 yr.)	117,676.56	
1921 (1 yr.)		629,399.55
1922 (1 yr.)	719,504.81	
1923 (1 yr.)	369,282.60	
1924 (1 yr.)	558,637.05	
1925 (1 yr.)	198,568.00	
1926 (1 yr.)	285,349.26	
1927 (1 yr.)	48,967.77	
1928 (1 yr.)		101,513.40
1929 (1 yr.)		46,856.38
1930 (1 yr.)	152,967.82	
1931 (1 yr.)	244,695.93	
1932 (1 yr.)	297,079.91	
1933 (1 yr.)	320,484.65	
Total	$3,835,926.09	$9,242,224.61
Total net profit		5,405,298.52

bookkeeping falls far short of what should be expected from the business management of public services. But before we can be in a position to make constructive suggestions relative to the financial management of the steamship line, we need to analyze the discount policies just referred to.

With the falling-off of freight shipments in recent years, most of the steamship line's revenue is derived from the passenger travel of Canal Zone employees. Inasmuch as they are given large reductions, the effect upon steamship revenues is very great. The full passenger rate to the Canal Zone is $100. Employees of The Panama Canal, or of the Railroad, who entered the service prior to 1909, and their families, are charged $20 per adult passenger for the 2,000-mile voyage between New York and Cristobal; employees entering the service subsequent to 1909, and their families, are charged $30 per adult passenger. The published tariff rate of the other steamship lines operating from New York that call at the Canal Zone is about $125 minimum for first class and about $65 minimum for tourist.

These are not the only passenger discounts. The relatives of Canal Zone employees are given a reduction of 50 per cent on the one-way fare and $33\frac{1}{3}$ per cent on the round trip, both as an inducement to them to visit the Isthmus and as a means of securing more business. The employees of all departments of the United States government are given a discount of 25 per cent from the commercial tariff; this is of particular benefit to the Army and Navy departments.

The policy of granting passenger discounts on the steamship line is open to question, just as railway discounts are. In explanation of the reduced rates for employees' relatives, it is said that Zone employees were unable to go north on vacations because the provisions of the Economy Act of 1932 reduced the employees' pay and practically did away with their vacations. But this was merely a temporary situation, whereas the special rates have been made permanent. To be sure, this class of travel helps to fill up the Panama Line's ships; also, it is undoubtedly desirable to acquaint as many Americans as possible with the developments in the Canal Zone. But why are relatives of employees any more entitled to special consideration than are all American citizens? Good tourist accommodations can be secured on competing lines for about the same amount as that paid for a round trip on the Panama Line. The round-

trip tariff of $150 for relatives is probably not too high, but the full commercial fare should probably be reduced. True, the comparison is between "one class" on the Panama Line and tourist class on other lines, but it must be remembered that the Panama Railroad ships are not so new or so fast.

Reduced rates for Army and Navy men who are stationed in the Canal Zone are probably necessary and desirable, inasmuch as the service is presumably rendered at about cost and is not substantially less than the rates granted by other lines. Then, too, service men usually travel on transports free of charge, and the Panama Line is simply attempting to obtain some of the business by offering the reduced rates.

Although these matters are significant from the standpoint of principle, their practical effect upon steamship revenues and expenses is not very great. The real problem is that of charges made for transporting employees of the Canal-Railroad organization.

PROPOSED METHOD OF ERADICATING DEFICITS

By some it is argued that no one should feel disturbed if the steamship service does lose a certain amount of money each year. They argue, properly enough, that every large corporation carries branches of its service which do not pay for themselves because these ancillary divisions are necessary in the business as a whole. The main business of the United Fruit Company and of the Standard Fruit Company is the marketing of bananas; and hence if their shipping lines lose money, but the business as a whole is profitable, no one should be concerned about the steamship deficits. The same thing might be said about the freight ships of the United States Steel Corporation or of the Standard Oil Company. Moreover, it is pointed out that these large companies which operate in the tropics provide their employees with cheap transportation and with other concessions which are usually more liberal than those enjoyed by the Canal-Zoners. To all of these arguments the reply is that when a business service can be made to operate on a paying

basis it should be made to do so; otherwise laxness and inefficiencies are almost sure to eat into the sinews of the business.

Reduced steamship fares for permanent employees located in the Canal Zone are necessary and desirable. Unless employees and their families leave the tropics every year or two for a vacation in the invigorating climate of the north, the impairment of their health and efficiency will cost the government more in the long run than it would in transportation allowances. These facts are well established. The Canal Zone has been able to attract a higher class of employee than is found generally in the United States, and no short-sighted policy should be permitted to change this condition.

It is a good business investment to encourage employees to take a vacation in the north. Panama Railroad ships serve an invaluable purpose in making such facilities possible. The only serious issue is whether the policy of charging the whole vacation subsidy bill to steamship operation is a defensible or necessary one. It is believed that it is not. The subsidy is a part of the employees' compensation and is properly chargeable to the several services in proportion to the use made of the passenger service. It may be asserted as a general principle that if there are justifiable reasons for arranging cheap rates for personnel on active duty, the government of the United States should charge to the operating expenses of the department concerned the difference between the full fare and the reduced fare which is accorded to government employees. It is therefore recommended that the differential between what the employee pays and the steamship line's full fare be borne by the department in which the particular person is engaged. This policy would completely wipe out the current operating deficit of the steamship line.

Rate reductions are also in effect on freight hauled on account of the Canal, the Railroad, and government departments situated in the Zone. All of these establishments receive a reduction of 25 per cent from tariff rates. Other lines, in order to receive any of this government cargo, grant the same reduction

from tariff. If full rates were charged by the Panama Line, the estimated increase would amount to $100,000 a year; and if, as proposed above, $300,000 additional revenue were to be derived annually from passenger traffic, the steamship line would be enabled to show roughly a profit of $100,000 per annum on its operations. The commissaries and the Canal, the heaviest users of the steamship line, can afford to pay full rate on freight shipments. If present tariffs are too high, they can be reduced without any difficulty. It is therefore recommended that present freight discounts be discontinued altogether and, in case the earnings of the steamship line make it possible thereafter, that tariffs be reduced accordingly.

The Panama Line naturally secures more freight destined for the Canal Zone than do all of its competitors combined. Freight rates to the Zone must be controlled by the government-owned line, it is held, in order to safeguard the national interests located there. Commercial freight rates to the Isthmus are uniform, but the Panama Railroad rates for southbound freight are 10 per cent less on that cargo which is transshipped at Cristobal for west-coast ports of Central and South America. This differential was agreed to in conference with other lines. It is clearly justified because the cheaper service involves four handlings whereas the direct service requires only two, thereby lessening the possibility of damage and also making a speedier shipment.

ATTACKS UPON GOVERNMENT-OWNED LINE

The clash of interest underlying the controversy between the government-owned line and the private companies rests upon basic differences in policy. The private companies would like to make money for the owners; the Panama Line would be satisfied to make ends meet. The private companies seek higher rates for the shipping lines; the government-owned corporation desires low costs for Canal Zone services and for the commercial community generally. Representatives of the Panama Line have long contended that the American shipping com-

panies are shortsighted and selfish because they are constantly seeking higher rates when the interests of American foreign commerce demand transportation costs which are as low as those of foreign competitors. Unfortunately, there is a great deal of truth in this statement. American shipowners have not learned to think of the interests of American commerce first, and of themselves in relation to it. In controversies growing out of conference agreements the Panama Line has consistently adhered to the principle that tariffs should not be raised to such a point that American merchants have to pay more for ocean transportation than do their foreign competitors. In the last thirty years the government-owned line has done more to protect American traders against American shipowners than has any other instrumentality. The existence of a company representing the traders' and consumers' point of view as against the shipowners' is a good thing for the country. Unlike British traders, American business men are not drawn together into a strong organization in order to see that they get a fair deal from the shipping interests.

The gravamen of the private steamship companies' attack upon the Panama Railroad Steamship Line is that it need not make a profit; it may lawfully engage in discounts and it competes with private lines which are subsidized by the United States government, resulting in inconsistency and economic loss. Concerning the question of profit-earning, it need only be said that the Jones-White Act heavily subsidizes private lines; that most of them are sustaining considerable losses in spite of such assistance; and that if the recommendations concerning the tariff policies of the Panama Railroad Steamship Line contained in the foregoing are put into effect, the government-owned line should be able to earn a profit. During a recent administration, mail contracts worth $48,000 per year were completely taken away from the Panama Railroad Steamship Line and were given to a private company, which received more compensation but made no faster time. If the Railroad's steamship line had been extravagantly subsidized, as have some of

the private lines in recent years,[2] it would have shown a considerable profit instead of occasional deficits.

So long as the American merchant marine is so heavily subsidized, the supposed differences between government ownership and private ownership are not very impressive. But in order to get at the bottom of the clash of interest between the government-owned Panama Railroad Steamship Line and its competitors, we need to look into the identity of the competitors and the geographical points at which they come into contact.

There are only three American firms operating steamship services between New York and the Canal Zone with which the Panama Line comes into a sharp clash. One is the United Fruit Company, an industrial carrier, whose steamship service is subordinated to its fruit traffic. Thanks to large public subsidies, however, the company has built a fine fleet of passenger ships within recent years. The Colombian Line is a second competitor, particularly in the Haitian trade. It is controlled by the United Fruit Company and acts as a subsidiary in both the fruit and the general-hauling businesses; it, too, has built ships under the Jones-White Act. The third competitor is the Grace Line, a concern having important financial interests in South America and engaged principally in the development of trade to Central and South America, on which trade it secures the long haul from New York. All three of these firms have received large advances from the government for the construction of modern passenger and freight steamships, and all are receiving large annual mail subsidies under the provisions of the Jones-White bill.[3]

It is important to note that all of these companies were or-

[2] *Investigation of Air Mail and Ocean Mail Contracts: Hearings Pursuant to S. Res. 349* (72d Cong., 2d sess., 1933–34), Parts I–V.

[3] The Grace Line has mail contracts amounting yearly to $2,454,474 and a government loan of $14,739,806; the United Fruit Company's mail contracts amount to $1,483,112, and its shipping subsidies are $15,412,500; while the Colombian Line receives $524,710 for transporting mail and has received $3,614,500 for construction purposes.

ganized originally and are succeeding today as trading companies owning important businesses in Central and South America. Their shipping lines are essential to their operations, but they do not constitute the foremost consideration. Moreover, the interests of these trading companies naturally conflict at times with those of business competitors for whom they offer to do a transportation service. It is not surprising, therefore, that business men and local chambers of commerce in Central and South America have on several occasions sent memorials to the Panama Railroad Company, to Congress, to the President, and to Cabinet officers when they have heard that the Railroad's shipping service was to be withdrawn from their ports. The American shipping lines are traders and business entrepreneurs first and common carriers secondarily; the government-owned line is strictly interested in encouraging trade relations for the American business community as a whole. It is true, as frequently stated, that the existence of the Panama Railroad Steamship Line has continuously brought business to the shores of the United States when otherwise it would have been diverted to foreign ships and to foreign industry.

RESTRICTION OF COMPETITIVE SERVICE

Within the past few years the Panama Railroad Steamship Line has been forced to restrict its operations in order that it would compete as little as possible with other companies. A brief analysis of the company's operations in recent years will make the situation clear. As the construction of the Panama Canal proceeded, the Secretary of War received requests from the State, Commerce, and Navy departments that the Directors of the Panama Railroad Company extend the steamship service to ports in the Caribbean and to the west coast of South America for the purpose of developing commerce with those countries. Because the company's entire steamer capacity was required for construction, it was impossible for the company to take favorable action at that time.

The construction of the canal being completed, the Panama Railroad Steamship Line began calling at all ports in Haiti in 1917, at the request of the State, Commerce, and Navy departments. That service was discontinued on January 1, 1924, by an agreement with the Colombian Line, except that the Railroad ships continued to stop at Port-au-Prince. The Colombian Line undertook to furnish service to the Haitian outports in competition with the Royal Dutch Line. The pressure on the Panama Railroad Company came primarily from the Colombian Line, the Shipping Board, and the American Steamship Owners' Association. At this time the Panama Railroad ships were getting about 80 per cent of Haiti's freight business. Fourteen months after the conclusion of the agreement with the Colombian Line, the American consul in Haiti advised the State Department that because of the Colombian Line's discontinuing calls at Haitian ports on the northbound trips of their steamers from the east coast of Colombia, and because also of the intensive competition of the Royal Dutch Line, 85 per cent of the Haitian traffic previously carried by the Panama Line had been diverted to the Royal Dutch Line, and at increased rates of freight. We shall refer to the Haitian situation again in a moment.

The Panama Railroad Steamship Line was forced to discontinue its service to the west coast of Colombia and Ecuador in 1931, after the business had been inaugurated in 1920 in order to prevent American commerce with those countries from being completely controlled by foreign-flag steamship lines operating from New York and from Europe. This action was taken in response to protests made to the Department of Commerce and to the Secretary of War by the American Steamship Owners' Association, the Shipping Board, and the Grace Line, which later undertook to furnish an adequate steamship service in place of the one the Railroad Company discontinued.

A few years ago an official of the Panama Railroad Company wrote as follows: "The discontinuance of our steamship service to the minor ports in Haiti, to the east coast of Colombia,

and to the west coast of Colombia and Ecuador is indicative of the company's policy of interfering as little as possible with the business of privately owned American steamship lines. The laying-up of our collier fleet on Gatun Lake, and the conclusion of an agreement by which our coal requirements have, for several years past, been carried by privately owned steamships, is referred to as proof of that policy."

In the last few years the storm center of controversy over the Panama Railroad Steamship Line has been the Port-au-Prince, Haiti, business. Since 1931 this has been the company's only stop outside of Cristobal and New York. The steamship line's back has been up against the wall, and it has been fighting for its very life. The record of the Panama Railroad Company in Port-au-Prince is a remarkable one, showing that the agents of government-owned corporations can be quite as aggressive and just as successful as those in the best private companies. In Port-au-Prince the Panama Railroad Company with four ships is competing with the Colombian Line, which operates six steamers, and the Royal Dutch Line, which has five. During the last six months of 1933 the Panama Railroad's line secured slightly over 51 per cent of the total outbound freight traffic from Port-au-Prince and 37 per cent of the inbound traffic; and the Railroad Company's proportion has constantly increased. Unlike the usual objection that government operation is inefficient, the steamship owners' contention is that the Panama Line is too aggressive!

On February 23, 1933, the then Secretary of War wrote to the Board of Directors of the Panama Railroad Company as follows: ". . . . It is therefore directed that the necessary steps be taken to discontinue the service of Panama Railroad Company steamers to Port-au-Prince, Haiti, as soon as possible." At its special meeting on March 1, 1933, the Secretary of War being absent, the Board of Directors adopted the following resolution:

Resolved, That the question of the discontinuance of the company's steamship line service to Port-au-Prince, Haiti, as soon as may be prac-

ticable, be and the same is laid on the table until an early meeting, and that the date for such early meeting be tentatively fixed for Thursday, March 9, 1933.

This, of course, was five days after a new administration had been inducted into office!

REASONS FOR CONTINUING PANAMA LINE

On several occasions since 1919, Congress has considered bills which would have meant the discontinuance of the Panama Railroad Steamship Line, but every such move has been definitely killed. Moreover, the Governors of the Panama Canal and several of the Secretaries of War have objected strongly to any further restriction on the scope and operations of the New York–Cristobal service of the Panama Line. The arguments supporting the retention of the present service may be summarized briefly as follows:

As former Secretary of War Dwight F. Davis said: "The Line is an integral part of the Panama Canal and indispensable in its discharge of its normal responsibilities. The successful operation of this great enterprise, which is of vital importance to the United States, demands absolute security as to its line of supply to this country. Discussing the proposal to rely only on privately owned ships, the Governor of the Canal Zone wrote, 'I cannot see anything but disaster for the canal from such procedure. It would be directly opposed to sound military defense procedure and to the economical and business operations of the Panama Canal.' "

The commercial interests on the Canal Zone are of sufficient extent and importance to justify the operation of a steamship line devoting most of its attention to this business.

If the service of the Panama Railroad Steamship Line were discontinued, it is entirely natural to expect—judging from past experience—that rates of other lines would be raised considerably. This would be injurious to the commerce of the United States and to the interests of the Canal Zone.

The private companies might be willing to transport Canal

Zone freight at lower than tariff rates, but they have admitted that they can nowhere near equal the reduced passenger tariffs given to Zone employees. It is believed, as has been said, that these discounts are uneconomically low and that the several services concerned should be billed for the difference. It is possible that these payments might be made to private lines, but in view of the other reasons given for continuing the service this alternative is not recommended.

The Panama Railroad Steamship Line is efficiently managed. It should be continued as a means of keeping rates low for American commerce and as a means of successful competition with foreign-flag steamships.

The shipping companies that desire the discontinuance of the Panama Line and that are facing financial difficulties as a result of the heavy capital expenditures for new construction to which they are committed cannot expect material financial relief from the discontinuance of the four vessels the Panama Line is operating between New York and the Canal Zone.

The entire tendency in the international shipping world is in the direction of large government subsidies and thinly masked government operation and control. Germany, France, and Italy have set a pace in this direction which the United States and even Great Britain are being forced to follow. Judging from all indications, government control over the American merchant marine may be expected to increase, even to the extent of forming government-owned corporations which may take over financially stricken steamship companies. If, as may be expected, the foreign investments and the foreign trade of the United States expand toward Central and South America, the Panama Railroad Steamship Line will be found a valuable instrument in the maintenance of rates which will permit American commodities to capture southern markets without the necessity of relying upon foreign ships. A discontinuance or curtailment of the steamship service of the Panama Railroad Company would be contrary to the trends of shipping control in other countries and would be injurious to the larger interests of American commerce.

portance of each is shown in the summarized statement in Table IV.

It will be observed that the enterprises with which we are going to deal in this chapter—particularly the Commissary Division and its subdivisions—are merchandising businesses. In recent years people everywhere have become accustomed to

TABLE IV*

Railroad and appurtenances	$11,413,571.20
Docks, piers, and appurtenances	5,472,411.16
Coal plants	1,046,879.06
Baggage transfer	5,621.43
Colon stables	97,388.94
Telephone and electric clocks	1,267,455.61
Real estate	8,110,174.65
Hotel Washington	858,729.82
Hotel Tivoli	41,525.46
Cattle industry	177,659.89
Plantations	39,271.00
Commissary	4,255,985.04
Dairy farm	111,280.58
Uncompleted construction and improvement	26,197.26
Concession from United States of Colombia	1.00
Floating equipment	2,457,221.04
Miscellaneous shore equipment (New York and Haiti)	9,523.65
Total capital investment	$35,390,896.79

* Condensed from *84th Annual Report: Panama Railroad Company* (1933), p. 24.

seeing public agencies own and operate public utility services, such as the water supply or the gas and electricity service. But here we have the government, because of the combination of circumstances operating in the Canal Zone, acting as department-store owner, grocer, baker, laundryman, and merchant generally. How does this type of enterprise fit into the public utility and engineering pattern? Are the problems of organization, finance, personnel, and management essentially the same

as in the utility services? Can engineers and public utility officials make a success of the merchandising businesses, or are they, as government agencies supposedly are, constitutionally handicapped to engage in ventures requiring adaptability and sensitiveness to consumers' demands?

At the outset of such an evaluation it is important that we should understand clearly the nature of the commercial activities and the respects in which these functions differ from ordinary business enterprises in the continental United States. The business services in the Canal Zone are not precisely comparable to competitive undertakings. Generally speaking, competition with Canal Zone undertakings does not exist. In ordinary businesses competition is the most important element to be considered when comparing good and bad business operations—business operations in the usual sense. Successful competition is usually the proof of business "genius." But when competition is removed, the character of the "selling" process is altered. When, in addition to that, all of one's sales are made to one's own employees, the character of selling is still further modified. This, then, is the situation which exists in the Canal Zone. All business principles applicable to purchasing, warehousing, and distribution pertain to Canal Zone business undertakings, but competition is absent, and hence "selling," in the usual sense of the term, does not play the important part it does ordinarily.

Our inquiry will not lead us into great detail. The primary objects of this chapter are to give a general view of the results reached in managing the business enterprises of the Panama Railroad Company, to make constructive criticisms where they seem to be defensible, and to relate the conduct of this branch of the corporation's work to the larger problems of organization, finance, personnel, and management, which form the central theme of the present study.

CONTROL OF COMMERCIAL SERVICES BY SUPPLY DEPARTMENT

Although all of the business undertakings which have been mentioned are engaged in rendering services to consumers, they

are under the jurisdiction and control of The Panama Canal's Supply Department, the function of which is revealed by its name. This development took place during canal-construction days and bears the unmistakable marks of Army organization and terminology on the management of the Railroad Company's business enterprises. In order to understand the overhead control of the commissaries, the hotels, the cattle industry, and the manufacturing plants, we shall have to examine the organization and functioning of the Supply Department of The Panama Canal. Moreover, we should pay special attention to the administrative set-up of the Railroad's business enterprises, because they present one of the most important problems of overhead reorganization.

The Supply Department is under the supervision and direction of the Chief Quartermaster—a title which was obviously borrowed from the Army. The department is charged with the ordering, storage, and distribution of material and supplies for use of The Panama Canal, the Panama Railroad, and their employees; for other departments of the government on the Isthmus and their employees; and for transient vessels of the United States and other countries, when required. The Chief Quartermaster is also responsible for the maintenance and construction of buildings, the assignment of quarters to all employees on the Isthmus, the care of grounds, the recruiting and distribution of unskilled labor, and the operation of necessary animal and motor transportation.

These are the usual functions of a staff[1] agency engaged in supplying the residence, subsistence, and transportation needs of the operating services. But in actual practice a large part of the importance of the Supply Department of The Panama Canal is the result of its being the director and supervisor of business enterprises, most of which are owned by the Panama Railroad Company.

The department is charged with the responsibility of operat-

[1] As the term is used in Public Administration in contrast with the narrower meaning it has in the Army.

ing the commissaries, the manufacturing plants, the two hotels, the plantations, the cattle industry, the dairy, the laundry, and the Panama Canal Press. All except the last-mentioned are owned by the Panama Railroad Company. An enumeration of the principal units of the Supply Department will clarify the situation and clearly reveal the extent and importance of the services grouped under this department:

a) Commissary Division and manufacturing plants [P.R.R.]
b) Quartermaster Division—the assignment and rental of quarters, etc.
c) Storehouses and fuel-oil plants
d) Constructing Quartermaster Division—the maintenance and construction of buildings, etc.
e) Dairy and Cattle Industry Division [P.R.R.]
f) Transportation Division—the operation and maintenance of all animal and motor transportation
g) The Panama Canal Press—the printing of stationery, forms, etc., for The Panama Canal and the Panama Railroad Company
h) Subsistence Section—the operation of the Hotels Tivoli and Washington [P.R.R.]
i) Canal Zone experiment gardens

Formerly the restaurants on the Isthmus were run by the Subsistence Section of the Supply Department, but when the lease expired on May 15, 1934, they were consolidated with and are now operated by the Clubs and Playgrounds Bureau of The Panama Canal.

The Chief Quartermaster is aided in his executive oversight of all these duties by an Assistant Chief Quartermaster. A clear-cut division of responsibility for particular branches of the department has taken place. The Chief Quartermaster devotes his attention to the Commissary Division, the storehouses and fuel-oil tanks, the Constructing Quartermaster Division, and the Panama Canal Press; while the division having charge of housing accommodations (Quartermaster Division), the cattle-industry division, the transportation service, the two hotels, and the Canal Zone experiment gardens are under the personal supervision of the Assistant Chief Quartermaster.

CANAL ZONE COMMISSARIES

The Commissary Division is easily the largest and the most important unit of the Supply Department. It is the largest business unit on the Isthmus, and in the scope of its operations it rivals the most complete department stores in the United States. Doing a gross business of from eight to twelve millions of dollars yearly, it has a monopoly on the ordering, storage, and sale of all food supplies, clothing, and other requirements of modern life. Its twelve retail stores located at the principal population centers on the Isthmus are buttressed by wholesale warehouses, a bakery, an ice-cream and milk-bottling plant, a complete industrial laboratory, an ice factory, an abattoir, cold-storage plants, a coffee-roasting unit, and a laundry. The capital investment in the commissary and its manufacturing units is $4,255,985, and its employees number between thirteen hundred and sixteen hundred persons, depending upon the volume of business.

The Commissary Division was set up as an independent financial unit in 1909, but the Panama Railroad Company and the Isthmian Canal Commission had naturally been operating commissary services for their employees from the very outset. Since that time the financial results of operation have appeared on the balance sheet of the government-owned corporation, but the responsibility for management has rested with the Supply Department of The Panama Canal since 1908. In other words, the corporation owns the property but does not manage the business. The purchasing department in the New York office of the Panama Railroad Company handles all purchasing operations, but the Vice-President in New York and the General Manager of the Panama Railroad Company on the Isthmus are not expected to interfere with the conduct of the commissary business on the Isthmus. The salary of the head of the Commissary Division is paid by the corporation, but he reports to the Chief Quartermaster of The Panama Canal. Surely this is an anomalous situation, but it is by no means singular in the Canal Zone.

Because of the fact that the Chief Quartermaster is located in the Administration Building on the Pacific side while the General Manager of the Commissary Division has headquarters at Mount Hope on the Atlantic side of the Isthmus, the commissary establishments are somewhat freer from meticulous supervision than they would be otherwise. This fact has resulted in the commissaries becoming a more or less independent operating unit, although as we shall see they are probably not so autonomous as they should be. The Chief Quartermaster reserves important powers over pricing, personnel, and purchasing, controlling the policies of the General Manager in certain important respects. Moreover, the Accounting Department controls the finances of commissary operations, and the Executive Department holds a firm grasp on personnel—both from Balboa Heights, across the Isthmus from the General Manager. All delivery trucks and automobiles used on official business must be requisitioned from the Transportation Division of the Supply Department.

The General Manager does have effective authority in other respects. The General Manager controls all ordering of stock and all relations with the purchasing department in New York City; the Chief Quartermaster obviously might have monopolized this important function, with a result which would be clearly objectionable. The officials who sell commodities and who acquire first-hand experience with their turnover are always the ones to control orders and supplies. Moreover, the cost-accounting and statistical work of the Commissary Division has been developed under the immediate responsibility of the General Manager. The segregation of accounts is practically complete by the time the reports reach the Auditor's office at Balboa Heights. Then, too, the wholesale units and all of the manufacturing plants are clustered in one compact unit about the General Manager's office at Mount Hope. This physical unity affords corporate intactness and practical administrative co-ordination. Too, the largest retail store, the one at Cristobal, is located not far away. Finally, the super-

visory control of retail stores is exercised by the General Manager and the Assistant General Manager with practically no assistance from the Chief Quartermaster.

The organization of the Commissary Division is divided into two main branches, one consisting of manufacturing plants and

TABLE V

GENERAL MANAGER AND ASSISTANT GENERAL MANAGER

Manufacturing Plants and Warehouses	Retail Stores
Wholesale groceries	Sectional accounts
Wholesale tobacco and candy	Retail groceries, Mount Hope
Wholesale operating supplies	Retail cold storage, Mount Hope
Wholesale dry goods	Cristobal commissary
Wholesale hardware	Balboa commissary
Wholesale shoes	Ancon commissary
Wholesale cold storage	Ancon market commissary
Wholesale meats	Pedro Miguel commissary
Wholesale dairy products	Red Tank commissary
Abattoir	Gatun commissary
Vegetable room	Paraiso commissary
Bakery	Gamboa commissary
Coffee-roasting and packing department	La Boca commissary
Ice-cream and milk-bottling plant	Silver City commissary
Industrial laboratory	Madden Dam commissary
Laundry, Ancon	
Refrigerating and ice plant, Mount Hope	
Refrigerating and ice plant, Balboa	
Soap plant	
Delivery section	
Mechanical operating force	
Utility gangs	
Gardeners	

wholesale warehouses and the other of the retail stores. Table V shows the administrative relationships.

Although the Panama Railroad Company was operating a commissary supply as far back as 1885, the provisioning services were kept at a minimum even during canal-construction days. The frame buildings resembled backwoods stores, with

simply the minimum assortment of canned goods and staples on the shelves. There were not so many married men in the Canal Zone in those days, and life was rather raw and crude. In the intervening period, however, family men have largely supplanted bachelors; and the population's range of desire and ability to pay have increased many fold. This is not to suggest that Canal-Zoners are overpaid or that their desires have become extravagant; it is simply to explain why the work of the Panama Railroad commissaries has grown from a pork-and-beans beginning to a silk-stocking maturity. In an attempt to keep pace with increasing consumer demands, the commissary management has stocked most of the grocery, dry goods, home furnishing, and hardware merchandise which is found in the larger department stores. This is one of the reasons that Panamanian merchants complain; what they label "luxuries" have become articles of ordinary use and consumption in Canal Zone life. Moreover, the demand for so-called luxury goods is increased by the Army and Navy personnel, who naturally are encouraged to patronize the commissaries, and also by the staffs of businesses such as the shipping, oil, and fruit companies, who, because they reside in the Canal Zone, are entitled to commissary privileges. However, the proportion of sales represented by such business is quite small.

The volume of commissary business is also explained by sales to ships transiting the canal and by purchases made by the Army and Navy departments. In times past these sources of revenue have accounted for a substantial part of the commissary's transactions, but in recent years there has been a considerable shrinkage at this point. Between 1929 and 1933, sales to commercial vessels fell from $1,134,886 to $294,416, a decline of 74.1 per cent, while sales to the United States government dropped from $1,515,100 to $964,376, a decrease of 36.3 per cent. In consonance with the recent agreements entered into between the United States and Panama, the commissaries have reduced the number of items which may be purchased for "canteen" use by ships. At no time for many years past have

regulations permitted sales to steamship passengers or to individual members of the crew. The falling-off of Army purchases has been the main cause of decreased sales to the United States government in recent years, but steps are now being taken by which it is hoped the Army's Isthmian purchasing will be restored to the commissaries. Because of the large-scale operations of the Canal Zone commissaries, they should be able to supply many of the Army's needs more advantageously than can the Army itself.

COMMISSARY FINANCE

The total business of the commissaries has fallen off in recent years, not only in so far as outside sales are concerned, but also in business done with employees of The Panama Canal and the Panama Railroad Company. This may be attributed to the

TABLE VI

REVENUE FROM COMMISSARY SALES, 1927–33

1927	$ 9,128,580	1931	$10,068,201
1928	9,682,241	1932	8,347,226
1929	10,479,571	1933	7,313,380
1930	10,791,490		

15 per cent cut, to the necessity of increasing prices as volume fell off, and to the commissary's inability to reduce operating costs as rapidly as they have been in most cases throughout the United States. The trend of recent years is shown in the statement in Table VI. Whereas retail sales averaged around $800,000 monthly a few years ago, they are now in the neighborhood of $500,000 a month. Retail prices, needless to say, are dependent very largely upon volume of business. The problem of the management is therefore that of restoring net sales to their former level. An assured demand from the Army would assist substantially in making this possible.

Lessened volume of sales also makes the ratio of operating expense higher, and it was already considered more than it should have been before the business slump of recent years. Within the last seven years the percentage of operating costs to

revenue from sales has ranged from a minimum of 21.90 per cent in 1928 to 29.55 per cent in 1933. The problem of reducing fixed charges and operating expenses deserves a great deal of attention; and fortunately this problem is being exhaustively studied as one of the researches directed by the Engineer of Maintenance. We shall refer to overhead charges again in connection with criticisms of the commissaries.

In the period between 1915 and 1933 the Panama Railroad Company made a net profit on commissary operations of $4,971,801— a very tidy sum. Prior to 1915, commissary earnings were lumped with "Miscellaneous Receipts," but it is safe to say that the activity was always profitable. The net profit in 1933 was $224,876, a decrease of $105,834, or 32 per cent, in one year;[2] this represented a return of over 5 per cent on the investment.

In recent years it has been the announced policy to make a profit of 2 per cent on the investment in commissaries, but this amount has been exceeded. When the commissaries first began operation, it was understood that no profits were to be made from sales to employees. The profit policy was inaugurated during the war, when goods were being sold at a price below the cost of replacement. Earlier, however, the earning of profits had been permitted on sales to ships. Subsequent to the visit of the "Weeks Commission" in 1921, a definite policy was laid down; the Governor approved a policy of selling merchandise at a price which would cover cost and all selling expense and give a net return of approximately 2 per cent on the turnover. At this time the Chief Quartermaster stated that the 2 per cent net profit was an offset to losses involved in connection with writing down to replacement values of stocks on hand. It is not clear whether or not this was meant to be a permanent policy. At any rate, if we compute commissary profits on the basis of a return on capital investment (including fixed, working, and inventory capital), we find that the net profits from 1923 to

[2] The value of two warehouse buildings and a bakery in Cristobal, amounting to $73,355, was charged to current operations in this year.

1933 represent a minimum return of 5.18 per cent and a maximum return of 11.28 per cent. The announced policy of the present administration is to earn a return on the commissary investment of 3 per cent, and steps are being progressively taken to reduce the earnings to this figure.

The total fixed-capital investment of the Commissary Division has increased over 65 per cent since 1910. The résumé given in Table VII may be suggestive. It will be observed that

TABLE VII

INVESTMENT IN COMMISSARY BUILDING AND EQUIPMENT

Date	Book Value	Depreciation	Net Investment
1910.....	$ 638,464	$ 586,222	$ 52,242
1915.....	1,016,617	354,485	662,132
1920.....	3,236,275	649,257	2,587,017
1925.....	2,198,279	667,359	1,530,920
1930.....	4,157,247	1,090,082	3,067,164
1933.....	4,255,985	1,277,225	2,978,759

the net investment is influenced very much by depreciation. The increased investment generally is explained largely by the growth of population and by the higher standards of living found in the Canal Zone. Moreover, in place of rude wooden structures which once served the commissaries, modern concrete buildings with attractive furnishings and equipment have been introduced in order to satisfy more fastidious tastes. Recent construction has been built to stay. The new warehouse building at Mount Hope, for example, cost over $750,000, is 482 feet by 122 feet in dimension, is built of concrete throughout, and is supported by columns of concrete 34 inches in diameter. Needless to say, this type of construction has added materially to fixed charges and to depreciation costs and hence, indirectly, to retail prices. The possibility of reducing overhead costs generally will be considered at a later point.

CRITICISMS OF COMMISSARY MANAGEMENT

Many and varied are the criticisms of commissary operations. We shall mention some of the most frequently voiced ones in order to focus attention upon some of the problems with which we shall have to deal in the balance of the discussion. Many of the criticisms apparently represent nothing more basic than the perennial explosions of bored housewives who are looking for a convenient object upon which to externalize their aggressions. In this class may be put the statements that a monopoly is inherently intolerable and that the Panama Railroad Company gouges the Canal-Zoners in order to make larger profits for the government. However, when the merchants of Panama join the refrain and wind up with the conclusion that commissary activities should be restricted, the Canal Zone population rises in defense of the excellence of the present system. Commissary prices are considerably lower on most purchases than are prices in Panama. But even the foregoing general complaints have some foundation; a state of mind is sometimes more determinative than the naked truth.

Perhaps the best thing to do is to record the hodgepodge of complaints and to decipher them in later discussion. According to one consumer or another, prices are too high and they have increased steadily for years; retail prices in the Canal Zone used to be lower than in the United States but now the reverse is true; operating costs and fixed charges of the commissaries have increased out of all proportion; the customary mark-up on commodities is so high that the commissary management must be guilty of either inefficiency or extortion; there is too much waiting in line at grocery stores and meat markets; clerks are not always attentive and are sometimes insolent; dealing with "silver" clerks is objectionable; when the Commissary Division makes an advantageous purchase and the wholesale price later goes up in the United States, the commissaries increase their price and their profit instead of giving the customer the advantage; units of the Commissary Division which lose money on their operations are supported by other enterprises, thereby

raising the general price level; wholesale prices are not uniform to all purchasers, such as the Army, the restaurant proprietors, etc.; the great majority of the commissary employees are British West Indians, who are occupying positions that might be filled advantageously by Americans; and, finally, the commissary management is said to be shortsighted in failing to reduce drastically the price of commodities which do not sell well and in failing to replace them with a fresh supply which will turn over rapidly. There may be other criticisms, and it is possible that they have more foundation than many of the above-mentioned. However, we shall not deal with each of the foregoing complaints explicitly, but we shall be content to consider the general problems which seemingly encompass most of the adverse criticisms.

The primary index of the consumer's satisfaction or complaint is naturally price; if he believes that Canal Zone prices are well below States' prices, he is happy. Such comparisons are difficult if not impossible to make. The price on "leaders" in chain stores and the retail price on perishables will naturally be lower in the United States; the commissaries have never indulged in "leaders," and they must transport perishables at least two thousand miles, usually involving several transfers and changes of temperature. However, in a comparison of price levels generally there is reliable proof that commissary prices are below those in the United States. On some articles they are substantially lower; at the deepest point in the depression, commissary prices were probably slightly above the States' level; but over a period of ten years or more an appreciable differential has been enjoyed by the Canal-Zoners.

The advantages which the Zone commissaries have over merchants in the United States are offset by items of increased expense. The commissaries enjoy two principal benefits so far as price is concerned, to wit: They are not required to pay duty or taxes, and their profit expectations are very modest. On the other hand, freight charges by train in the United States, by boat over twenty-one hundred miles to the Canal Zone, and by

rail on the Isthmus account for a substantial increase over initial costs. Spoilage losses on perishables amount to a considerable item of expense. Between 1922 and 1933 the loss sustained in connection with the condemnation, spoilage, etc., of fresh fruits and vegetables totaled $881,659—an average annual loss of $80,000. With the improvement of steamship refrigeration this enormous loss is gradually being reduced. Other important differences undoubtedly do exist, but they may be classified as controllable factors rather than as natural disadvantages. The greatest natural burden of the commissaries, let it be repeated, is the differential represented by transportation costs, which are relatively fixed and unalterable. Hence, economical transportation, like the profit from commissary operations, is dependent primarily upon volume of business. In addition, contrary to the widely held view, the success of commissary operations is largely dependent upon the sale of so-called "luxury" goods. These articles can be marked up 60 per cent or more and still be sold at a price which is attractive to the consumer.

The cost of carrying on commissary operations is relatively high. In 1933, for example, the value of sales and services (excluding inventory, merchandise purchased for sale, and merchandise purchased for manufacture) was $4,853,739 ,while the total expenses (exclusive of stock purchases) amounted to $2,161,408.[3] A study made in the Canal Zone during 1933 showed that the price paid by the commissary patron for $100 of goods included a mark-up to cover operating costs of $30; this represented an increase of $8 (or 8 per cent) over a period of five years. The percentage of mark-up added to the C.I.F. (cost, insurance, freight) value of merchandise to defray operating expenses of the Commissary Division ranged from 35 per cent on boots and shoes to 62 per cent on tobacco; the average for all commodities was 41 per cent. These findings undoubtedly suggest that the cost of distribution on the Isthmus is too high.

[3] *84th Annual Report: Panama Railroad Company* (1933), p. 32. This figure includes manufacturing expenses.

In 1933 warehousing costs were 50 per cent higher than in 1928.[4] Depreciation charges today are 40 per cent higher than in 1925; this represents a charge of $164,000 per annum, obviously a large item of expense to be carried by commissary operations. Steps have already been taken to reduce these items of fixed and operating expense.

Under the direction of the Engineer of Maintenance there has been made a study of commissary capitalization and depreciation with the idea in mind that the capital accounts of certain obsolete or overbuilt properties may have to be written down. For example, the abattoir at Mount Hope represents a large capital investment which is lying practically idle while depreciation charges continue to mount. It was built during the war and served an indispensable purpose at that time. In recent years, however, it would have been foolish to slaughter cattle on the Isthmus when prices in the United States are so low and when refrigeration has been improved so greatly. Needless to say, it is poor business to carry this capital investment without any prospect for future use. Another example of obsolete or overbuilt properties may be found in the ice plants. With cheap electricity available and with the widespread introduction of electric refrigerators, the Balboa ice-manufacturing plant has been closed down entirely and an even larger unit at Mount Hope is now operated far below capacity. There are also minor instances in which a reduction of commissary capitalization appears to be necessary either because of non-use or because existing facilities plainly exceed present or prospective demands. Tentative conclusions reached by Canal Zone investigators indicate that the conversion of existing depreciation accounts plus a certain amount of writing-off to profit and loss would justify the reduction of commissary capital to the extent of possibly $750,000. This would mean a considerable advantage so far as fixed charges are concerned.

The most beneficial change in commissary management dur-

[4] It needs to be recognized, of course, that prices had declined and that the tonnage handled was less.

ing recent years has probably been the reorganization of accounting methods in order to place each unit of commissary operations, including manufacturing plants and wholesale divisions, on its own financial foundation. The reorganization took effect in July, 1933, and beneficial results have already begun to appear. Retail units are no longer required to carry expenses which properly belong elsewhere. In case a unit cannot pay its own way, it will not be given artificial respiration but, instead, will be closed down. Each productive service within the Commissary Division is expected to make 3 per cent on the turnover; and the business as a whole, in due course of time, is not expected to exceed a 3 per cent return on the capital investment. These changes have been brought about without increasing the accounting expense, and the commissary management is now in a position to know exactly where it stands financially at the end of each month. Finally, differentials in wholesale price to different parties have been entirely discontinued. Now that unit costs can be ascertained with certainty and now that uniform prices are the rule, it is hoped that the Army's business with the Commissary Division will be brought back, thereby increasing the volume of commissary sales and giving the Army a better price at the same time.

Criticisms of having to wait in line for service at retail commissaries are well authenticated. Although there is a possibility that the Commissary Division is overstaffed in some departments, this certainly would not appear to be true of the retail stores. In the Commissary Division as a whole there has been a reduction in staff of 16 per cent during the last five years; the percentage of reduction was greater in the case of wholesale and manufacturing units than in the retail stores.

One of the principal causes of waiting is that commissary coupon books are issued six times a month, and during the first few days thereafter business in the commissaries usually leads to congestion. Then, too, most customers wish to shop at the same hours of the day, namely, in the early morning when it is cool and in the afternoon after working hours. Incidentally, no

sales are made in coin or currency, and charging privileges are rather strictly limited. The use of scrip is so universal that some employees facetiously refer to the Canal Zone as "Little Russia."

Commissary clerks on the average are as alert and as anxious to please as in chain stores in the United States. The management has never adopted a policy of paying bonuses for sales, and so long as the service is satisfactory and profits are not the consideration, this is probably the wiser policy. The number of cases in which patrons have found offense in dealing with "silver" employees, simply because they are colored employees, is probably very few, because they appear to be a satisfactory type as a group.

PERSONNEL PROBLEMS OF COMMISSARY MANAGEMENT

The most important problem in relation to commissary management is whether the Commissary Division should remain a subordinate branch of the Supply Department. Here we have the major merchandising unit on the Isthmus, highly ramified in its services and organization, under the supervision of a headquarters department, which, in its other branches and in its original purpose, is not a sales organization at all. We shall discuss the possible reorganization of the Commissary Division, constituting one of the principal problems of overhead organization and control, in a later chapter.[5]

The General Manager of the Commissary Division and the store managers appear to have less authority over their employees than is needed in running a commercial establishment such as the commissaries. Only brief mention will be made of personnel problems here, however, because the subject must be discussed much more fully in the chapter dealing with personnel. In the case of classified positions, appointments must be made from the three highest on the Civil Service list maintained in the Executive Department of The Panama Canal. Instances have occurred where the first fifteen persons, or more, on the

[5] See *infra*, pp. 230–33.

list had either obtained other positions, had moved away, or were unavailable for some other reason. Within the last three years, in pursuance of the Welch Classification Act, commissary positions have been classified according to federal specifications. In the appointments to unclassified positions the same routine of choosing from lengthy lists must be gone through. It is almost impossible to remove a man for ordinary incompetence or because better men are available. All removals and most cases of disciplinary action are subject to immediate review by the officials at Balboa Heights. In the commissaries, as in other departments, it sometimes becomes necessary to resort to subterfuges—such as calling inability "insubordination"—in order really to get rid of an undesirable employee. Promotion according to seniority is the rule, and it is usually difficult to make exceptions. However, in the Commissary Division there are several cases of employees comparatively young in the service who, on the basis of merit, have been advanced ahead of older men to important positions.

The writer is a sincere champion of Civil Service, but he is convinced that the merit system's usefulness is limited. Experience seems to show that the Civil Service system with its present rigidities and shortcomings is hardly applicable, without modification, to the successful conduct of public commercial undertakings. The General Manager must be really in a position to control; his voice must command obedience and respect. It is destructive of efficiency for employees to feel that they can appeal to Balboa Heights over the head of the manager in almost every instance. On the other hand, it is a safeguard against arbitrary and prejudiced actions. One of the greatest defects of Canal Zone administration, as we shall argue later, is that operating officials are not given sufficient freedom af action, enough opportunity to experiment, and adequate release from paper-workers at Balboa Heights.

Another major problem of commissary operation is the employment of over five times more "silver" employees than of "gold" employees. At the present time there are 1,014 colored

employees, mostly British West Indian, and only 196 white employees. The latter are American citizens who are engaged in supervisory positions. The Special Panama Canal Commission of 1921 recommended that white employees be replaced wherever possible, both as an economy measure and because white men, they said, cannot stand the tropics.[6] In their conclusion and in their reasons the commission now appears open to attack. As a general proposition it may be said that Americans should be given positions in the Canal Zone whenever the work is not patently injurious to health and vitality, where the same kind of work is customarily done by white employees in the United States, and where increased efficiency will result. The North American can live in the tropics, although the climate takes its toll after several years. But in view of the present and perennial unemployment in the United States, it is evident that, assuming the tests mentioned above, positions in the Canal Zone should be provided for American citizens.

The effect of a drastic replacement of colored employees by white men would undoubtedly be serious. For West Indian employees who wait on counters and do office work, $55 per month is considered a relatively high wage. If present Canal Zone scales are followed, white employees would probably average $150 a month for this type of work. It is estimated that if suggested principles of replacing "silver" with "gold" employees are carried out in the branches of the commissary affected, the differential represented in increased labor costs would amount to $500,000-$600,000 a year. That a hypothetical wage of $150 per month is not too high is indicated by the fact that meat-cutters in the commissaries receive a basic wage of $241 a month.

There is clearly ample justification for giving present positions to Americans in many cases at least. For example, office work in the commissaries is done by West Indian employees in a majority of cases. As a rule they are conscientious and

[6] *Report: Special Panama Canal Commission of 1921* (Government Printing Office, 1922).

capable, but they are not adaptable. They learn to do a given job, but their ability stops there. Not only would Americans prove more valuable in the organization, but this is obviously one type of work which certainly would not have a deleterious effect upon the employee.

PURCHASING OPERATIONS

For the price and quality of the merchandise sold in the commissaries, the Canal Zone population is largely dependent upon the work of the Purchasing Agent of the Panama Railroad Company in New York City. This work, under the immediate supervision of the Vice-President, has been carried on from New York for at least fifty years. With more than thirty thousand Canal Zone purchasers to please, and with orders amounting to more than five million dollars annually, the purchasing unit of the Panama Railroad Company may be compared to the buying department of a large department store.

The business of the Purchasing Agent has been performed with great success, creating a model for governmental and private procurement agencies. At the present time the purchasing department is operated on an annual expenditure of $54,000, representing an expense of $1\frac{1}{3}$ per cent on the total volume of purchases; and at times when the volume of business has been greater, this item has been as low as 1 per cent.

The purchasing department of the Panama Railroad Company, unlike the purchasing agency of The Panama Canal and other governmental establishments, is not tied down by stringent regulations relative to the acceptance of the lowest bid or by other restrictions imposed by purchasing and financial officials of the general government. This is a very great advantage, particularly when the purchases must be made to please prospective consumers rather than merely to be used for construction and maintenance. The first rule followed by the New York office is emphasis upon quality and attractiveness, while price is important but secondary. If one bid on a meat contract is one-half cent cheaper, but the produce is of poorer quality than

that of the next higher, the latter proposition obviously should be and actually is accepted. Fortunate it is, therefore, that purchases for Canal Zone commissaries can be handled under the greater freedom permitted government-owned corporations rather than under the strict regulations of the federal purchasing laws. Greater freedom in purchasing operations is one of the important advantages of government-owned corporations.

The requisitions for commissary supplies are controlled by the General Manager's office at Mount Hope. Memoranda orders for requisitions to be placed are made up by the buyers in the various warehouses and are then sent to the General Manager's office for approval, compilation, recording, and forwarding. Hence, in a sense the purchasing department in New York is simply an agency of the Commissary Division in the Canal Zone; the Purchasing Agent fulfils instructions as faithfully as possible, assuming the initiative regarding prospective purchases in relatively few cases.

There is close and constant communication by cable, radio, and air mail, however, so that the co-operation is constant and prompt. The present Purchasing Agent has remarkable "market sense," and if he is convinced that a large order should be placed at a given time, he immediately communicates this advice to the Isthmus. Milk, flour, cottonseed oil, and apples are bought in carload lots. Generally, however, the New York office does not make a practice of awarding blanket orders, and a stores system is not maintained in the United States; all purchases are shipped for storage in the Canal Zone. When time contracts are awarded, the Panama Railroad Company always secures the right to demand delivery as needed and to be given the advantage of any price change in its favor.

In recent years an important part of the purchasing activities has been conducted by an agent stationed in San Francisco. As a result of west-coast operations, remarkable success has been experienced in the purchase of eggs and fresh vegetables. This market is being further explored with the possibility of increasing the number of Pacific Coast deliveries. For-

merly, a branch of the purchasing service was maintained in the New Orleans region, but it was discontinued about a year ago. For some time there has been outside criticism because of the fact that the corporation's purchasing operations have been almost wholly confined to the New York region. The possibilities of tapping other markets continue to be studied. Although present federal legislation forbids purchase outside the country for use by government services, the commissaries are permitted to purchase a limited number of articles abroad for resale. Hence, the activities of the Commissary Division reach out, for commodities not easily obtained in the States, to agents in Great Britain, Europe, China, and many parts of the world.

Being free from federal restrictions, the Railroad's purchasing agent is not forced to buy along hard-and-fast lines. Federal specifications are used when possible, but they need not be. On purchases of $1,000 or over there must be competition; on items of $10,000 or more the approval of the Vice-President must be secured. Ordinarily, bids are taken on items amounting to only $400.

Anybody and everybody cannot bid. Invitations to bid are sent out according to a list which the purchasing department has made up over a long period of years; this list is added to, revised, and kept up to date. The telephone is used on rush orders. The number of bids asked for varies. For example, on flour the average is 30, while on other commodities the average is 10; in the case of a patented article possibly only one invitation may be made.

Cash discounts secured by the department more than maintain the purchasing organization. There is no fixed discount on orders; if no discount is stated when the bid is proffered, the Panama Railroad Company goes out for the best discount it can get. Only a few of the most powerful companies refuse discounts. Cash discounts ranging from 2 to 8 per cent are secured in almost every case. If an opportunity is missed, the Vice-President raises the roof. Owing to close co-operation between the Purchasing Agent, the Treasurer, and the Auditor in the

New York office, all of whom pass upon discounts, payments for purchases are made with great dispatch. The New York office of the Panama Railroad Company, contrary to people's ideas concerning government departments, is as aggressive and as hard-boiled as its neighbors, the private firms, along the Battery.

In addition to the purchasing operations described above, the General Purchasing Agent of The Panama Canal in Washington buys large quantities of supplies on account of Canal Zone activities. At the present time these expenditures average around $3,500,000 a year, while during construction days they amounted to $6,000,000–$10,000,000.

It might appear that appreciable economies would be possible if the purchasing agencies in New York and Washington were combined. The overhead organization could possibly be reduced, and there should be bargaining advantages in having eight or nine millions of purchasing power in one unit rather than in two organizations. However, when it is recognized that the type of purchases in the two cases are entirely different, the reasons for amalgamation do not seem so convincing; commissary purchasing is department-store buying, while Panama Canal procurement is primarily for construction and maintenance. Each is a large-sized job in itself, and each is a specialized task. If the New York office of the corporation were to take over all purchasing responsibilities, it would undoubtedly mean that buying for discriminating commissary customers would suffer as a result.

The Washington office of The Panama Canal, operating under federal specifications, is admirably adapted to the type of purchasing for which it was created, i.e., the buying of cement, steel, and maintenance supplies in large quantities. As a federal agency it is enabled to use the facilities of the General Supply Committee for quantity purchases, as well as the Post-Office (for stationery, etc.), the Navy (for fuel oil), and other government departments. All requisitions come from the Canal Zone, and so far as the Washington office is concerned no

distinction is made between orders for the account of The Panama Canal and those which will be paid for by the Panama Railroad Company. United States Standard Specifications must be used unless, in exceptional cases, some valid reason for not doing so arises.

The Washington purchasing is subject to the regulations laid down by the Federal Specifications Board, and it comes under the general oversight of the Director of Procurement and the Controller-General of the United States. Under this system it is almost impossible to avoid the requirement concerning acceptance of the lowest bid. As a general rule this is a desirable safeguard, and it usually results in no hardships. However, the requirement concerning the lowest bid does work out unsatisfactorily in some cases, such as occasionally in the purchase of electrical machinery, air hammers, parts of Diesel engines, and other technical contrivances.

Unlike Panama Railroad purchasing, no increase or decrease clause can be put in a contract; the administration gambles on the future price and buys at the price as current. Unlike commissary purchasing, too, there is usually no haste in buying, and there is no necessity for seasonal buying. There are important differences in purchasing operations as a government department and under the more flexible system of the government-owned corporation; considering the difference in requirements, the existing separation between commissary purchasing and general purchasing is probably a desirable division of responsibility.

PRODUCTION UNITS

Either in direct connection with the work of the Commissary Division or under the aegis of the Supply Department generally, several important manufacturing and productive units have grown up which go a long way toward supplying the demands of the Canal-Zoners for commodities which are perishable or which can be produced locally. These two criteria have been the controlling principles in determining whether manufacturing operations should be begun in the Canal Zone; but in addi-

tion to these factors, consideration of convenience, freshness, and availability of supply in case of war-time emergency have also played a determining rôle. The war period gave a great impetus to Canal Zone manufacturing operations and brought home with striking force to the administration the necessity of being prepared to sustain the community in case of interference with the channels of communication to the States. The reason that the size of the Canal Zone population has been kept as low as possible, and one of the principal reasons that retired employees have not been permitted to remain in the Zone, is that the Isthmian administration must not be burdened with unnecessary problems of government and subsistence in case of a conversion from peace to war-time status.

In 1933 the total value of the output from the laundry, the coffee-roasting plant, ice manufacture, the ice-cream and milk-bottling plant, the sausage factory and pickling department, the industrial laboratory, the bakery, and the abattoir was $1,506,092. In 1930, when retail sales were higher, the corresponding figure was $2,318,030. It is apparent that these operations are of real significance, and on the whole they appear to be very successfully managed.

The largest manufacturing unit in the Mount Hope wholesale supply building is the bakery. In 1933 this establishment produced more than seven million loaves and other bakery products, having a total value of $286,842. All phases of the business are operated with the latest labor-saving machinery, and an average of three thousand pan-loaves per hour may be turned out. At the present time a fifteen-ounce loaf of bread, containing a skim-milk content, is sold at retail for four cents. Bakery operations are clearly one of the most necessary and also one of the most satisfactory branches of the Canal Zone's manufacturing activities.

The industrial laboratory has become the most profitable as well as the most progressive of the productive units connected with the Commissary Division. It produces toilet articles, household medical supplies, condiments, and soft drinks for

sale in retail commissaries. The guiding principle here is to manufacture articles which in the United States are sold at excessive prices. Under the direction of a first-rate manufacturing chemist, the equivalent of widely advertised products is produced and then labeled in a distinctive manner in order to avoid any conflicts with patent rights. These local products have proved very popular and are usually much less expensive than nationally advertised brands. In 1933 the value of the industrial laboratory's output was about a quarter of a million dollars.

The work of the abattoir has been practically discontinued. Commenced in 1915 as a war-time subsistence measure, cattle-raising and meat-slaughtering proved invaluable, and they have been important since then as a reserve weapon to control outside prices. In 1933 the value of the abattoir's output still amounted to $124,465, but two years prior to this the corresponding figure was $640,918. During the war the business approached the million-dollar mark. The present capital investment in the abattoir stands at $148,954, representing a writing-down of the original capital of over $93,000.

During the war a large investment in the cattle industry was made, representing a total investment of $1,295,032. The present pasture facilities are now practically unused, owing to the fact that a satisfactory supply of beef has been obtainable so cheaply outside of the Canal Zone in recent years. At the end of the fiscal year 1933 all remaining cattle had been disposed of, but pasturages are being maintained in case world-prices on meat skyrocket or in case of war-time emergency. To the end of the calendar year of 1920, based upon the retail price differential between States and native beef during the first five years of operation, it is computed that there was a saving on meat purchases to the government and its employees of approximately $7,000,000. The capital charge on the cattle industry has been reduced by writing off from time to time to the profit-and-loss account of the cattle-industry division and to the Panama Railroad general profit-and-loss account, until at the end of the fiscal year 1933 the capital account stood at only $183,930.

The record of the dairy farm has been one of increasing success. Between 1920 and 1933 the number of milk-producing cows has remained about the same, 350, but output has increased from a little over 150 gallons a day to 700 gallons a day. In July, 1925, 4,822 gallons of milk were being produced, while in July, 1933, output had been increased to 18,357 gallons, and in January, 1934, to 22,490 gallons. This remarkable record is attributed to the constant care of an expert veterinarian and to the fixing of a Holstein-Jersey strain which seems to be particularly adapted to the tropics. The average production per cow is two gallons a day. The butter-fat content in the milk is maintained at about 4 per cent. During the past fiscal year the wholesale price of milk has been reduced from 80 cents to 50 cents a gallon, allowing a profit in 1933 of $12,419. The retail price per quart is 15 cents. In four years milk consumption has increased from 558,629 quarts annually to 841,690 quarts annually. In 1931 the ice-cream and milk-bottling plant did a net business of over a quarter of a million dollars.

The plantations, on which vegetables and tropical fruits are grown, have not been operated directly by the Supply Department for the last five or six years. Some of them were turned over to contractors as long as twelve years ago. In 1933 the Panama Railroad Company's profit from this source was only $1,053.

The cattle industry, the dairy farms, and the plantations, it should be observed, are not under the jurisdiction of the Commissary Division, but the heads of these units report directly to the Assistant Chief Quartermaster.

The Ancon Laundry, which is owned by the Panama Railroad Company, does a large annual business for Canal Zone residents, the Army and Navy, The Panama Canal, the Panama Railroad, and steamships. This is one of the productive units which comes under the supervision of the General Manager of the Commissary Division. In 1933 it handled over six and one-half million pieces. The laundry is operated by modern machinery, and it does very satisfactory work.

HOTEL ENTERPRISES

We have now referred to all of the business enterprises owned by the Panama Railroad and coming under the supervision of the Supply Department—with the exception of the hotels Tivoli and Washington. These hostelries, the only American ones on the Isthmus, are under general supervision of the Assistant Chief Quartermaster, to whom the respective managers report. Both hotels depend almost entirely upon the tourist trade, and as a result their prices for rooms and meals are out of the reach of most persons who expect to stay in the Canal Zone any length of time. Yet both hotels are attractive and comfortable; they command fine views, the Washington facing the Atlantic at Colon and the Tivoli overlooking the Pacific at Ancon; and their cuisine is excellent. In comparison with prices charged by tourist hotels in the British West Indies their rates are reasonable indeed, the minimum price for a single room being four dollars a day during the winter season.

During the past few years the Panama Railroad Company has sustained deficits on the operations of both hotels; on the Tivoli the net loss in 1933 was $60,518 and on the Washington $43,368—a rather serious total to be borne by Railroad profits from other sources. The total loss on the Hotel Washington during the years 1917–33 amounted to $124,897; but losses did not begin to occur until 1930, whereas small annual profits were made prior to that time. The losses on the Hotel Tivoli, on the other hand, totaled $190,833 in four years. In explanation of this loss, it should be said that the hotel was not taken over by the Railroad from the Canal until 1929 and that thereafter annual "rental" payments of $30,000 were charged against operating expenses in order to amortize the balance of the Canal's investment in the hotel. Now that these payments have been completed the hotel is making a better financial showing. The resulting financial set-up is anomalous. The original investment is still owned by The Panama Canal and on it the Railroad pays an annual rental, while in addition the Panama Railroad has a capital investment in the hotel of $41,525, represented by equipment.

With the improvement in canal transits in 1933–34 and with the increase in tourist travel, both hotels have reduced their prospective deficits. The repeal of prohibition in the Canal Zone will also mean a great financial benefit to the hotels, particularly to the Tivoli. During the dry era no liquor could be served in the Tivoli, while at the Washington, which is just outside the Canal Zone, liquor could be sent out for, on the purchaser's responsibility, but could not be dispensed by the hotel. The result was that a great deal of business was diverted to Panama. Another means of reducing hotel deficits that is being considered is the possibility of converting the large barnlike dining-room of the Tivoli Hotel into a coffee shop. If the tourist traffic and the transient trade of commercial travelers return to their former level, the hotels may be restored to a sound financial condition. On the other hand, if projected plans for building a large tourist hotel in Panama City materialize, it might be necessary to close the Tivoli.

As the charm of the Canal Zone and of the Panamanian region generally becomes more widely appreciated in the United States, a growing tourist business may be expected, bringing direct benefit to the hotels and to other Railroad properties. The Panama Railroad Company should adopt a unified and aggressive organization to publicize and promote its transportation and hotel facilities. It is recommended that serious consideration be given to the possibility of offering pension rates and term rates for persons who desire to stay in Canal Zone hotels for vacation periods. The Panama Railroad Company can perform a real service for citizens of the United States by making available and giving publicity to the vacation possibilities afforded by beautiful Panama. The idea should be promoted that the Canal Zone does not exist exclusively for the local residents and the service men on tour of duty but that American citizens will find a development of which they may well be proud and surroundings in which they are sure to enjoy themselves. This movement is already under way by means of co-operation with the travel agencies. It can be furthered by placing the hotels under a person trained in hotel management and by giving the

hotel managers more liberty for initiative and more freedom from Supply Department regulations. At present the managers clearly do not have enough discretion. If it were entirely up to them to increase business, it is believed that methods could be found of cutting down the overhead and of improving the service.

CONCLUSIONS

All things considered, the business services carried on in the Canal Zone are a credit to government enterprise. In the large range of manufacturing and wholesale activities which have grown up on the Isthmus there have been several instances of conspicuous success as a result of progressive management. Mistakes have been made, but in most cases they could not have been seen in advance and probably would have been made by private businesses as well.

There are certain commendable features of commercial management in the Canal Zone. The first one is that quality is uniformly superior to that found in the general run of comparable private establishments. Everything must be of the best, from the original plant to the consumable commodity. Investments in buildings and equipment do not appear to be extravagant, although men representing private firms on the Isthmus usually say that they could build a satisfactory plant for less. But Canal Zone business enterprises give the impression of genuineness and permanence. A second advantage is price, which, even allowing for the tax and other differentials, is a clear indication of efficient management by the Canal Zone officials. In several cases there seems to be no doubt that prices could be lowered even more (i.e., profits as earned at present could be reduced), but such proposals always bring forth objections from private interests. The sale of perfume in the commissaries and the retail price of electricity in the Canal Zone are cases in point. Then, too, service is maintained at a generally satisfactory level. There are no high-powered business methods in evidence, but reliability and common courtesy may be depended upon. Fi-

nally employees are exceptionally well treated in comparison with private industry.

The outstanding drawbacks of commercial management in the Canal Zone have been adverted to already. In the first place, operating units are not given enough independence, and executive heads are tied down by orders issuing from clerks and office workers; the result is that there is not so much unified control and experimentation as seems desirable. A second criticism is that men with business experience and with knowledge of the latest commercial practices are not recruited for the most important executive positions in the business units. Clerks and white-collar workers have been moved up to the top according to Civil Service progression and the mortality rate. Men of native business ability have been drawn out of the pack in some cases; a notable instance of this is the General Manager of the Commissary Division, who started as a Civil Service clerk on the Isthmus more than a generation ago and who appears to have developed the qualities which distinguish a successful business executive.

A final criticism may be made; the desires and attitudes of consumers are not given sufficient attention, or, to state it more accurately, the techniques which the business world uses in keeping customers satisfied have not been mastered by Canal Zone executives. As suggested above, most of the complaints concerning commissary operations are probably not deep-rooted but petty; these attitudes can and should be changed. What is needed is not better service or cheaper prices necessarily, but better psychology—an improved public relations technique. Paid advertising inviting attention to the excellence of the commissary and inviting constructive criticisms might help to sweep aside accumulations of petty complaints. Use of the newspaper medium was employed for several years, and is said to have resulted in a better attitude on the part of the Canal-Zoners. It was discontinued when the merchants of Panama objected to avowed salesmanship. Serious attention should be given to the desirability of recommencing commis-

sary advertising, and other means of improving relations with customers should be studied. Several persons have suggested the possibility of establishing a self-service system in commissary grocery departments, such as are found in chain grocery stores in the United States. This move would involve a considerable expense, but it is suggested that the desirability of it be studied. There is no question but that women like to poke around grocery shelves.

The foundations of commercial management in the Canal Zone are firmly secured; all that is needed now are certain instrumentalities and amenities.

CHAPTER VII

FINANCIAL ADMINISTRATION

IN THE operation of the Panama Railroad's services, which have been analyzed in the last three chapters, as well as in the operation of The Panama Canal, the influence of the Auditor is all-pervasive. In him are combined all of the reins of financial control on the Isthmus. The Auditor is a Director of the Panama Railroad Company; he helps to formulate its policies as well as to see that they are carried out. Because of the set-up and powers of his office, the Auditor inevitably becomes the king-pin of the permanent bureaucracy, and at times his influence over detailed administration seems to be greater than the Governor's.

The organization of the financial machinery on the Isthmus is singular; it defies exact comparison and violates some of the most important of the accepted canons of financial management. On several occasions in recent years the fundamental set-up has been carefully studied by outside authorities, and certain important accounting changes have been made; the basic organization and theory of control remain unaltered, however, despite strong criticisms which were made of the existing scheme as long ago as 1922.

It will be our purpose, in the present chapter, to analyze the underlying ideas of financial organization and control, to deal with certain financial policies having an important bearing upon administration, and to consider briefly some of the results of existing financial practices. We approach the problem from the standpoint of general administration rather than from the purely technical standpoint of the accountant or of the efficiency expert; the present examination differs in this respect from surveys of financial administration which have been made by outside agencies in the past.

EXISTING ORGANIZATION AND CONTROL

Referring to the work of his own department, the Acting Auditor of The Panama Canal once said, "There is probably no other department of government or any company or individual with such a variety of operations carried on under one administration and one accounting organization." The Accounting Department, concluded the Special Panama Canal Commission of 1921, "embraces too many unrelated and illogical functions." The varied functions performed by the Accounting Department are best explained by analyzing the manifold duties of the Auditor, the head of the entire financial establishment.

The duties of the head of the combined financial services encompass considerably more than the term "Auditor" implies. The office might more properly be called "Controller."[1] Under the existing organization the Auditor is budget director, treasurer, appropriation officer, auditor, rate-maker, claim-adjuster, time clerk, time-inspector, property custodian, bonding agent, and contract-awarder. Unlike ordinary business and government establishments, the Treasurer's functions and the Auditor's duties are combined. This is the principal difference, but in addition all the other responsibilities just mentioned have been gradually collected by a process of accretion. "The Auditor performs very few of the real functions of an auditor," concluded the 1921 commission, "but is rather a sort of general manager of the Canal administration, without having the name and without having a proper organization to perform those functions."[2]

The Auditor, with the Governor, is the principal link between Panama Canal finances and the government of the United States. As liaison officer to the appropriations committee of Congress, the Controller-General, and the Director of the

[1] It is suggested that, in case the writer's recommendations concerning financial organization are not adopted, the title of the Auditor be changed to that of Controller and that his functions be made to parallel as closely as possible those of the controller in a modern industrial organization.

[2] *Report: Special Panama Canal Commission, 1921* (Washington: U.S. Government Printing Office, 1922), p. 14.

Bureau of the Budget, he acquires much of his importance in general administration. As budget officer of The Panama Canal, the Auditor is charged with the preparation of the annual estimates for appropriations for the operation and maintenance, sanitation, and civil government of the Panama Canal and the Canal Zone. He prepares statements for the Bureau of the Budget concerning the status of Panama Canal appropriations and their expenditure and supervises the collection of all funds from all sources, whether repayable to the appropriations, to the accounts of the Panama Railroad Company, or to the United States Treasury as miscellaneous receipts.

In the reply made to the Personnel Classification Board the following statement concerning the Auditor's duties was made: "The duties of the Auditor are primarily in connection with the estimates, appropriations, expenditure, and collection of funds, but since there is practically nothing done in connection with the operation and maintenance, sanitation, and civil government of the Panama Canal and Canal Zone which does not involve funds in some way or other, practically everything passes over his desk, and in matters of operation and policy his opinion, advice, or recommendation is sought by the Governor."

This states the case mildly. Governors are in office only four years, while Auditors hold on indefinitely. The Special Panama Canal Commission of 1921 stated a commonly accepted view of the Auditor's real powers in these words: "While technically responsible to the Governor, as a matter of fact he dictates the policy of every business operation, fixes prices, rates, service charges, allocations of labor, expense, and overhead. In brief, he performs every function of an executive but without responsibility therefor." To this statement Governor Morrow replied:

> As to the criticism of the executive functions of the Auditor, these are of exactly the same nature as the criticisms that have been advanced against the new office of Director of the Budget, but on a smaller scale and with much less force, as the Governor is far more able to give individual attention to protests from his division heads than would be the President.

> The Auditor has no executive functions except in his own division. Many of his acts appear so, but none of them are performed without either the written or oral approval of the Governor. There is bound to be a certain amount of vexation on the part of other division heads (who, by the way, sometimes obtain the decision), but these are only signs of health, and give proof of the fact that the control is where it belongs, in the hands of the Governor.[3]

Nevertheless, the view expressed by the 1921 commission appears to be widely and firmly held today. Considering the way in which the financial power is monopolized, and considering the other factors which have been mentioned, the Auditor could not help but become the power behind the throne.

Two other offices in the Canal-Railroad Establishment maintain accounting establishments, but both of them are located in the United States. In the New York office of the Panama Railroad Company there are two departments dealing with finances, the Treasurer and the Auditor. This division of responsibility wherein one official is responsible for formulating financial policy and for keeping accounts while another is responsible for seeing that said policies are carried out and for conducting the audit—this system is the traditional practice in business organization, and most people would say that nothing short of it will suffice.

The work of the Treasurer in the New York office is largely concerned with the investments and securities. In 1933, $467,780, or over one-half of the net income of the company for the fiscal year, was derived from income credits. The Treasurer's duties include the handling of securities, interest, vouchers, insurance, and payments for purchasing. A committee of three Directors, with the Treasurer acting as secretary thereof, is the custodian of the company's securities.

The Auditor of the Panama Railroad deals primarily with steamship accounts and he is also responsible for preparing the company's consolidated balance sheet. The invoices for commissary purchases are sent to the Canal Zone and the account-

[3] *Ibid.*, p. 42.

ing work is done there. The company tries to follow the Interstate Commerce Commission regulations regarding accounts, but the Commission never investigates the company. At the close of each fiscal year all figures and statistics relating to the company's operations are sent to the New York office from the Canal Zone and from these data the consolidated balance sheet and the *Annual Report* are prepared. For many years the accounts of the company have been audited by an independent firm of outstanding reputation. Needless to say, this is ordinary commercial practice. Three times a year representatives of Haskins and Sells of New York come in unexpectedly for a check-up on the Treasurer and on the securities; they also make an annual audit. The firm, of course, does not vouch for the accounts which are kept on the Isthmus and the detail of which is not available.

The accounting work in the Washington office is under the direction of an Assistant Auditor. He reports directly to the Chief of Office rather than to the Auditor on the Isthmus. The Washington accounts deal with purchasing operations conducted there and with the expense of running the local office. This work, like that in the Canal Zone, is subject to the periodic check-up of the Controller-General's department.

The Canal Zone services require the maintenance of three separate accounting offices. Concerning the expense involved in maintaining financial establishments in New York, Washington, and the Canal Zone, the commission of 1921 concluded that "this total outlay is out of all proportion to the volume of business done, and even under the present methods is susceptible to substantial reductions." In the last ten years the accounting force in the Canal Zone has been reduced from 233 to 182, and the annual expense has been brought down from $556,000 to $490,224. Economies have also been effected in New York and Washington. It is believed that all three establishments are needed and that the work of the New York and Washington offices is performed very efficiently and economically.

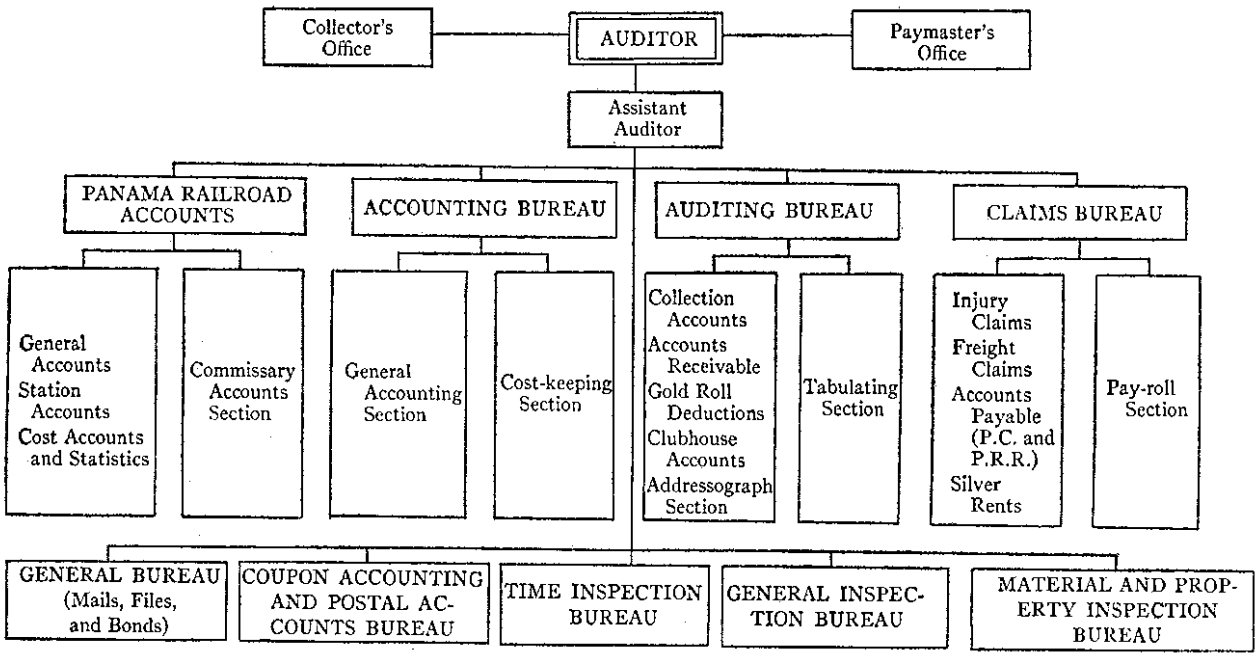
Compared with the ordinary business concern, there can be no doubt that the relative cost of operating the Accounting Department in the Canal Zone is high. But such a comparison is not accurate. If an analogy to the United States Steel Corporation is made, the Accounting Department of The Panama Canal will be found to fare much better. Allowing for the obvious differences in magnitude, such a comparison is appropriate. The steel company, like The Panama Canal, operates, and must maintain accounts for, large numbers of ancillary services such as railways, steamships, residences, grounds, sanitation, etc. The fairest comparison is to a hypothetical municipality of four thousand persons in which all services, including house repairs, the mowing of lawns, public entertainment, urban transportation, subsistence supplies, health services, mechanical repairs and even haircuts and chewing gum, are supplied by the government and accounted for by the financial department. Enormous accounting detail is the necessary result of Canal Zone paternalism. If improvements are to be made, they must be in organization and in method rather than in scope and in administrative expense.

The present Accounting Department on the Isthmus is the result of the merger of the Railroad's and Canal's accounting departments on the Isthmus in 1914. When this consolidation took place there was a reshuffling of positions, and the accounting work of the Railroad was added on to the Canal's business in a more or less intact form. Most of the Railroad's financial transactions today are handled by a distinct division in the Accounting Department dealing with Railroad accounts.

The existing organization of the Auditor's department is substantially as it was in 1914. Only minor changes have occurred, the underlying ideas of organization having withstood change and criticism. Chart III will help to make the situation clear. Under the Auditor and his immediate lieutenant, the Assistant Auditor, there are three main divisions, designated as the "auditor's office," the "paymaster's office," and the "collector's office." The Auditor himself is the head of the Ac-

CHART III

ACCOUNTING DEPARTMENT ON THE ISTHMUS



counting Department, is directly responsible for the auditor's office, and, in addition, exercises general supervision over the paymaster's and collector's offices.

At present the title "Auditor" is a misnomer. He neither audits, in the general acceptance of the term, nor exercises complete control over all of the duties ordinarily performed by an accounting department. The Auditor has no direct responsibility for the actual handling of funds, this function being performed respectively by the Collector, who takes in all receipts from the Canal-Railroad services, and the Paymaster, who disburses all moneys. The heads of these units are, in a sense, the Auditor's subordinates, but their divisions have not been integrally absorbed by the Accounting Department. They are appendages of the Accounting Department under the Auditor's supervision.

The auditor's office is divided into several bureaus, namely, accounting, audit, claims, railroad accounts, coupon accounting, general inspection, time inspection, property inspection, and general; these units are in addition to the paymaster's and collector's offices. It will be observed that both the accounting bureaus and the audit bureau are units within the auditor's office proper. Bureau heads deal respectively with canal, railroad, and coupon accounts, while a single bureau chief performs the auditing work for all divisions.

The General Inspection Bureau is the traveling auditor service of The Panama Canal and the Panama Railroad; field agents check up on the cash accounts and the transactions of the various collecting officers. The Time Inspection Bureau, which was established in the early days of canal construction, has become a detective force; it checks up on whether employees are at work, attempts to prevent padding of pay-roll accounts and investigates abuses of commissary privileges and smuggling into Panama. A bureau of the auditor's office also handles the inspection of the physical property and equipment belonging to, and on the accounts of, the Canal and the Railroad. The full responsibility for property is in the heads of de-