

CHAPTER-8

THE CONCLUSIONS FROM THE STUDY

Sound financial management in ports increases trade and commodity export volumes and opens up future development opportunities for the hinterland. Major ports in the country have today moved far beyond the situation they were in at Independence, when intensive overuse, lack of proper maintenance and inadequacy of port-assets left them in a poor and dilapidated state. Draft limitations precluded the handling of modern bulk carriers and tankers, the size of which had grown beyond the drafts available at ports. Loading and unloading operations were still manual in nature, as the ports were not equipped with mechanical facilities, causing unnecessary delays to shipping and mounting congestion at ports. Port development and diversification has received continuous attention in intersectoral investment allocations under the Plans to correct such imbalances.

In such a context, the exploration made in the study of financial management at Calcutta-Haldia Port over the previous chapters holds forth new insights on the future directions of port development and shipping in India. These are summarily presented below.

8.1.1 The Objects of Financial Management

The object of enterprise is to secure the greatest possible returns to capital. The three major decisions that constitute this involve selection of plant and assets in the investment portfolio, selection of capital-sources which finance investment, and selection of the purposes to which the profits of enterprise are to be selectively allocated. Financial Management directly concerns all activities reflecting decisions on asset acquisition or disposal, and thus governs both acquisitions and allocations of funds. Financial management principles are applicable to port-undertakings, which provide saleable services requiring vast prior investment. Effective management of port finances ensures the provision of quality port services which are operational at all times.

India is a maritime country and considers the sea vital to its economic and strategic interests. The present study has focused on the ports of India, of which 11 ports currently qualify as major ports, 23 as intermediate ports and 141 as minor ports. A major port is one declared as such under law or Act of Parliament. The Port of Calcutta was established during the rule of the East India Company and became a Major Port together with Bombay and Madras in 1921. Visakhapatnam and Cochin were also declared Major Ports during British rule. Over the planning period after Independence, six other major ports have been established at Kandla, Mormugao, Paradip, Mangalore, and Tuticorin and at Nhava-Sheva (now known as Jawaharlal Nehru Port). HDC was commissioned in 1977 as an integral part of Calcutta Port administered under a common Port Trust with the Government-appointed trustees representing various interests. The Port of Calcutta has 14 departments, based primarily with CDS. The HDC has 8 divisions. Port development in India has concentrated on rehabilitation and

modernisation of existing facilities at major ports, on augmentation of their berthing capacities, and on improvement in auxiliary facilities and technology to allow for optimal capacity utilization.

Financial management is the broad area of focus for the present study. Because of the dominance of the public sector within large-scale enterprise in the Indian mixed economy, financial management literature has focused on aspects of corporate financial behaviour, capital structure planning, capital budgeting, management of working capital, and the financial management of public sector undertakings (PSUs). No studies exclusively address financial management at Calcutta Port, and the few Committee Reports which discuss major port finances are neither exhaustive nor purposeful in their comment. Existing literature on CHP is also not adequate to a study of financial management of the port, although a number of single studies have focused on its operational features. A third area in the available literature spans aspects of port planning and management, and the role played by ports in the economic development of port-hinterlands and of the country. Reviewing the studies, it becomes apparent that poor port-performance at Calcutta is ascribed variously to physical, institutional, technological and managerial problems, or to economic and policy considerations. No study explores financial management problems as a factor in this.

This unresearched problem is covered in the present study. The CPT administers the contiguous, mutually complementary subsystems of CDS and HDC, and these are therefore considered within a unified study-frame, rather than individually.

8.1.2 Financial Management for Port-Undertakings

Effective financial management is imperative for successful enterprise. Through relatively cheaper services, a well-managed port can increase export and import flows by making trade with external markets more competitive.

The finance function is a decision-making process that follows analytic comparison of the alternative uses and sources of funds. The executive finance function applies administrative skills to planning and execution, and therefore to formulation of asset-management policies, estimation and control of cash requirements and flows, allocation of net profits, assessment of the need and sources for external finance, and the monitoring of financial performance. The incidental finance function brings financial decisions at the executive level into effect, therefore involving supervision over of cash receipts and payments, custody and security over cash balances, securities, etc. and the maintenance of records and periodic reporting.

Major ports cannot be efficiently run without creating surplus balances to cover costs of port development and asset-replacement, and unforeseen contingencies. Port commissions therefore recommended a minimum rate of return on capital employed at all major ports, which would give them a financial buffer for asset creation. However, implementation of this recommendation at Indian major ports leaves something to be desired.

The exercise of financial control by executive management depends on periodic internal or external accounting and on audit reports from financial management which relate to physical or financial performance, or to variations between actual and standard costs. Financial management at CHP is under immediate charge of the Financial Adviser & Chief Accounts Officer (FACAO), under the overall control of CPT. Financial operations at CDS and HDC are attended to by several

sectional divisions of the financial authority. All major ports maintain systematic accounts, in which four principal port activities, namely, cargo handling and storage, port and dock facilities, port-railway workings and estate rentals contribute both revenue and expenditure items. A fifth activity, namely, management and general administration occurs only on the expenditure side. Finance and miscellaneous incomes and expenditures are carried as separate accounting heads.

Major ports submit annual budget estimates to the Union Government for sanction. Proper budgetary control which compares current actuals on performance with budget estimates and initiates corrective action when deemed necessary can contribute positively to the efficiency of major port operations. Traffic forecasts made by the Research and Planning Department assist the formulation of a revenue budget referring to operating and non-operating expenditures that recur annually. Past actuals guide the formulation of an expenditure budget. Planning the acquisition and allocation of long-term investment funds is called capital-budgeting, which at major ports oversees both development works and maintenance. The capital budget is framed within port development programmes under the Five-Year Plan. Funds-flow statements indicate fund sources and commitments on a chronological basis and are most useful in financial analysis. Accounting ratios computed from them serve as sharper financial yardsticks. Trend percentages which indicate change over time in financial and operating data also assist the financial analyst. Cost-accounting based on evaluation of marginal costs and/or standard cost forms a supplement to other financial assessment methods of budgetary control. Operations Research is used to assess implications of alternative management decisions. Efficiency or performance audits appraise operational performance in terms of efficiency of operation.

8.1.3 The Calcutta-Haldia Port

CHP is one of the four largest operational major ports in India, but is the only riverine port among them. Its hinterland of about 80,000 sq.km. is rich in resources and is extensively served by communications. The port was founded by Job Charnock as British trading headquarters on the Hooghly river in 1690, as it offered the best upriver anchorage to oceangoing vessels. Under CHP, the CDS comprises the two dock-systems of Kidderpore (KPD) and NSD, and an oil-jetty. HDC is a much later development commissioned in 1977 to overcome problems of navigational access and congestion of facilities at CDS. Average berth occupancy for CHP is lowest at KPD which is the oldest facility, and considerably higher at NSD and at HDC. The CPT is one of the largest estate-owning major ports in India, with its holdings in the city of Calcutta making it the single largest landowner in the metropolis. These properties offer substantial rental income to the CPT.

Calcutta-Haldia Port has comprehensive facilities such as modern computerised container terminals, mechanised dry, liquid and grain bulk-handling, and heavy-lift and break-bulk general cargo handling, and has a large storage infrastructure in its two dock systems at Calcutta and Haldia. Adequate dry-docking facilities are also provided. Dredging and pilotage requirements for maintenance of the long navigational channel are met partially by the CPT's own river-craft. CPT-owned port-railways at Calcutta and Haldia serve import and export cargo and uplink the industrial and commercial sidings of the oil refinery and fertiliser plant at Haldia, and the FCI foodgrain storages and the SAIL steel stock-yards at Calcutta. CHP is also linked to its vast hinterlands in the states of West Bengal, Bihar, Orissa, Assam, Uttar Pradesh, Madhya Pradesh and the neighbouring countries of Nepal and Bhutan, through the chain of National Highways and the Eastern and South-Eastern Railways, as well as through air links and inland waterways. CHP is thus rated the largest terminal port in South Asia.

The Port has however been perennially plagued with problems of upriver navigation past the changing bars and bends in the Hooghly estuary, caused by heavy siltation which subjects the navigational channel to sudden fluctuations in draft and alignment. Of the 17 river-bars in the Hooghly between Calcutta and the Sandheads, 12 are on the upper stretch between Calcutta and Diamond Harbour, and 5 between Haldia and the sea. Constant dredging estimated at 22mcm annually is necessary involving high capital and recurring costs, which are an additional burden on CHP, unlike at other Indian major ports. Although the Union Government subsidises 90 percent of the recurring costs, the most-repeated contention is that as a national waterway, the river is used not only by the Port but by others as well, and so all dredging costs ought to be subsidised.

HDC was commissioned to ease the navigational and access problems of Calcutta Port and lies 104 km. downriver from the city. Maximum loaded drafts of ships are higher at 13.7m. for HDC, against 7.9m. for CDS, and vessels upto a length of 201.2m. can berth there, compared to 152.4m. at CDS. Berth occupancy is consequently higher, with highest rates being achieved for coking coal and general cargo (92 percent). Although HDC is also the single-largest landowning authority in the Haldia township, the share of income from estates accruing to it is modest, because low rental values have to be maintained to attract port-based users to Haldia.

CHP is an import-based port. POL comprises 68 percent of all imports from the port, followed by coking coal at 23 percent. Thermal coal constitutes 75 percent of the port's exports, followed by varying quantities of iron and steel, tea, jute products, etc. Traffic at CHP has doubled from 9.51 MT in 1980-81 to 18.34 MT by 1992-93, primarily because of increased activity at HDC, but also because of increase in POL and coking coal imports and the relocation of exports of thermal coal to Tamilnadu from Paradip port to Haldia. The major share in CHP cargo volume derives from operations at HDC, with CDS volume either declining or improving only marginally.

Principal commodities passing through CHP are POL, coking coal, fertiliser, fertiliser raw materials, and foodgrains. POL registered 62 percent of total imports and 16 percent of total exports at CHP in 1992-93, and accounted for 49 percent of total commodity traffic. For comparison, POL traffic at Bombay, Madras and Visakhapatnam registered respectively at 69 percent, 39 percent, and 33 percent of total traffic handled.

Over its long history, CHP's financial results are a mixture of the good, bad and indifferent. High costs of establishment, channel dredging and maintenance, replacement and maintenance expenditure on the large fleet of CPT vessels, modernisation costs, and heavy debt charges impose a financial burden that is compensated by a steep port-tariff. CHP has thus, from inception, been a high-cost port. Sharp increases in costs and deficits in the 60s and early 70s led port management to concentrate on revenue maximisation in subsequent decades. The more favourable financial results since are also reflective of sharply increasing port-tariffs, as of better operational performance in recent years. Improvements in the financial position have also followed reduction in manpower and increased income from traffic and estates.

With HDC having consistently contributed the maximal share of total CPT revenues, the belief has arisen that, over time to come, Haldia will gradually supplant Calcutta as a port. Manpower under CPT has traditionally been high, although the Haldia dock-operations are highly-mechanised. Total manpower has nevertheless been declining at CDS because of natural attrition caused by superannuation, and successful implementation of the Voluntary Retirement Scheme (VRS), although manpower at HDC has been increasing because of expansion of the port. The financial position of the

CPT can however be further strengthened by increasing incomes from storage charges and estates, and by economy measures in establishment, reduction of the interest burden and better management of port railways.

8.1.4 The Analysis of Capital Structures

Funds - as net current assets - are technically working-capital funds distinct from actual cash. Analysis of changes in the flow of funds over time is conducted on the Funds Flow statement, which complements financial analyses by revealing changes in assets, liabilities and the sources and applications of funds that occur over a selected period. Port borrowings - comprising loans from Government, intercorporate loans, and commercial borrowings - have been the most important fund-sources for the Indian major ports. Port development work is partially financed from Government plan-grants. A considerably smaller share is contributed by other capital receipts such as sinking funds; net earnings of the reserve fund; repayment, replacement & maintenance funds, etc. Working capital balances are generally negative, and thus represent a fund-application rather than a fund-source.

Most funds obtained externally by the CHP are used to finance capital investment, including Plan investment, miscellaneous debt charges on loan-financed works, and other non-Plan investment. Besides its opening and closing balances, the major fund-sources for CHP are its other capital receipts and loans, while the major fund-applications are capital investments on major capital-works such as dredging, dockyard structures and vessels. Capital investment at CHP has risen considerably in both absolute and percentage terms with marked acceleration towards the end of the study, but since Government loans and grants have tapered over this period, much of the funds required are now drawn from internal and other sources. Delays in execution of construction projects add heavily to costs, and time-budgeting needs to be made an integral component of financial management at the Indian major ports.

The capital structure of Indian major ports therefore comprises internal sources, Government loans, external loans, debenture loans, intercorporate loans, and Government plan-grants, with internal sources acquiring slow dominance among these. Accumulated debt-servicing charges on Government loans which have not yet been repaid also enter the capital structure as an internal capital source. Surveying time-trends, the overall evolution of CHP's capital structure reflects declining reliance on external borrowings and greater reliance on self-generated funding. Asset-utilisation has been particularly better in the later years of the study. The sharp increase in internal sources has primarily been from increased handling operations at the HDC. At CDS, such escalation is rooted more in non-operating activities, eg. estate rentals.

External capital has generally dominated internally-owned capital at HDC which has taken advantage of buoyant traffic volumes and also of cheaper development finance because of the larger quantum of Government plan-assistance. But at CDS the ratio of external to internal capital is lower than even IDBI/IFCI norms. Port development at HDC has thus diverted a large part of development capital away from CDS.

8.1.5 Cost Trends

Although port profits could theoretically be increased by either increasing revenues or by decreasing costs, there are practical limitations to the increase of tariffs. Revenues of ports may be stepped up either by escalating tariffs and docking charges, or by attracting more traffic and raising port turnover. The stress, in the present situation, has to be placed on cost reduction. For increase in revenues, the best way open to CHP would be through reduction rather than escalation of tariffs, in order to bid away extra traffic from neighbouring ports. Indiscriminate cost reduction can however also result in more harm than good.

Port costs at CHP have tended to increase sharply, with steep escalation in non-operating costs, even though these have been lower than at other major ports. Differential patterns observed in the structure of major port capital are attributable to differences between major ports in indebtedness. With Bombay, Madras and Visakhapatnam Ports having higher interest repayments against capital projects, non-operating costs contribute a higher component to their capital structure. The CHP capital structure is less weighted by debt charges.

Operating cost patterns at CHP are more or less stable. Costs of port and dock facilities, cargo handling and storage, and management and general administration contribute a major part to the operating cost structure of major ports, and are increasing in magnitude. However such mounting port costs are also seen all over the world. CHP operations appear as more labour-intensive, with salaries and wages comprising more than half of operating costs. The overall high-cost nature of the port is thus related to both workforce and non-workforce related operations.

With reference to non-operating income, peaking of interest receipts reflects a significant presence of short-term deposits in the CHP's investment portfolio, and partially, book adjustments made in respect of revenue items relating to preceding years. There is scope for improvement in non-operating income at CHP, following the lead of Bombay. Much of CHP revenue still derives from operations, but more non-operating revenues would accrue to the Port if idle funds were invested in securities and other short-term instruments.

Cargo handling and storage charges and port and dock charges provide a dominant share of CHP operating income. Traffic increase has been consistent. CHP also has the highest operating revenue yield per tonne of traffic, because of the considerably higher proportion of general cargo handled which yields higher revenue than bulk cargo.

8.1.6 Cost-Revenue Relationships

Although cargo handling and storage are the most paying port-service at all major ports, their magnitude at CHP is considerably lower than at other ports. Wagon shortages and paucity of storage space delay the clearance of cargo. The raising of demurrage charges to punitive levels to act as a deterrent to non-clearances, while upward revision in storage charges would augment port revenues.

Next in order of importance to port operations are port and dock services. CHP deficits on these are considerably higher than at other major ports, particularly when traffic shortfalls occur. Ports in developing countries also incur considerable deficits from having to provide all port and dock facilities at high capital and operating costs, without any private sector involvement. Port railways

too generally incur losses, which could be remedied by transferring port-railways to Indian Railway ownership, or by raising terminal charges and freight rates and reducing staffing and uneconomical sidings. In terms of the leasing-out of port-owned estates, CHP is better placed however, because of revenues generated by its metropolitan properties.

Non-operating income and expenditure of ports mainly derives from income on investments and interest payments against port loans. With application of funds to new Plan projects and towards meeting debt charges on other Port project-loans, deficits have occurred, since the rise in non-operating revenues has been slower. CHP particularly shows continuous deficits because of high debt charges on Government loans taken for port development.

8.1.7 Ratio Analysis

Financial analysis has been supplemented in the present study by applying standard financial ratios to the special context provided by port data. Gross surpluses of all major ports have risen considerably over the last eighteen years, and are a reflection of improvement in port management in India. However, at CHP, this increase in net port surplus has largely been drawn from HDC to the detriment of CDS. CHP has been the most consistent among major ports in generating operating surplus, but runs large non-operating deficits because of heavy debt-charges to loan-capital and towards meeting employee-benefits.

Despite occasional tariff revisions, the return on investment at CHP has been lower than recommended by the Major Ports Commission, and net surplus margins are low. The situation prevails because of non-realisation of targeted traffic, and procedural delays in revision of tariffs. Timely revision of charges and diversification of cargo operations in favour of high-valued general cargo, accompanied by cost-economies in port-stores and wages would all improve finances and raise port incomes,

A port's operational efficiency is also reflected in physical performances. About 14 percent of shipping operations at Indian major ports and the maximal share of tanker traffic is accounted for by CHP. The CDS share has however declined steadily, even as that of HDC has been increasing. Pre-berthing detention at CDS has generally been lower than at other major ports, and creditable progress has also been made in this regard at HDC too, where detention time has declined even as the number of vessels calling there has risen. Recent commodity-wise pre-berthing detention figures also show relatively better placement for CHP compared to other major ports.

Average turn-round time at HDC has declined as the port has developed but is uncommonly high at CDS, because of its general cargo operations. Labour unrest has at least partially accounted for unsatisfactory idle time rates at HDC, which however has realised the highest ratios for port output per ship berth-day for all categories of traffic, ultimately reflecting on the profitability of its operations.

8.2 Findings from the Study

After Calcutta Port came into existence in 1870-71, port traffic began at 3.27MT. The 10MT and 11MT marks were crossed in 1912-13 and 1928-29, respectively. At Independence, in 1947-48, cargo volume was 7.06MT or 38 percent of total port traffic in the country. For three decades thereafter there was almost no improvement in total cargo volume handled at 9.44 MT in 1951-52 and 9.51 MT in 1980-81. After this however, total volume of cargo handled began to increase, and CHP achieved a doubling in traffic to 18.34 MT by 1992-93, primarily because of the commissioning of HDC. CDS handled 43 percent of CHP traffic in 1980-81, and only 28 percent in 1992-93. The major share of traffic was being handled at HDC. However, over the long time-horizon, the volume of cargo traffic at Calcutta Port increased from 10.9 MT in 1928-29 to 18.3 MT in 1992-93, thus rising by only 7.4 MT (68%) over the long period of 64 years. Cargo volumes handled at other major ports rose by 141.2 MT (641.8%) over an identical period, indicating their burgeoning operations and importance. Traffic growth at Bombay, Madras and Visakhapatnam since Independence have been 350 percent, 1122 percent, and 1788 percent, respectively, and their individual traffic volumes all exceed CHP's.

Certain technological, physical, institutional and managerial limitations have been found to shape the decline in importance of Calcutta port and underutilisation of its capacity, even as Haldia has grown in importance. Demand factors in the hinterland as well as policy-variables such as Government transport policy have their effect as well. However, some observers have held the view that the decline of the port is not explainable entirely by technological factors, and economic reasons predominate, along with problems of dredging and maintaining the downriver shipping channel.

The hinterland has undergone vast transformation since Calcutta Port was founded. From the export of pre-industrial commodities and handicrafts during the port's early days, the port became import-based, unloading manufactured goods from Europe for commercial distribution, and exporting raw material. It was only with the advent of cash crops and plantation crops like jute and tea that the port turned to commodity exports again. Gradual industrialisation saw the coming into being of exports in jute textiles, accompanied by coal, manganese and iron ore, and later, finished steel, but the import-dominance has remained. Hinterland-development follows the development of a port provided the port can be efficiently operated. But an efficient port must have dependable finances in the form of reserve funds for port development and maintenance. The return earned by a port must be adequate to the payment of debt charges and to meeting replacement needs of assets and equipment. As an inefficient, high-cost port, CHP may render it impossible for its hinterland to capture or maintain markets abroad for exportable items of cargo, and may also make the cargo imports required by the hinterland extremely costly and uneconomic.

8.2.1 Capital Needs & Planning

Dependence on debt-capital is a major characteristic of Indian corporates, and this is particularly true of Indian ports as public undertakings. However the nature of emphases on financial management in the PSUs is contextually quite inappropriate for a study of Indian major ports. The motive of the PSU is to earn a profit, while the principal motive of a major port is to render services to port-users, for economic development of the hinterland as well as the country. Unlike studies which stress improvement of financial management of PSUs with the object of making them profit-oriented,

the present study has sought to analyse weaknesses in the financial management of Indian major ports and to suggest remedies whereby such problems are overcome and the ports can earn the prescribed minimum rate of return.

Financial planning involves determination of requirements and finance for capital-structure and working-capital needs, capital-expenditure planning, and of credit, profit and dividend policy. Capital charges at a port include expenditures on port-properties, port-equipment and port-installations, as also the capital costs of dredging. Although ports were enjoined to operate so as to meet all financial obligations on fixed capital, working capital and debt charges, the obligation is not clearly spelt out in the Port Trust Acts, beyond committing the ports to make an annual provision for fulfilment of all liabilities either by readjustment of expenditure or increase of tariffs. The absence of a proviso prescribing a standard rate of return to be earned in the governing Acts encourages a balancing of budgets, without realistic provision for future liabilities. As pointed out in the Rochdale report, operation of other modes of transport services as state or municipal undertakings accentuate this tendency. In view of the fact that replacement costs of port assets are greatly in excess of their original costs because of inflation and technological obsolescence, mere depreciation provisions are often inadequate to meet actual costs at the time of replacement. The Major Ports Commission's recommendation of a minimum rate of return to be earned by ports is not wholly complied with because it lacks the force of law.

8.2.2 Sources of Capital

Loans from Government were a major fund source at the beginning of the study, registering at 22.38 percent of total fund-sources and rising to 32.45 percent in the mid-period. Thereafter a sharp decline set in and in the last year of study, they registered at only 7.69 percent of total sources. In 1980-81, loans from Government amounted to 49.02 percent of the total capital base, followed in importance by internal sources at 26.38 percent. Accrued debt charges liable to be repaid against previous loans constituted 16.93 percent, and debenture loans and external loans were minimally present at 6.20 percent and 1.47 percent, respectively. At the end of the period, percentages of internal sources and debt-servicing charges had risen, while those of loans from Government and debenture loans had declined.

Government grants made to port schemes were a minor fund-source mainly for river training works. Other capital receipts which contributed 42.10 percent of fund-sources in the mid-period, but fell thereafter to only 19.79 percent in 1992-93.

The major source of funds were opening balances of cash and investment with their contribution being more than 40 percent in peak years. However, their use has been as normal working capital, with the investment component being negligible. Fund deficits in particular years swallowed a portion of available funds, at times as high as 24 percent of total sources. Funds committed for repayment of loans ranged between a minimum 3.47 percent and a maximum 9.25 percent. Closing balances of cash and funds generally accounted for nearly half of the total fund applications, except in the initial period of study.

It is clear that out of total loans of Rs.273.19 crores including loans from Government, intercorporate loans and commercial borrowings, repayments of Rs. 71.27 crores only have been made. Funds sourced from Government grants and other capital receipts were Rs.372.99 crores, but

capital investment to the tune of Rs.470.44 crores has been made. The difference on this account of Rs.97.45 crores, or around 20 percent of total capital investment has been met largely from loan sources. A cumulated net deficit remains unresolved after taking surpluses into account, and is of the order of Rs.4.67 crores.

Surveying the time-trends in capital finance, it may be remarked that the overall evolution of capital structure reflects declining reliance placed on external borrowings and greater reliance on self-generated funding. This is borne out by comparing indices. Internal sources over the eleven years have risen by 274 index points, against the overall index increase of 108 points, indicating rapid acceleration in the above process. Government loan funding has, in comparison, increased at a trickle by only 20 points, while the quantum of debenture loans has been halved. Another manifestation of the financial crisis imposed by the inability of Calcutta Port to meet debt-servicing obligations is shown by the trend in accumulated debt charges; because of the large amount of previous borrowings, these have increased by 153 index points over eleven years. The increasing pressure on the Port to meet capital requirements from its own sources is therefore understandable.

8.2.3 Capital Assets & Utilisation

The nature of assets owned by Calcutta Port includes landed properties; docks, quays, jetties, landing stages, etc.; buildings, sheds and other structures; bridges, roads, sewers and water supply; railways and rolling stock; cranes; heavy and light plant and machinery; heavy and light floating craft; buoys and other marine equipment; and dredging capital including river-training works. The average age of CPT's vessel fleet is 22 years, and over the next fifteen years at least 37 vessels and river-craft would have to be replaced. Of the above, capital investments made in order of importance in 1990-91 were nearly 26 percent on capital dredging including river-training works; nearly 17 percent on docks, quays, etc.; and nearly 13 percent on heavy floating craft. Dependence on the DCI for dredging work has gradually increased, as the CPT's own dredging capacity and dredging fleet has remained static, in the absence of capital structure additions. The effect has been to increase both total costs and unit cost per cum. of dredging.

The analysis would indicate that asset-utilisation has been better in the later years of the study, especially after the Port came under pressure to finance capital investments from internally-generated resources, although the rate of asset-acquisition and replacement is likely to have slowed down, accounting for the slow increase in the depreciation component. Although the buoyant position in reserves and surpluses is partly the result of vastly improved cargo handling at the Port, particularly at HDC, a larger part is contributed by non-operational activities.

It would be pertinent at this stage to study the composition of port reserves and surpluses. The reserve & surplus component of internal sources may be classified into capital revenue, revenue reserve, reserve provision for liabilities, and the residual, i.e. surplus. Capital reserves are created from the non-operational activities of an enterprise and are therefore an unexpected reserve, while revenue reserves are created from the operational-surplus balances and are therefore an anticipated reserve.

The analysis points to the slowly increasing share and the sharply accelerating magnitude of the capital reserve component in revenues and surpluses of the Port. While the share of this rose from 63.41 percent in 1982-83 to 78.32 percent in 1990-91, the absolute increase was by Rs.229.89

crores. On the other hand, the share of revenue reserve had increased from 36.59 percent to 21.68 percent during the same period, with a smaller absolute increase of Rs.47.98 crores. It would therefore appear that the escalation in reserves & surpluses at Calcutta Port was sourced primarily from non-operational activities, since the growth in revenue reserves was more moderate and showed up a decline in relative terms.

Comparison between ratios of loaned capital to owned capital at CDS and HDC, reveals which port complex has a stronger capital structure. The ratio of loaned capital to owned capital at CDS was 1.1 or below, over the entire period. The slack on this account was made up at HDC, where loaned capital considerably exceeded owned capital over the identical period. At the commencement, in 1980-81, loaned capital was nearly ten times more than owned capital at Haldia. However, the ratio at HDC had been falling rapidly and was nearly in line with the norm by the end of the period.

The early development of HDC was fully dependent on external sources of capital. CDS was not dependent on external sources to the same extent as HDC which was a developing port, and which moreover with time took over a number of categories of port operations from CDS. Principal reasons for fluctuations in operating and non-operating costs are the variability in contributions from current revenues to reserves for replacement, rehabilitation and modernisation of capital assets, the reserve for development, and repayment of interest/principal amounts against loans and other contingencies.

8.2.4 Operating Costs

The sharpest increase in operating costs in both absolute and proportionate terms has been in costs of port and dock facilities. Costs on port and dock facilities which alone contribute nearly 40 percent to operating costs at CHP, account for much lower proportionate shares at the other major ports. The share of costs on port railways in overall operating costs has declined, since the pace of their absolute increase was slower than that of overall operating costs. Costs on rentable land and buildings increased much more, but have a modest share in overall operating costs at CHP. Management and general administration costs at Calcutta Port have escalated sharply.

i. Traffic and Operating Costs : When cost increases are more than would be warranted by increased traffic, the operating surplus may decline. Operating costs at CHP have escalated three-fold against two-fold increase in traffic. Even when traffic stayed almost equal between consecutive years, operating costs appreciated considerably. Average operating costs per tonne of traffic handled are much higher for CHP than at other major ports.

ii. Operating Cost by Type: Salaries and wages are seen to have constituted the major component in operating costs. The share of general expenses in operating costs at CHP has increased considerably, from around a quarter of total operating costs to nearly half. Although the port has made an effort to trim its labour-force, a similar effort to control general expenses is not apparent. This is the major operational area where cost-economy needs to be achieved.

iii. Non-operating Cost: Major ports revenues depend on rate structure of the port concerned, and quantum and composition of the traffic handled by it. Port tariffs can also be classified into charges levied on vessels, and charges levied on cargo.

iv. **Operating Revenue:** Comparing all revenue items for CHP, the increase in revenues derived from port and dock charges, estate rentals, and railway earnings is seen to have outstripped that of cargo handling and storage related revenues, resulting in a decline in the relative share of the latter.

v. **Traffic and Operating Revenue :** At CHP, operating income has risen much more sharply than physical volume of traffic. In fact, even when traffic registered a fall in certain years, this was not associated with any consequent reduction in operating revenue. Rapid escalation of operating revenues at the port would therefore appear to be explained by changes in traffic structure in favour of high-rated cargo, and changes in the tariff structure itself, rather than in terms of increase in traffic alone. In index-terms, against tonnage-increase of 93 points, operating income at CHP has increased by 218 points, with as much as 177 point growth is concentrated in an eight-year period, when the corresponding growth in tonnages is by only 65 points. This is borne out by the CHP's having the highest operating revenue yield per tonne of traffic among all major ports. CHP and Bombay port have a considerably higher proportion general cargo in the cargo structure, and are able to generate higher operating revenue per tonne of traffic.

8.2.5 Financial Performance

Major findings on financial performance from the ratio analysis showed the following:

i. *Operating ratios* declined at most major ports, but the operating ratio for CHP has generally been higher than at the other ports. The decline followed revision of port charges. Timely enhancements of tariffs, accompanied by diversification of cargo in favour of general cargo to raise port incomes, and cost-economies would help major ports to improve their operating ratio.

ii. *Return on capital employed* at CHP was very low, till recently. Since the return on capital employed depends on net surplus earned at a port, such low returns are attributable to continuous growth in capital employed, and/or to substantial decline in net surplus. The gap between recommended and realised rates of return has been very wide, because of non-realisation of expected traffic volume and much lower traffic capacity utilisation than at other ports.

iii. A port with a high *net surplus margin* would capitalise internal profits more effectively in favourable conditions like falling operating costs or increasing volume of traffic. The net surplus margin at CHP has been much lower than at other ports, and despite mid-period improvement, has begun to fall again. There is thus an urgent need for measures to increase operating income and decrease operating costs in order to improve financial performance.

iv. *Turnover on capital employed* at CHP has grown slowly, because of slow increase in total port income. The efficiency of fixed asset creation at a port should be assessed in relation to the resultant operating income. *Turnover of fixed assets* at CHP shows increasing trends, corresponding to growth in operating income.

8.2.6 Physical Performance

i. In terms of the number of *vessels sailing*, Haldia is specialised towards receiving tankers and dry-bulk vessels and CDS towards break-bulk vessels and tankers, with port specialisations having evolved according to the needs of local industry and the port hinterlands. Although CDS still receives a larger number of vessels, its share in the number of ships calling at CHP has declined steadily, while that at HDC has been rising.

ii. CDS however offers lowest *pre-berthing detention* over all major ports, particularly for dry-bulk carriers. Detention periods at HDC are also low generally, especially for container vessels, and have declined considerably. Detention at other ports tends to be much higher.

iii. *Turn-round Times*

Lower average turn-round times indicate greater operational efficiency for a port, offering an incentive for ships to call there and leading to favourable traffic trends. Ports with higher turn-round times also contribute to losses in the form of demurrage and detention charges. Turn-round time depends on the nature of cargo and packaging and parcel-size, methods of cargo handling and general waiting time of a vessel at anchorage. Because of navigational difficulties, CDS has invariably had a higher average turn-round time than other ports. The inward journey from the Sandheads to CDS takes about 30 hours, including pre-berthing detention while waiting for the tide. The outward journey after loading/unloading takes about 40 hours. However, HDC has the lowest turn-round time averaged for all types of ships. Highest turn-round time at HDC has been for break-bulk carriers. For CDS, the highest overall turn-round is for dry-bulk vessels and lowest turn-round for liquid-bulk vessels.

With the implementation of various plan programmes and port development activity in general, some of the major ports have been enabled to handle cargoes at faster rates through introduction of Modern mechanised cargo-handling equipment lowers berthing times, and consequently turn-round time. Cargoes like cement, steel structurals, pig-iron, etc. require comparatively longer times for loading or discharge, compared to bulk cargoes, like mineral ores, fertilizers, foodgrains, zinc concentrates etc. Adoption of the following measures might reduce turn-round times at CHP:

- a) speedy removal of cargo from wharves;
- b) nurturing of a disciplined and trained labour force;
- c) modernisation of methods of cargo handling; and
- d) planning of port facilities commensurate with latest traffic trends.

v. *Rates of Idle-time to Time at Working Berth*

Ships of all types lost more time at CDS compared to other major ports in India, particularly for dry-bulk and tanker vessels. For container vessels, much less time is wasted. Idle time rates at HDC were also not satisfactory. The important reason behind high rates of idle time at CHP has been labour unrest leading to substantial loss of working hours.

8.3 Financial Management for the Future

Approximately 626.28 hectares (46.9 percent of the CPT's metropolitan estates) are leased out for various industrial and commercial purposes, leaving 720.75 hectares are in the Port Trust's

direct use. More than half of lands leased-out are under long-term lease. Land-consultancy reports to the CPT in 1983 observed that permissible floor area ratio in CPT properties is generally much higher than is under present use, representing uneconomic utilisation. A 15-20 year time-frame was recommended for phasing out CPT lands to proper economic and social use. The credit for net surpluses at CDS has been the continuously rising estate incomes and surpluses.

It may be said that self-reliance at a major port would mean that capital structure at the port should reveal an increasing component of internal sources. Ports in India should in any case assume more responsibility in maintaining their viability and profitability by reinvesting a part of their earnings in port development. This would free Government resources, which could then finance other aspects of national development. Instead of outside investments by each port, it would therefore be wiser if a common port development fund were constituted from excess funds and surpluses generated at major ports, which could then be committed to development of such major ports as require these. Investing ports would earn minimum returns expectable from outside investments, which would derive from interest charges paid by borrowing ports.

8.4 The Privatisation Issue

A wide variety of practices prevail with regard to ownership and management of ports throughout the world. In countries like Syria, Kuwait and Iran, ports are owned and operated by the State. Ports in the United States on the other hand may be owned and operated by the Federal and State Governments, by local port authorities and municipalities, and by rail and road corporations and private companies. Ports in the United Kingdom are owned by public authorities, municipalities or by private companies. In India, as indicated chapter 1, major ports are administered under the Acts of Parliament and the Port Trusts are conceived primarily as autonomous bodies.

World Bank studies indicates that privately-owned port operations are not necessarily more efficient than public-sector ones. The world's most efficient port in terms of its productivity, profitability and growth is Singapore, which is under public-ownership. Privatisation of ports should be encouraged in two possible situations only, i.e. when

i) huge investments are required on updating port facilities and technology, through sophisticated equipment and infrastructure, such as container terminals, mechanised handling and deep-dredged berths, basins and approach channels, all of which involve high capital cost, which a developing port cannot raise on its own.

ii) management is poor and unprofessional under public ownership, and management expertise exists in the private sector.

Privatisation can take the three forms of private ownership over the entire port, private ownership of the development of a berth in a port on a 'build, operate & transfer basis'; and private ownership over the operations of a berth, which has been provided by the port. The first and second modes of private ownership commits the private entrepreneurs to massive investments with long gestation periods and uncertain returns, which they may be reluctant to make. The mode most likely to succeed is therefore the third, and is the mode of privatisation followed at Hongkong, Rotterdam, and Antwerp are the instances of third type of privatisation where container handling and equipment are private operations.

Models of private sector involvement in port operations from West Europe and USA reveal that port infrastructure has been provided by Government and local bodies at their own cost, while port operations are managed by private lessees of the ports. Infrastructural investments are made as needed by the economy and society and not for the ports alone. Hence rental returns on the capital investment involved is not charged on the lessees. Leases are on short-term basis so that competition is maintained, and the landlord port is assured of the best returns.

In India, privatisation may be encouraged in the development of intermediate and minor ports. The second possible area for privatisation is onshore and on-ship cargo handling through stevedores. The third possible area is long-term and short-term leasing out of berths, container terminals and ship repair facilities. But the best process is that infrastructure should lie in the hands of port authority and operations in the hands of private agencies.

Thinking on privatisation at Indian ports is not new. The Major Port Trusts Act, 1963, provides in Section 42(1) that a major port can privatise cargo handling operations with the approval of the Central Government. The Major Ports Reforms Committee (1986) also examined the issue of privatisation in ports. The Seventh Five-Year Plan document comments on the need to define conditions under which private investment is permissible at Indian ports, in order to incorporate the latest technology under overall administrative control of the port authority. One of the enunciated thrust areas in the Eighth Plan (1992-97) has been the encouragement of private sector participation in selected port activities, and Government has in recent policy statements, welcomed participation of private capital even in the core sectors of the economy that previously reserved for the public sector.

As a conclusion, the privatisation exercises already made or to be made in Indian port operations may be listed. Long leases on berths at HDC have been given to SAIL and TISCO. A newly-constructed berth of the HDC and a KPD berth under CDS have been made over under lease to private parties, the same also being done for the dry-dock facilities at CDS and Mormugao Port. Further privatisation efforts on the agenda of major ports include the handing over of dry-dock facilities at Cochin, Tuticorin, JNPT and Bombay; multipurpose cargo berths at Tuticorin, JNPT and Kandla; container terminals at Visakhapatnam, JNPT, Mormugao, New Mangalore and Kandla and the container transshipment port at Vallarpadam near Cochin; the coal jetties at Paradip, Tuticorin and Ennore (which is the satellite port to Madras); mechanised handling facilities at Visakhapatnam, JNPT, HDC and Kandla, and oil and chemical handling at Kandla, New Mangalore and Cochin; and warehousing and storage facilities at JNPT, Bombay, CDS and Kandla.