FAL BULLETIN **- FACILITATION OF TRADE AND TRANSPORT IN LATIN AMERICA AND THE CARIBBEAN**

Issue No.136, September 1997

Maritime Transport in the Caribbean

Introduction

The purpose of the FAL Bulletin is to facilitate trade through efficient transport, and the current issue will focus particularly on the promotion of trade in the Caribbean. It will first highlight the relevance of maritime transport for the region's trade. Thereafter it will look at the costs and the various relations between maritime transport and trade, and also discuss some comparative advantages and disadvantages, such as location and the particular situation of being an island. Finally, the article points at some potential areas of improvement. Readers are strongly encouraged to send comments and suggestions related to these areas to jhoffmann@eclac.cl, Fax (56-2) 208 0252.

Dependency on Trade and Transport

The Caribbean countries are more dependent on foreign trade than most other countries in Latin America and the Caribbean. The figure for foreign trade (imports and exports) as a proportion of GDP is 78% in the Caribbean and 25% in Latin America. The figures for thirteen CARICOM (Caribbean Community) members can be seen in the following chart:

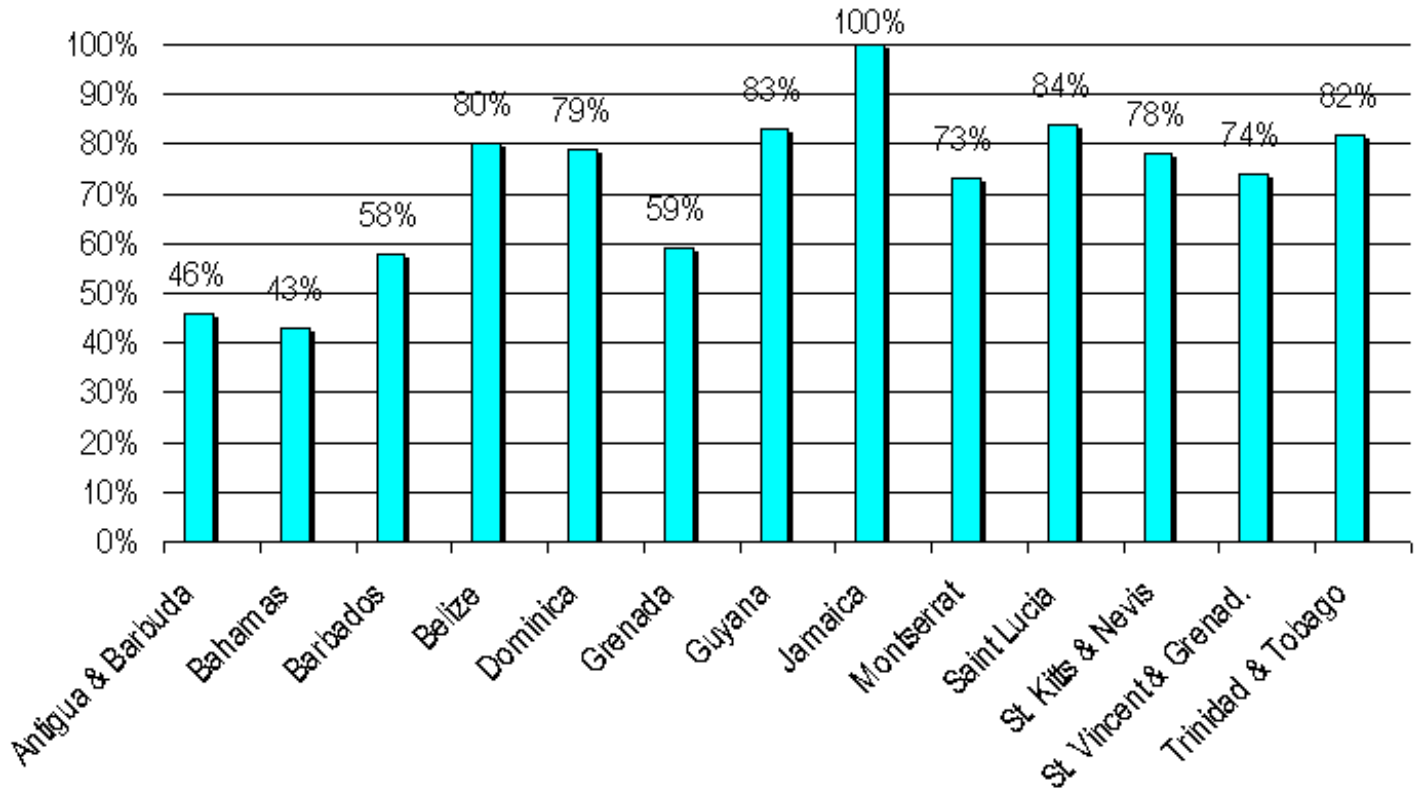

Figure 1: Trade (imports + exports) as percentage of GDP. Source: ECLAC based on data provided by CARICOM.

Being mostly island states, the Caribbean countries' trade has to be carried either by air or ship – and the latter is by far the dominant mode of transport. From this, it can thus be concluded that the CARICOM members depend more on maritime transport than most other countries. This dependency concerns exports as much as imports, which include goods for private consumption and goods which can be considered as "inputs" for the production of services such as tourism.

Most Caribbean countries have a trade deficit as far as the value of merchandise imports and exports is concerned. Volume wise, some countries even have a "surplus" because they export relatively low value agricultural raw materials and import high value consumer and investment goods.

The Cost of Transport

An aggregate way of measuring the costs of international transport is to look at the proportion of the value of the imports the country is paying for transport and insurance. This percentage is, roughly, the difference between the f.o.b. and c.i.f. value of the imported goods. As can be seen from the following chart, Caribbean countries pay far more for the transport of their imports than the world average.

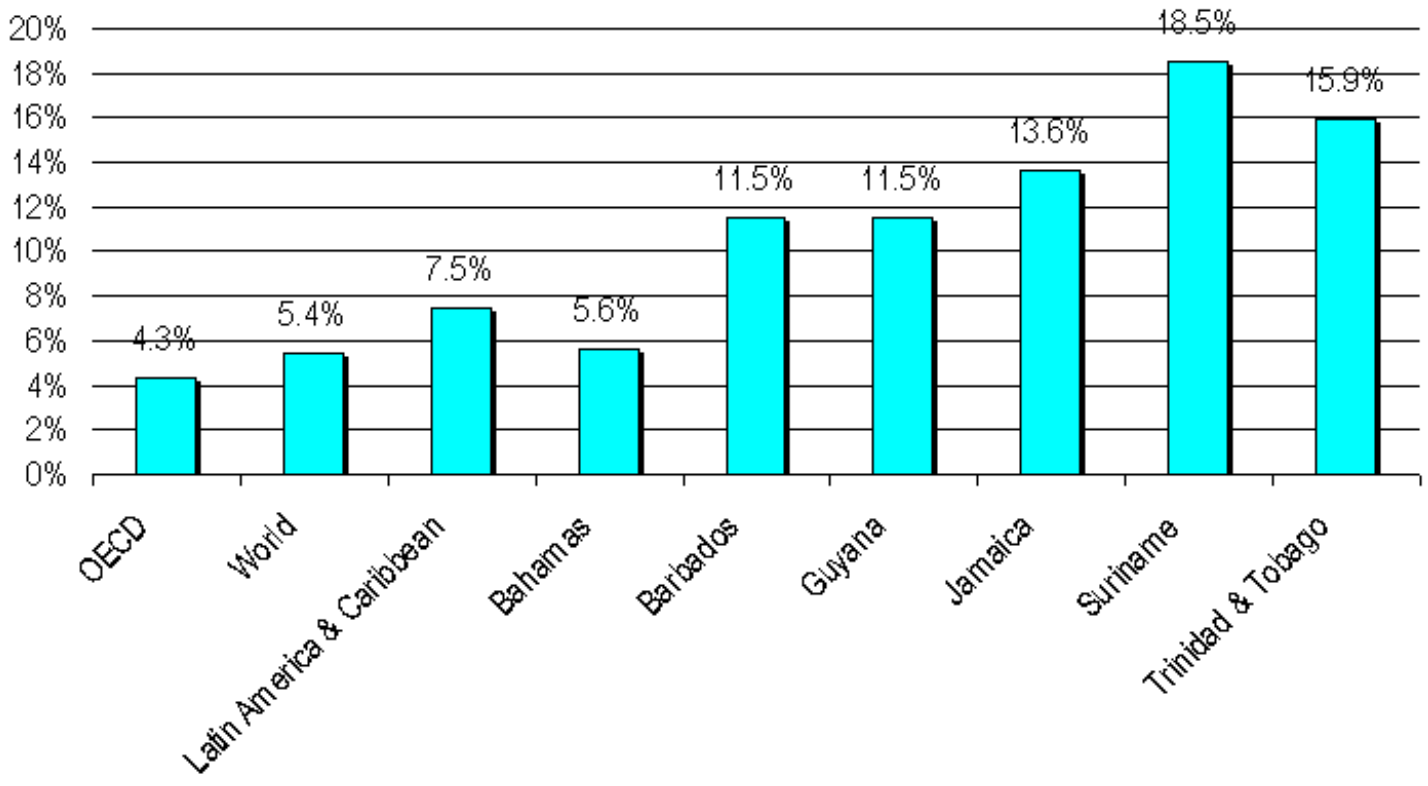

Figure 2: The costs of transport and insurance as percent of the value of imports. Source: ECLAC.

Compared to the World average, Caribbean countries pay an up to three times higher percentage of the value of their imports on transport and insurance. Data for the smallest islands is not available. It is likely that in their case the transport costs are even higher because of non-existing economies of scale and fewer direct shipping services.

The total costs of transport are influenced by distances and the type of cargo. They also reflect port dues and tariffs, waiting times in ports, economies of scale, sea freight rates, insurance premiums, and inland transport costs. All in all, they are thus an important indicator of the efficiency of the maritime infrastructure and services that serve a country.

Sea freight rates between Miami and Caribbean islands are not significantly different from the rates for the much longer distance between Miami and Buenos Aires. Port handling charges in the Caribbean vary between around US$ 200 and US$ 400 per container, which is far more than the US$ 150, which are, for example, charged in Argentina. Any national or regional maritime policy should aim to reduce these costs.

Trade, Transport and the Economy

There exist a variety of relations between maritime transport, foreign trade, and economic growth.

- A recent World Bank study identified a negative relation between foreign investment and transport costs. (World Bank, Report No. 12617-LAC, May 1994). This means that improving maritime transport services would lead to more foreign investment.

- The maritime industries and services of a country – such as ship building and repair, seafarers and training, ship registration, ports, agents, and shipping companies – can directly provide taxable income and employment. The protection of these industries from (foreign) competition may, however, also lead to less efficient transport, which in turn hampers trade and the development of non-maritime industries and services.

- Caribbean Governments have expressed their desire to reduce the dependency on too few commodities. "Diversification" would, however, lead to increased unit costs because specialized ships. Specialized ships which take the cargo directly to its final destination are more efficient than general cargo carriers which take a variety of different products to a transshipment center, from where they are then taken to their respective final destinations.

- Evidently less expensive transport directly promotes foreign trade. At the same time, more trade also leads to a reduction of transport costs due to economies of scale. This relation can be described in form of a graph:

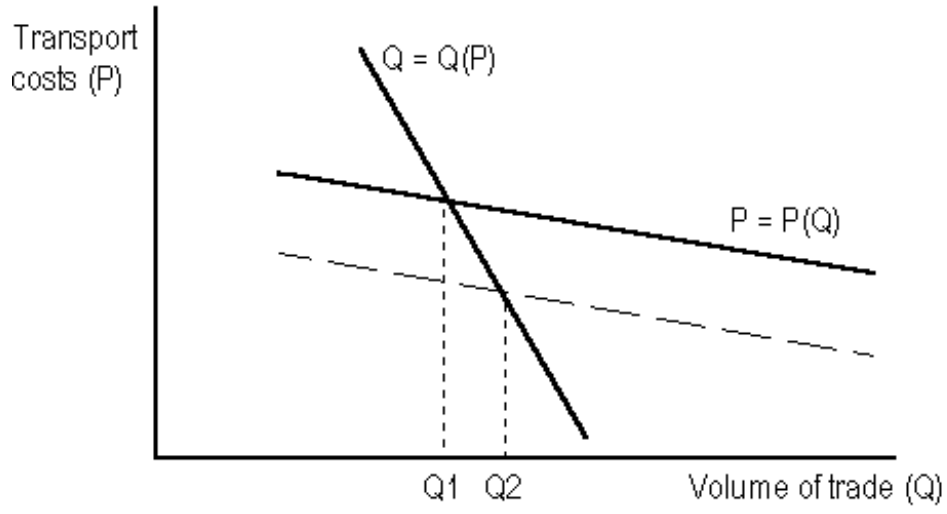

Figure 3: Transport and trade

Lower transport costs lead to higher volumes of trade, which is represented by the downward sloping line Q (Demand for transportation). The economies of scale which lead to decreasing unit costs are represented by the

downward sloping line P (supply). If measures could be taken to lower the line P – represented by the dashed line – this would increase the volume of trade from Q1 to Q2.

Trade patterns

In terms of the value of imports and exports, it can be seen that Jamaica and Trinidad & Tobago are by far CARICOM's strongest trading Nations. With the exception of Suriname and Trinidad & Tobago, all countries have a large trade deficit.

For transport, the volume (kg) of trade is more relevant than its value. Because of the export of raw materials, the trade deficit in terms of volume is not as marked as it is in US$ terms. In fact, CARICOM as a whole has a "surplus" due to petroleum exports from Trinidad and Tobago.

With data provided by CARICOM, the volume of trade of several Caribbean countries can be divided into ten SITC sections and six regions of origin/ destination. It is then possible to calculate the percentage of the trade which is "imbalanced", i.e. where there is no equivalent "return-cargo" for the same region of origin/ destination. (*)

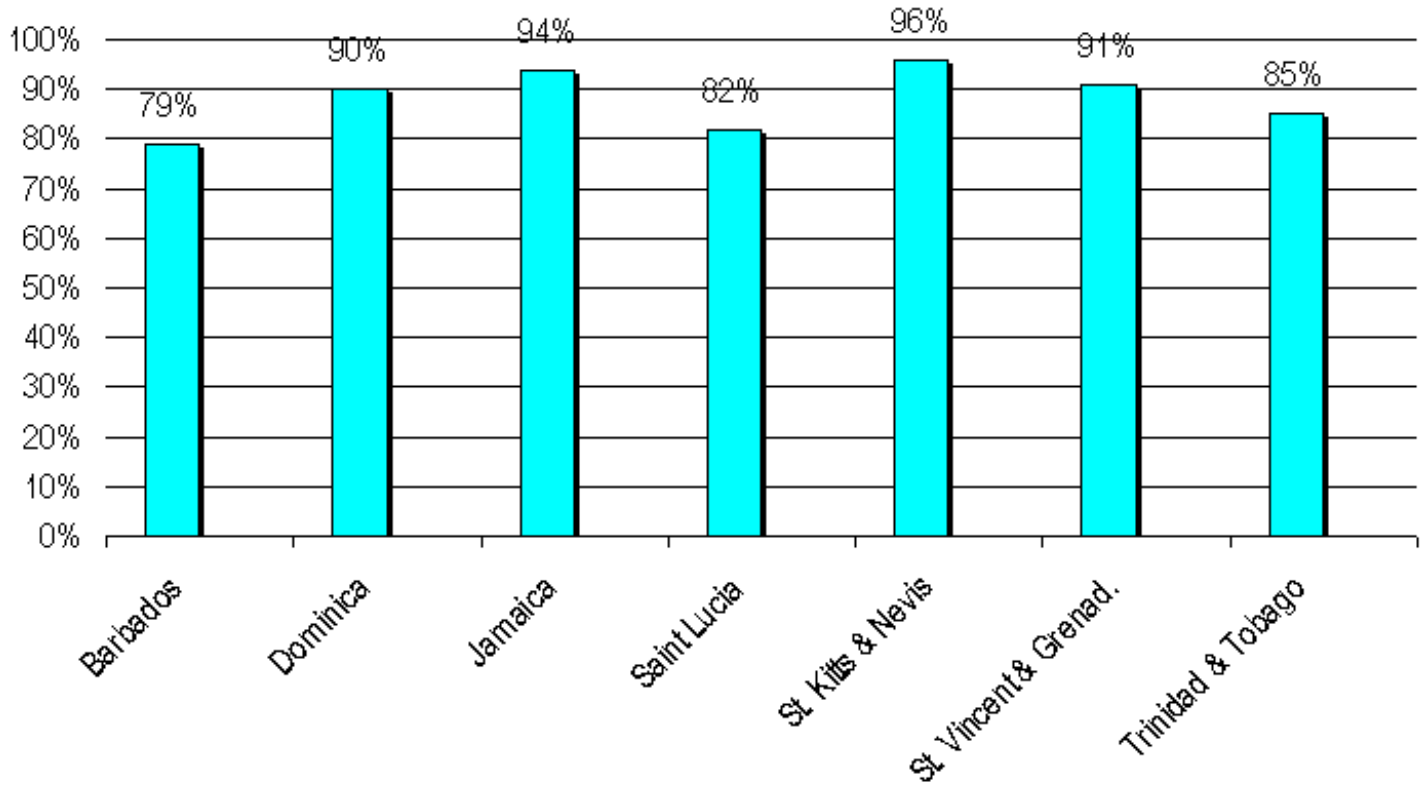

Figure 4: Percent of trade which is imbalanced. Source: ECLAC based on data provided by CARICOM.

(*) 100% minus { [(Sum of differences between imports and exports by SITC section / total trade] multiplied with [(Sum of differences between imports and exports by origin or destination) / total trade] }. This percentage is of course only a rough indicator of trade imbalances because belonging to different SITC sections does not necessarily imply that the goods cannot be transported by same type of vessel.

The chart illustrates the trade imbalances for seven countries. A very high proportion of cargo from or for Caribbean countries has no equivalent return cargo. For example, in Jamaica 87.6 % of the exports are SITC section 2, i.e. crude materials, whereas only 2.5% of the imports belong to this section. In addition, 30.3% of all exports go to Europe, whereas only 4.1% of the imports come from this region.

Shipping and ports in the Caribbean

Shipping services in the Caribbean can be divided into four main groups:

- Inter-island transport, which is often undertaken by small "tramp" vessels.
- Short-sea shipping, which connects the islands with Panama and Caribbean and North American transshipment centers.
- Deep-sea shipping, which uses larger vessels to transport cargo directly from the Caribbean to its final destinations in Europe, Asia and other regions.
- Shipments of non-Caribbean cargo which passes through the Caribbean due to its location at the crossroads of major trading routes. This cargo is increasingly transshipped at Caribbean ports.

Ports can be divided into three main groups:

- Specialized ports are often private and focus on just one type of cargo such as banana, oil, or sugar.
- Public ports are open for all cargoes, which are usually break bulk and containers.
- Transshipment centers are specialized ports or terminals which handle mainly containers which do not enter or originate from the country itself.

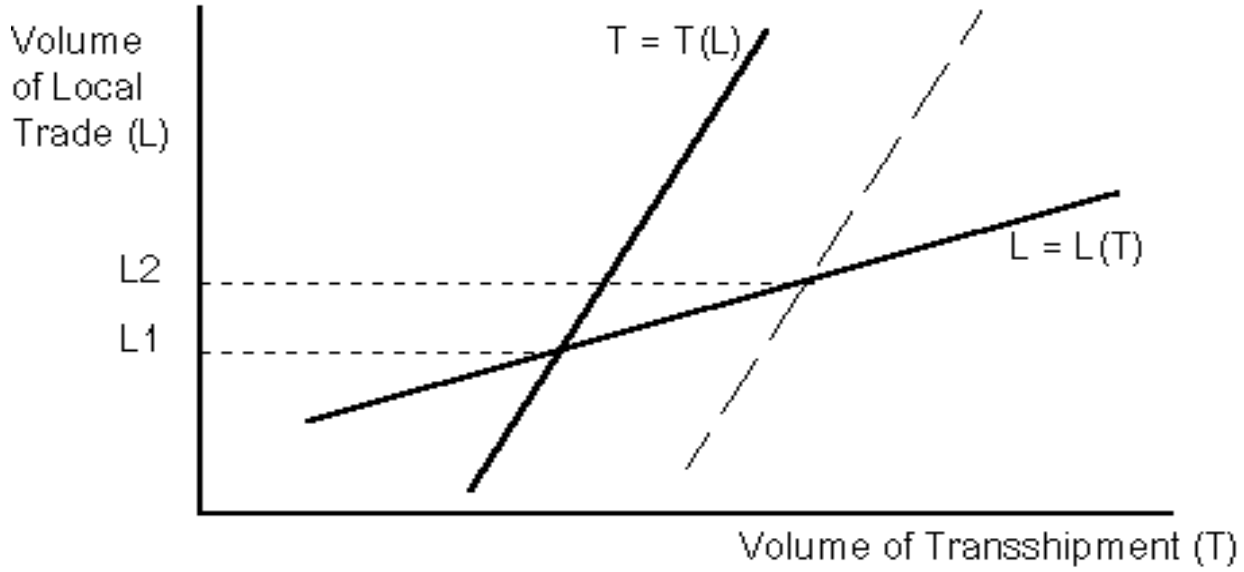

Figure 5: Transshipment and local trade

The above figure illustrates how transshipment of non Caribbean cargo and local shipments mutually benefit each other. Local trade is represented by line L, which slopes upward as the volume of transshipped cargo increases. Transshipped cargo is represented by line T, which slopes upward as the volume of local trade increases. If transshipment increases this can be represented by the new dashed line. The shift of this line implies an increase of local cargo (i.e. foreign trade) from L1 to L2.

The Problem of being an Island

For the purpose of a recent study, ECLAC undertook a simple regression on a sample of Latin American and Caribbean countries with the above described "[cost of transport] as percentage of the value of imports" as the dependent variable. [GDP per capita], [total GDP], total volume of [Trade], and the distance in km to major OECD markets were taken as explanatory variables. Further, a dummy variable for [island] was included. [Trade] and [total

GDP] had a negative sign, which can be explained by economies of scale. [Distance] and [GDP per capita] had a positive sign; the latter might indicate that less developed countries also have less efficient ports. The results of this regression strongly suggest that being an island has a positive (i.e. increasing) impact on the costs of transport. This implies that it is not only the smallness of the island economies that increases the costs of transport but that there seems to exist a particular problems related to island economies.

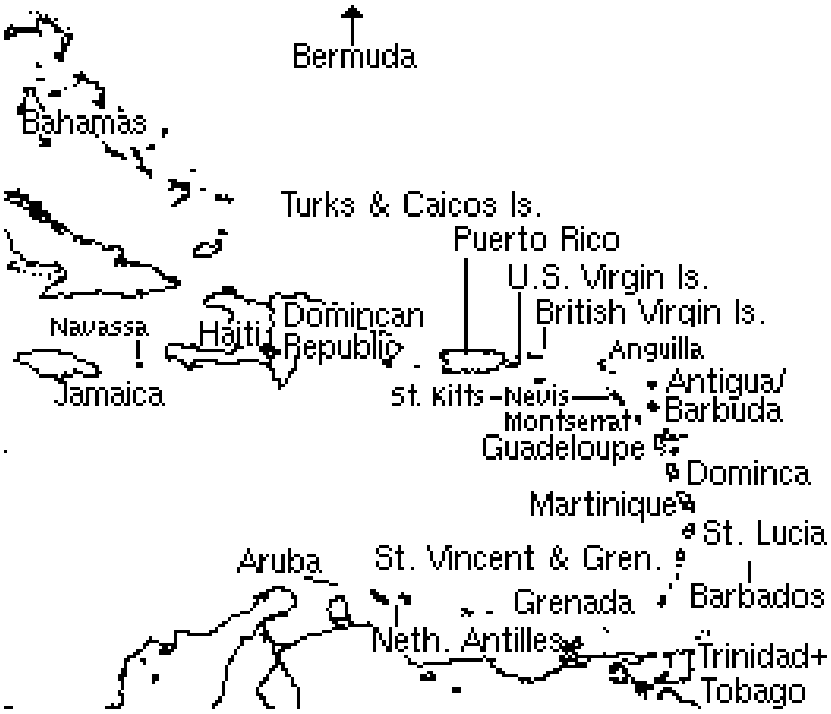

Figure 6: Caribbean islands

Concerning the matter of scale economies, very generally speaking a 50% larger vessel can lead to a reduction of the unit cost per ton mile of up to 20%. Ports have to incur high fixed costs, and in public administrations, too, smallness can lead to reduced efficiency because staff cannot specialize. All in all, these economies of scale lead to a downward sloping supply curve. As data on port traffic in the Caribbean shows that smaller islands are served by smaller sized vessels than, for example, the larger ports of Jamaica and Trinidad & Tobago, these smaller islands also have to cope with large unit costs due to diseconomies of scale.

Competition between ports is often impossible in the case of smaller islands because cargo volumes are insufficient to justify more than one public port. Independent of port ownership and operation, experience has shown that