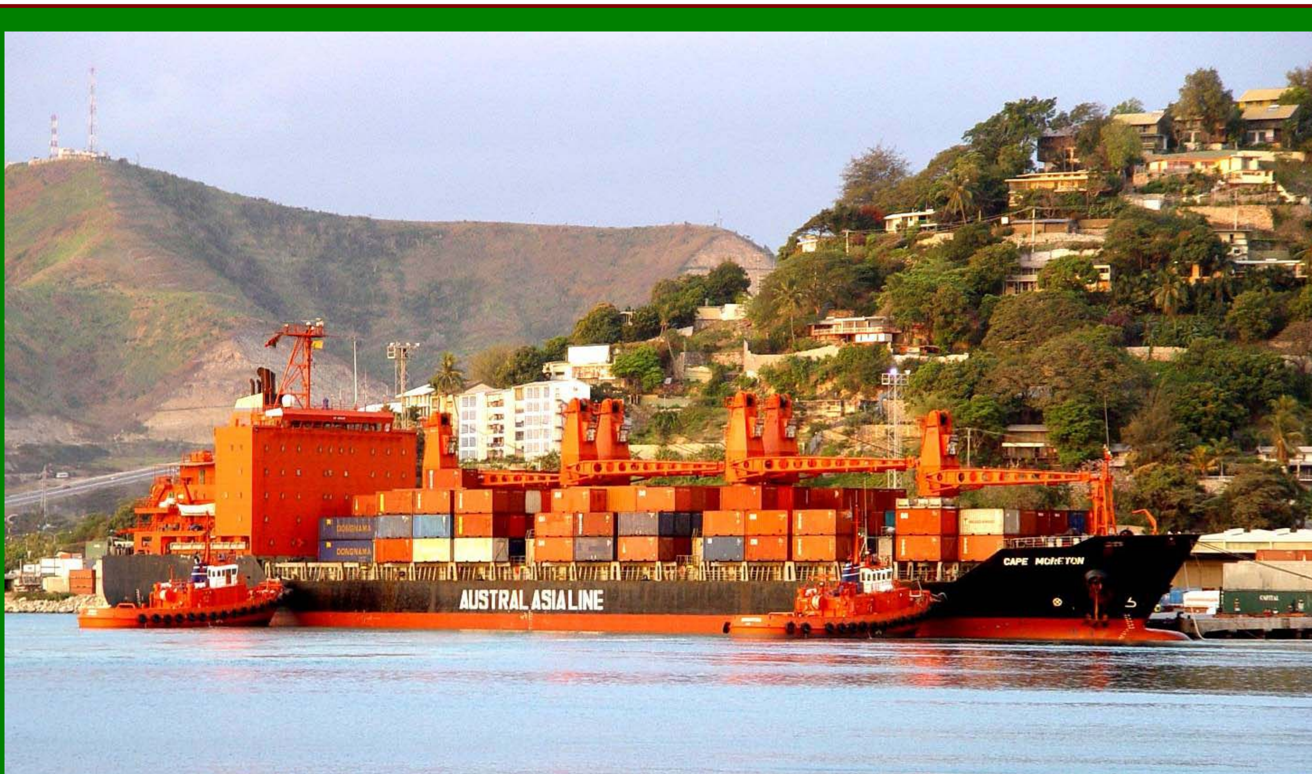
INDEPENDENT CONSUMER & COMPETITION COMMISSION

FINAL REPORT

Review of the PNG Coastal Shipping Industry

16th February 2007



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Foreword

On the 26th January 2006, the Government through the then Minister for Treasury (Treasurer) formally referred the Independent Consumer & Competition Commission (Commission) to undertake a comprehensive review of the Coastal Shipping Industry in Papua New Guinea (PNG) with a view to considering regulatory impediments and competition constraints in the industry.

In particular, the reference asked the Commission to:

- Report on the current impediments, both regulatory and non-regulatory, to improved operating efficiency and competitiveness in the coastal shipping industry in PNG;
- Identify issues and areas where Government action may be appropriate to improve the overall cost competitiveness and efficiency of the coastal shipping industry in PNG; and
- Make recommendations on appropriate actions that Government may undertake to rectify any problems in the current regulation and operation of the coastal shipping sector, with a view to improving competitiveness and reducing coastal shipping costs and freight.

The Commission is a statutory body, established under the provisions of the *Independent Consumer & Competition Commission Act 2002* (ICCC Act), which has been given responsibility for the promotion of competition and fair trading, the regulation of prices for certain goods and services, and the protection of consumers' interests and other related purposes. The Commission has three Commissioners:

1) **Thomas Abe** – Full Time Commissioner
2) **Paul Baxter** – Associate Commissioner (Non- Resident)
3) **Chris Gideon** – Associate Commissioner (Resident)

As part of the overall public consultation process, the Commission released an Issues Paper on the 20th April 2006 and subsequently a Draft Report on the 4th October 2006. The Draft Report, which contained the Commission's preliminary views and conclusions, were again circulated to stimulate and solicit responses from key industry stakeholders and other interested parties including the wider public.

This Report represents the Commission's Final Report (Report) on this inquiry. In this Report, the Commission has sought to address the comments and matters raised in the submissions on the Draft Report, and where appropriate, make corrections or clarification on its earlier Draft. A list of those industry stakeholders that have provided written submissions to the Commission on both the Issues Paper and the Draft Report are detailed in Appendix D.

Copies of these submissions including this Report can be downloaded from the Commission's website at www.iccc.gov.pg. The Commission has also drawn a number of conclusions and recommendations which are now presented to Government for its consideration and appropriate action where necessary.

The Commission would like to acknowledge the assistance provided by the various stakeholders in the industry, the consultants from PricewaterhouseCoopers, and the valuable input made by the staff of the Commission involved in the undertaking of this inquiry. As always, while a number of parties have provided assistance, the final conclusions and recommendations are those of the Commission itself.

Thomas Abe
Commissioner & CEO
16th February 2007

Executive Summary

The Independent Consumer & Competition Commission (Commission) is a statutory body, established under the provisions of the *Independent Consumer and Competition Commission Act 2002* (the ICCC Act), which has been given responsibility for the promotion of competition and fair trading, the regulation of prices for certain goods and services, and the protection of consumers' interests and other related purposes.

The provisions of Part VIII of the ICCC Act empower the Commission to conduct specific enquiries as directed by the Minister responsible for Treasury or by the Parliament. On 26 January 2006, the then Minister for Finance and Treasury (Treasurer) formally referred the Commission to undertake a comprehensive review (Review) into the Coastal Shipping industry in Papua New Guinea. The main purpose of the Review is to consider competition issues and the role and place of regulation within that industry. This referral is part of the Government's 2006 Budget Strategy.

The mobility of people, goods and information provides an important building block for economic development. The ability to move goods, information and people between locations easily has the ability to facilitate economic development. The PNG coastal shipping industry is an important component of PNG's transportation industry. It plays a crucial role in the transportation of cargo and passengers within PNG and internationally. The demand for coastal shipping services is derived from the demand for goods and services in other markets. While there are alternatives, coastal shipping is generally more convenient than other substitutes, such as airfreight, because it provides the ability to transport bulk quantities of goods. Further, the wide and dispersed nature of the population throughout coastal and island regions and the lack of an effective highway or rail network throughout PNG means that coastal shipping provides the main avenue for transporting goods between trading centres.

One of the important features of coastal shipping in PNG is therefore the need for services to be maintained into remote regions to ensure that all Papua New Guineans have access to commerce and trade markets at competitive freight and passenger rates. The availability of modern transport facilities in remote areas is expected to increase the mobility of goods and services, which in turn is likely to lead to increased economic activity and prosperity. Development of these regional economies will become a key driver of the sustained economic growth of the broader PNG economy.

In addition to cargo services, there are some shipping companies which provide passenger services throughout PNG. Rabaul and Lutheran Shipping both offer passenger services to regional ports. The provision of passenger services is subject to different safety and service considerations than cargo and the provision of service presents unique challenges to both shipping companies and port operators. Unlike general cargo, passengers require additional port side services including embarking/disembarking facilities, air conditioning on ships, and terminal facilities for receiving and departure. Further, the limited provision of road infrastructure and relatively low levels of disposal income in PNG and the consequential limited access to more expensive methods of transport, i.e. air travel, results in passengers services being the primary method for people travelling between major coastal centres. The impact on the comfort, safety and security of passengers of this poor infrastructure should not be discounted. Further, the development of terminal facilities also has the potential to create centres of trade between passengers and merchants which may to lead to significant gains in economic efficiency.

The market for coastal shipping services is based on two distinct types of services, namely liner services and charter services. Liner services are scheduled services that operate regularly between various ports. In contrast, charter services can be over a range of time periods, for example one day (i.e. spot charters) to multiple journeys over the year or over several years. The market for charter services is generally more competitive than the market for scheduled services because operators do not face the risk of having insufficient cargo to cover costs and consumers are able to exercise a greater degree of market power because they have exclusive use of the service. Furthermore, consumers with long-term contracts with coastal shipping operators are able to achieve discounts on the commercial rate due to the ability for coastal shipping operators to lock-in payments from these consumers.

In contrast, operators in the market for liner services bear the risk associated with having sufficient cargo on the ships to cover the costs associated with running a ship between various ports on a scheduled service basis. If there is not enough cargo to sustain individual routes and services, there is a need for a rationalisation of service providers and/or the routes serviced. This could lead to a situation whereby it is more efficient for one service provider to service an individual route because demand is too low to warrant additional operators. This has indeed been the case in PNG, with one major operator, Consort, providing the majority of services to the northern ports and Steamship Shipping's Laurabada Shipping Services (Steamships) providing the majority of services to the ports in the Central, Western and Gulf provinces.

Port Infrastructure

Efficient port infrastructure is critical to the future growth and economic development of the PNG economy. Adequate port infrastructure is particularly important to PNG's social and economic development because of the lack of viable transport substitutes to provide access to coastal and island regions.

Submissions to this review have expressed concern about the standard of port infrastructure in PNG. Over many years, the limitations associated with PNG's port facilities have been recognised. As part of a broader reform process undertaken in 2001-02, consideration was given to the privatisation of the then PNG Harbours Board. However, it was decided that ownership of the Board should be retained by the Government and that PNG Harbours Board be corporatised and incorporated as a limited liability company in preparation for eventual privatisation, hence the inception of the PNG Harbours Limited (PNG Harbours). Recently, PNG Harbours was succeeded by PNG Ports Corporation Limited (hereinafter referred to as "PNG Ports" for the purposes of this Report). The Commission subsequently established a Regulatory Contract with PNG Ports (through its predecessor PNG Harbours) which regulates the prices that PNG Ports may charge for the supply of Essential Port Services and Stevedoring Access arrangements[1]. Under the Regulatory Contract, key

[1] The Regulatory Contract is available for public download on the Commission's website.

cost components of the build up to the regulated prices are forecasted capital expenditure and operating expenditure necessary to maintain service levels. Under the Regulatory Contract PNG Ports must also ensure that the Minimum Service Standards specified in the Regulatory Contract are satisfied in respect of each Declared Port.

Efficient economic infrastructure is critical to the success of any economy. In PNG, the role of ports infrastructure is particularly important because of the lack of viable transport substitutes to provide access to coastal and island regions. Without adequate investment in port facilities and associated infrastructure, it is difficult to address bottlenecks within the economy. These bottlenecks have the potential to significantly affect PNG's ability to trade and limit the access of coastal and island regions to markets for goods and services.

Under the Regulatory Contract, the Commission monitors PNG Ports' performance against a list of service standards. In addition, as part of a mid term capital expenditure review, the Commission examines to what extent PNG Ports has undertaken the level of capital expenditure projected and included in the price path currently in operation. In terms of the service standards, the Commission reviews these on an annual basis against an agreed level of performance as specified in the Regulatory Contract. The Commission publishes the results of this annual review and notes where PNG Ports may have fallen short of the standards and what action is proposed to address this issue. In general, PNG Ports has met the requirements of the performance standards set out in the Regulatory Contract. However, from the number of comments made by submissions to this inquiry, this may not reflect a true picture of PNG Ports' performance. In other words, the service standards that have been set may not be sufficiently prescriptive to highlight where PNG Ports is falling short in terms of its performance. Nor have the service standards prescribed in the Regulatory Contract kept pace with the demands of the industry in terms of the desired service level. The performance standards as set out in the Regulatory Contract are presented as Appendix C to this report.

The Commission has received a number of submissions to this review that have articulated concerns regarding the state of port infrastructure throughout PNG. The main issues raised are:

- PNG Ports' increased charges and level of capital expenditure undertaken against the standards set in the regulatory contract;
- The level of service being provided by PNG Ports at its ports and the associated costs of these services;
- The need for private investment in port infrastructure in PNG; and
- The lack of commercial focus of PNG Ports.

There is a strong call from within the shipping industry for reform of the operation of the nation's port facilities and the implementation of additional capital expenditure projects by PNG Ports to address perceived shortfalls in the infrastructure at existing ports. Notwithstanding that there are currently promising signs in terms of the future management of PNG Ports, there is much to be achieved and there has been a significant loss of time in addressing some of the more significant shortfalls in port facilitates and service capabilities. In discussions with PNG Ports, there would be a general acceptance that there has not been as much attention given to new capital programs over the first five years of the Regulatory Contract as is possibly desirable.

However, PNG Ports would argue that they are now acting to rectify this particular problem and that they have instituted a number of major new capital investment projects in recent years and more are scheduled over the next five years. The question that must be asked is whether PNG Ports in its present form will be capable of making the long term, commercial financial commitment that is required to see these improvements through in terms of the ports for which it is responsible.

The focus of the options brought forward through the submission and the Commission's consultations is to remove the responsibility for the operations of the declared ports from PNG Ports to some form of private sector organisation. These options are discussed in more detail below, but broadly encompass:

- More commercial board representation
- Privatisation
- Local community ownership
- Public private partnerships
- Government funding.

Commercial board representation

The Chamber of Commerce has suggested that there be greater private sector representation on the board of PNG Ports. Under the Harbours Board Act (Chapter 24), the Head of State, on advice from the Minister, has the power to appoint four members of the board[2]. The Commission strongly recommends that further consideration be given to the inclusion of members on the board who have strong commercial expertise and background.

Privatisation

In the PNG context, the issue of privatisation of national businesses is not on the government's agenda. Privatisation, which involves the full or partial transfer of ownership of public assets to the private sector, is one option of raising capital and introducing strong commercial incentives without increasing taxation or shifting public resources from essential services. The rationale for privatisation is that private entities can more efficiently deliver a service than government, especially where government has limited access to the resources necessary to equip and build up the public entity concerned.

Of the 19 declared ports operated by PNG Ports, only a small percentage are profitable or at least capable of being operated profitability on a standalone basis. Therefore, before any plan to privatise PNG Ports was implemented, the arrangements for the continued operation of the loss making ports would need to be carefully thought through. Separate arrangements would need to be put into place to ensure that those ports that the government considered desirable to retain from a national welfare perspective were adequately provided for in some way, such that they would continue to operate irrespective of ownership. Privatisation has shown itself to be effective but must be accompanied by appropriate regulatory oversight,

[2] The other three members of the Board are the Head of the Department responsible for financial matters, the Head of the Department responsible for transport matters and the Head of the Department or Office responsible for national planning matters (or their nominees).

particularly where there is no other competing operator in the market. At this time, when the Government has not publicly embraced the concept of privatisation, it may be more appropriate to consider other options more in line with the present Government's policy directions, if any short-term improvement is to be seen in the activities of the PNG Ports.

Public Private Partnership (PPP)

Many governments around the world that have been in similar situations to PNG have chosen to enter into public private partnership (PPP) arrangements with private partners to obtain capital to fund redevelopment of ports or other public infrastructure. Under a PPP, a government service is funded and operated through a partnership of government and one or more private sector companies. PPPs share some characteristics with privatisations. Like privatisation, PPP make it possible to:

- attract private funding, and thus minimise the impact of essential port development on public budgets; and
- introduce commercial incentives to port management.

However, PPPs are distinct from privatisations in that they represent collaboration between the government and the private sector to build new infrastructure assets and to provide the related services. The Commission notes the availability of PPP arrangements, but highlights the need for caution in using this form of funding without very careful and precise consideration of all the issues involved in the project to be undertaken in this way, particularly as they relate to the transfer of risks between the various parties involved. The first step will be the development of financial accounts within PNG Ports that allow open and transparent consideration of the costs and potential benefits of the operation of the individual ports. It is only with access to this type of information that a fully informed decision can be taken regarding the benefits of potential PPP opportunities.

Infrastructure Conclusion

Serious concerns have been raised concerning the level of new investment and the maintenance of the existing facilities at the various ports in PNG. The Commission notes that based on preliminary estimates to hand, PNG Ports has spent a considerable amount on maintenance and new facilities in the last five years. However, because of the need to address major funding failures in the past, much of this work appears to have been by way of catch-up, and even here, the large part of this expenditure has occurred only in the last couple of years. Consequently, with the continuing growth of the economy, the minerals boom, and the ever-changing nature of shipping technology, the PNG port system is straining under the present demands being placed upon it. Lae port in particular is suffering from severe limitations to its capacity, both in terms of wharves and landing areas in addition to portside services such as storage and transhipment handling areas. While additional capital expenditure is projected for this port, in particular as part of a significant expansion of the port, the current limitations are placing increasing strains on the international and coastal shipping sectors with consequential additional costs to the economy. As noted in some of the research that has been undertaken, these costs are effectively passed back in to the PNG economy as it is not possible to pass them on to overseas suppliers or buyers.

The Commission has highlighted some alternative funding options that are available to PNG Ports and the Government. These provide options that are worth considering. However, whatever approach is adopted, there is a need to improve the overall transparency of the financial accounts for PNG Ports so that there is a better understanding of the costs and potential commercial opportunities at individual ports. In addition, the Commission notes that none of these options provide simple short-term solutions to the problems that currently face the industry. A concerted effort will be required over the next five years to start to resolve the longer term infrastructure needs and bring the port facilities up to a standard that allows costs savings to be passed through to consumers and producers alike.

In terms of the smaller landing areas and 'ports' not operated by PNG Ports, the Commission notes that these are often very poorly maintained and operated. Essentially, for coastal shipping purposes they provide little more than a landing stage for goods or passengers that are to be carried on coastal vessels. The industry itself is showing signs of addressing this issue, not perhaps in terms of the development of the 'port' facilities as such, but in the adoption of vessels that are better suited for the needs of coastal transport. There has always been an element of this form of innovation in the operation of the shipping sector, and PNG has had a history of being involved in the development and implementation of new innovative methods of loading and unloading vessels at small, poorly serviced port facilities around the country. The local communities will have limited ability to develop port facilities to meet the needs of the industry, and thus the industry will need to adopt shipping transfer arrangements which best fit with the facilities that are available, particularly in areas where demand for such services does not justify further capital expenditure.

For some of the larger ports that are privately owned, there has been extensive private investment in facilities, usually designed to load overseas shipping that is servicing a particular need (e.g. a gold mining or palm plantations). The coastal shipping sector can benefit from this infrastructure although it may not directly suit the operations of coastal vessels as such. In the longer term, it can be expected that provincial governments will come to a point where they will not only recognise the value of a port facility associated with their region, but also will be in a better position to fund some of the infrastructure needs of such facilities. However, this is not likely to be the general experience of the industry in the near future. This is primarily as result of low demand for services and a consequential lack of opportunity to generate the necessary returns on the capital investment required upgrading these facilities.

In summary, further investment is required as matter of some urgency in many of the ports servicing the coastal trade in PNG. PNG Ports will be able to address some of these needs, but work and funding commitments need to be prioritised and this will require better information on the costs and potential revenue streams from individual ports and appropriate cost/benefit assessments of the various proposals that will be brought before the Board of PNG Ports. It would assist PNG Ports in making these decisions if its Board membership were strengthened in terms of commercial and industry expertise. Better financial records and reports down to individual port levels would also better inform the Board and policy makers of the relative merits of the various investment proposals that are being discussed at a broad government level. However, there will still need to be a trade off against the various competing needs for new investment, notwithstanding the potential for other forms of funding which may assist PNG Ports to identify and access the financial support and expertise needed to undertake these projects.

Pilotage

As part of the Review and in response to submissions made to the Commission, consideration was given to the issue of pricing of pilotage services. The Commission notes that these services are currently provided by PNG Ports but their price is not regulated.

The provision of pilot services is an important function of PNG Ports. It allows local knowledge of reef systems and tidal impacts to ensure safe passage and berthing for ships with inexperienced crews. However the Commission questions whether regulations which mandates the presence of pilots on ships that are already crewed by highly skilled and experienced professional crews is necessary for safety purposes. This is especially true for coastal vessels.

The Commission considers that where a ship captain has considerable experience in navigating a particular port, consideration should be given to waiving the requirements for pilotage services as this monopoly adds to the cost that is ultimately borne by the nation.

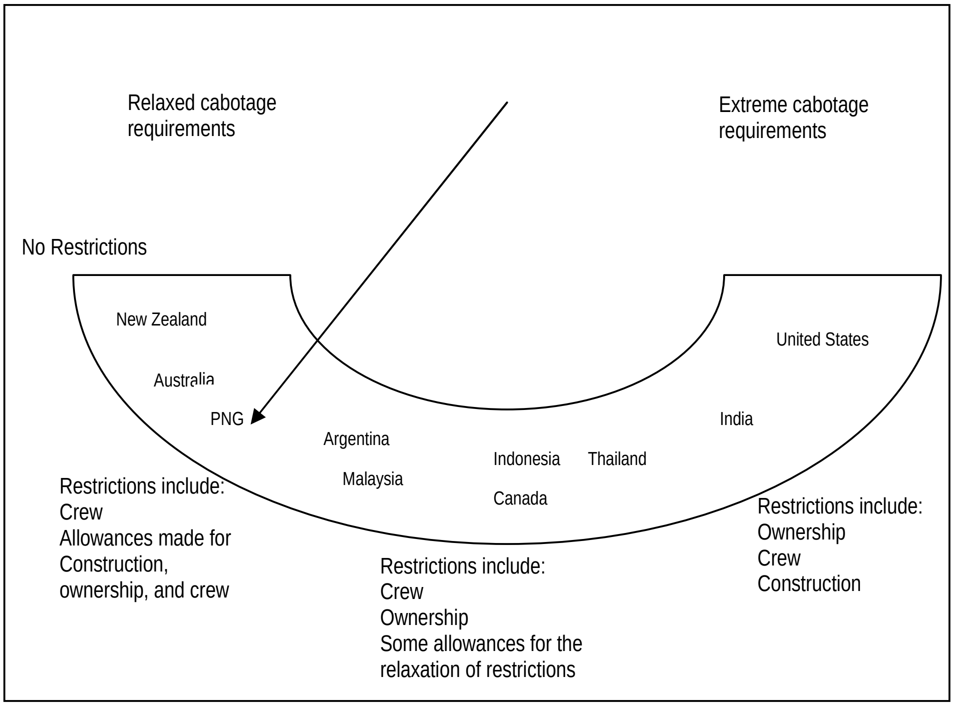
Cabotage

Cabotage can be defined as the laws and regulations that govern the transportation of goods between two ports in the same country. Cabotage is a form of restriction or regulation of the shipping industry, and is used by governments to specify the operators that can service a particular route. This is usually done by restricting the type of ships operating in the coastal shipping industry based on their registration details, the origin of the business operating the ships, the nationality of seamen and port workers engaged by the shipping line, and where the ship was originally built. Cabotage rules differ depending on the individual country's objectives and historical circumstances. Cabotage aims to protect a country's shipping industry from international companies that may enter the market and provide an alternative shipping service to those offered by the national shipping lines.

Changes to cabotage rules in PNG have the potential to affect the operation of the coastal shipping industry in PNG, by possibly allowing lower cost shippers to enter the market. Such potential competitors might be vessels currently operating on scheduled international routes that take the opportunity to ship cargo from one PNG port to another as part of their scheduled visits to those ports.

A summary of the relative 'restrictive nature' of the various cabotage arrangements internationally is provided in Figure ES.1 overleaf. As can be seen from this figure, PNG has a relatively relaxed cabotage arrangement by comparison to other countries where these types of laws exist.

Figure ES.1 International Benchmarking



The majority of countries in the Asia Pacific region surrounding Papua New Guinea reserve coastal and inter island shipping for locally registered vessels and thus have some form of cabotage in place. Arguments in favour of cabotage in these countries are relatively consistent, namely:

- The protection of the local shipping industry; and
- The certainty of trade access for goods and services to the majority of ports across the country concerned.

Not all nations have the degree of exemptions and special allowances as are provided in PNG (and other nearby countries such as New Zealand and Australia). The more hard line cabotage arrangements extend to the requirement that coastal vessels are actually built in the countries concerned and that crewing arrangements are limited to nationals of that country. This is a much more restrictive form of cabotage and extends the purpose of this policy beyond simply reserving coastal trade for domestic registered vessels (thereby providing some degree of certainty regarding the availability of vessels on the coastal routes), to include construction and crewing matters that have more do with manufacturing policy and labour and immigration laws.

Currently there are 14 coastal shipping companies in PNG that service ports around the country including several river ports. These companies provide vital linkages for remote communities to access goods and services. However, there are relatively small amounts of trade on some individual routes to justify providing services on a standalone basis for that route alone. Thus, there is an internal industry cross subsidisation between various routes serviced by each of the companies. In this context, each of the existing coastal shippers has argued against the removal of cabotage. The loss of the opportunity to cross subsidise their operations between the profitable and the less profitable routes has been the main point raised in this argument.

Any 'network' system of the type operated by a shipping line will inevitably involve some degree of cross subsidisation, and this will continue even if the cabotage arrangements were removed and the international operators take the more profitable Lae/Port Moresby/Rabaul routes. Cross subsidisation of itself might not be detrimental to the economy. But it does raise the question of the cost of shipping from the more profitable ports and whether the higher costs that apply from these ports (particularly if considered on a standalone basis) effectively is blunting the other benefits that greater price competition would bring, such as innovation, new services, and new investment. The question therefore is whether there is sufficient contestability in the market in its current form to encourage these operators to invest in technology and infrastructure that results in innovation, or will it take the removal of the cabotage protection to force this type of innovation. The Commission acknowledges the importance of the cross subsidy that currently exists in relation to the more profitable routes and the other less profitable routes, and the concerns being expressed by the tier one operators, in particular that they will loose the profitable market should cabotage be removed. The Commission is not inclined to regulate these coastal shipping rates for the main ports as a substitute for competition or as a trade off for the continuation of the cabotage arrangement. However, there is a need to find a mechanism that will encourage continuing innovation and investment by the existing industry in the absence of competition from the international shipping operators.

An important consideration is the access to passenger services. The relaxation of cabotage any further to allow the larger international shipping lines on to the PNG coast has the potential to minimise the availability of passenger services as these lines are unlikely to be appropriately equipped to offer these services. This reduction of service would have a significantly detrimental impact on the economic efficiency of the PNG economy. The lack of access for the majority of the population to travel between the various locations will result in a loss in terms of dynamic efficiency which is dependent on the transfer of skills and ideas as such as goods and raw materials.

Currently coastal shippers have invested in vessels designed specifically for particular PNG environments and locations. This specific investment is a major factor in the current availability of services across PNG. Thus, it is likely that allocative efficiency has actually been optimised because of the investment that has occurred under the existing cabotage arrangements rather than in spite of cabotage. That is, the investment in new ships designed to cater for the special circumstances in PNG is a practical way of ensuring that services will continue to be offered to remote locations, provided the shipping companies can recover their investment through the cross subsidies that exist in the current rate structure. However, this potentially comes at the cost of some dynamic and productive efficiency that would otherwise be encouraged by a more competitive market environment. Therefore, in assessing the desirability of removing the cabotage arrangement, it is important to consider the public policy benefits that accrue to individual communities from having a regular coastal shipping route versus either having no access or limited access to markets.

It is difficult to assess which benefits are more important. On the one hand, the dynamic and productive efficiencies may contribute to significant economic growth to the PNG economy, particularly in the more market-oriented part of the economy. On the other hand, the impact of a loss in allocative efficiency could mean that the total economy is disadvantaged by the withdrawal from the market of cash crop producers in remote areas who can no longer afford to get their produce to the relevant markets. Further, there are also potential social implications that need to be considered. For example, a loss in a regular shipping service and access to cash generating activities may result in a population movement away from traditional villages into the urban centres, with consequential overcrowding, unemployment and urban social unrest leading to increased crime and risk of civil disturbances.

The Government has indicated a desire to improve the opportunities for people living outside of the main urban areas in an attempt to encourage a slow down in the drift of population to the larger towns and urban areas. While the commitment of government funds to activities that will directly influence where people live is not a realistic option at this time, as Papua New Guinea continues to experience a process of urbanisation of the population, the adoption of policies that allow access to services in villages and remoter areas will contribute to discouraging this movement of people. While the Commission notes that the factors that contribute to urbanisation are very diverse, the withdrawal of services including shipping services to rural communities is a contributing factor to urban drift. The removal of cabotage may lead to less access to services and markets, which may magnify the situation outlined regarding urbanisation. Given these circumstances, and given that the optimum solution of direct transport subsidies from the public purse is not a practical solution, the retention of cabotage may present a more manageable and sustainable solution at this time to ensure that there are adequate services provided to rural and remote populations.

It is therefore the Commission's final recommendation that the current system of cabotage in the domestic coasting trade should be retained on the basis of the net benefits to the public and the economy as detailed above; however entry into the coastal shipping industry should be unhindered and made accessable on a fair and transparent basis to any interested entrant by a restructuring of the current licensing arrangement. Further details of this new arrangement are set out in the section on licensing below.

Operation of Coastal Shipping Licences

In submissions received by the Commission, most of the shipping companies have stated that while cabotage exists in PNG, it is in name only as the requirement to receive a coastal shipping licence is not so onerous as to prevent a foreign vessel from operating liner services in PNG.

While the Merchant Shipping Act gives the Minister ultimate discretion regarding the holding of a coastal shipping licence, it also provides for the establishment of the Coastal Trading Committee (CTC). The CTC was established as an advisory committee to the Minister, advising on any matter relating to coastal trade. This role included the provision of licences as provided for under section 226 and the decision to invoke the Minister's power under section 225 to exempt a party from holding a coastal shipping licence while still trading on the coast.

The Commission considers that the CTC may have a vested interest in not recommending the allocation of additional costal shipping licences given the incumbent position of the majority of the committee members. However, the

Commission notes that the committee should been seen as an advisory board to the Minister and ultimately it is the Minister who is in the position to grant or reject coastal shipping licence applications. The Commission is concerned that this approach does not provide the necessary certainty to either the current industry players or any potential entrants regarding the assessment of new coastal trading licences. The concern stems from the vested interest from the industry players which would result in too few licences being issued and the potential impact of too many licences being issued by the Minister directly.

The potential impact of this influence is highlighted by the situation in which a competitor to one of the members of the CTC makes an application for a coastal licence. When faced by this direct threat it is fundamental economics that suggests that the effected party will have the perverse incentive to block market access where it has the opportunities. While there were a number of issues associated with recent entry of the MV Milne Bay into the market including the use of an inappropriately designed vessel, the selection of shipping agents affiliated with incumbent ship owners highlights this potential conflict of interest. In this example these shipping agents allegedly gave preferential treatment to the affiliated companies over the new player. In addition, the threat of competition from the MV Milne Bay in the passenger services market caused a significant reduction in fares from at least one service provider only for these reductions to be withdrawn after the departure of the MV Milne Bay from service in PNG. These two responses highlight the incentives/opportunities that competitors face in terms of blocking market access. The CTC in its present form present another opportunity for this to occur.

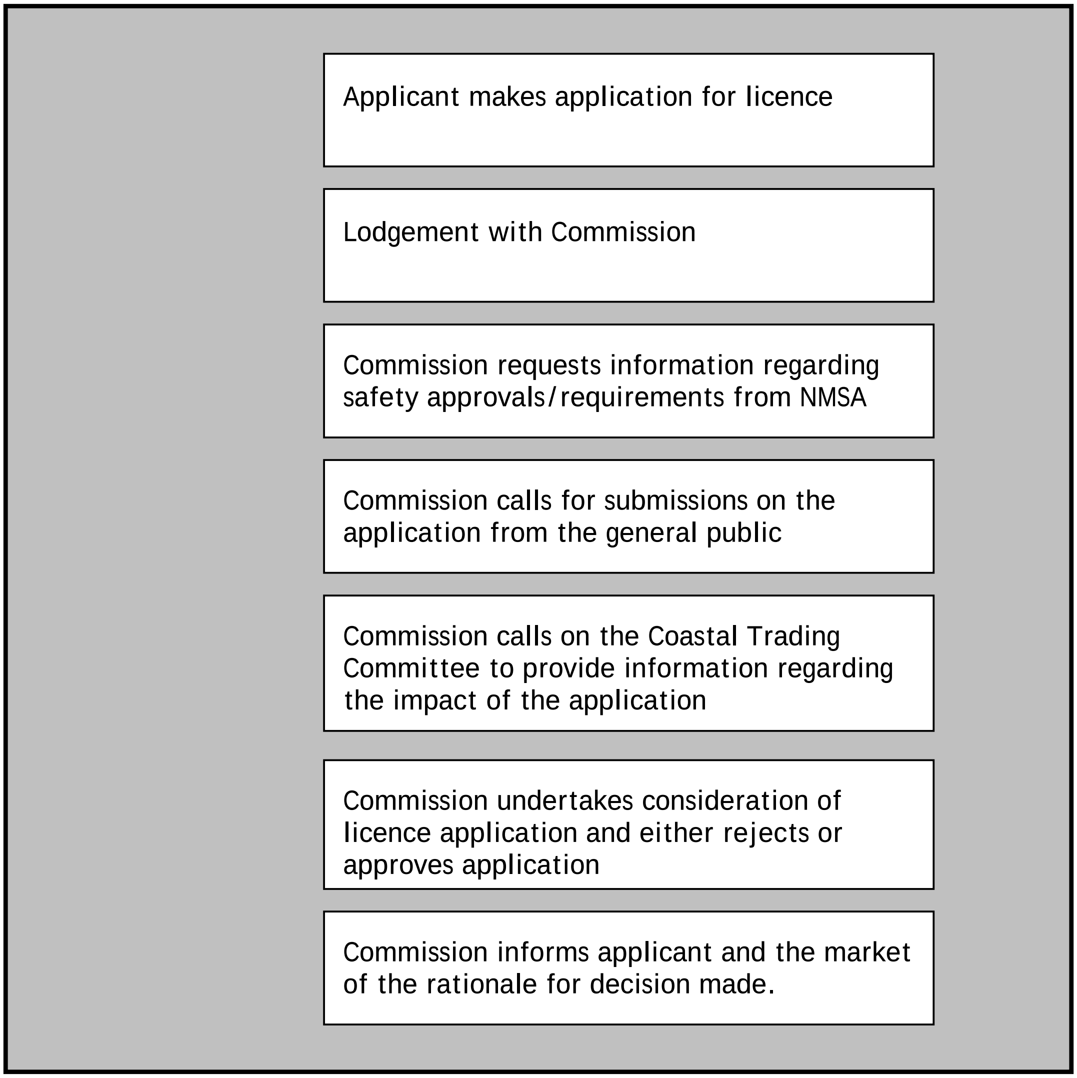
Access to coastal shipping licences is an important issue in terms of the net benefit described above regarding cabotage. Given the relatively thin market for coastal shipping and the inherent cross subsidisation of the industry where profitable routes/ profitable periods help to ensure a minimum level of service throughout the economy, the Commission considers that there are a number of benefits which stem from these arrangements and considers that the current market conditions provide an overall economic benefit to the PNG economy. However, at the same time the Commission considers that it is important and necessary for there to be an opportunity for new entrants to enter into markets where it can be demonstrated that by doing so there would not be a detrimental loss of service in that market/route or any related market/route. That is, the Commission considers that rather than allow the industry or the Minister to determine when a coastal trading licence is to be issued it would be more appropriate for an independent consideration of licence applications.

The consideration of a licence application by an independent party would require careful application of specified guidelines regarding the application. An example of these rules would be that all necessary safety documentation be completed and certified by the National Maritime Safety Authority before the licence could be approved. This would avoid the situation recently experienced where the Minister issued a coastal trading licence before the applicant completed the necessary documentation. While these procedural points are important in terms of the process of applying for a coastal trading licence, there are a number of economic considerations that are of greater importance in terms of the impact on the PNG economy more generally. This includes the allocation of trading capacity of 'thin markets' in order to maximise the economic benefit to the entire PNG economy. The Commission considers that an approach that assesses the merit of a coastal trading licence on the grounds of the economic impact on the PNG economy as whole is necessary. The assessment of individual licence applications should be based on the following key principles:

- Allocation of capacity on particular routes should be based on an assessment of the public benefit of any application in terms of maximising competitive pressure while maintaining services throughout the economy;
- Must be consistent with any international agreements, including maritime safety considerations;
- Where there are competing applications for capacity on individual routes the allocation of capacity should be made on the basis of maximising the public benefit;
- Considers submissions from the general public and the coastal trading committee as appropriate; and
- There should be, in addition to the existing legal framework, an opportunity for the relevant body to conduct reviews of decisions and allocations, as it considers necessary.

Given the lack of qualified, independent economic bodies in PNG, it would be the Commission that is in the best place to conduct this assessment. At the same time the Commission considers that it is important that both the current industry players and customers to have an input into the Commission's consideration of individual licence applications. The Commission considers that it would be appropriate for the application to be considered in a clear and transparent fashion as outlined in Figure ES.2 below.

Figure ES.2: Application and decision making process regarding the granting of coastal trading licences.



Under this model, the Commission and not the Minister is responsible for the issuing of coastal trading licences. While the Minister and the Coastal Trading Committee, along with the general public, have the opportunity to make submissions to the Commission on the merits of the individual application for a coastal trading licence, it would be the Commission's final decision that approves or rejects the application depending on the consideration of the public benefit test.

It is therefore recommended that the Commission be the independent body vested with the responsibility of issuing Coastal Trade Licences after an independent assessment of the licence application through a fair and transparent process that includes wider stakeholder consultation. The CTC should be retained to provide advice to the Commission in respect of licence applications.

Price Controls

Provisions exist under the *Merchant Shipping Act* for the Secretary for Transport to set the maximum price for coastal shipping charges. A maximum freight tariff for coastal shipping was set by the Department of Transport in the mid 1980s in accordance with Section 238 of the *Merchant Shipping Act* (Chapter 242). The last time that the tariff was reviewed was in 1990 and the recommended maximum tariff came into force on 1 January 1991. Key aspects of this tariff arrangement included:

- Existing operators competing in PNG coastal trade can purchase or charter additional ships and apply for a coasting trade licence to operate these ships in the coastal trade;
- Licences are generally not restricted to routes so incumbents are able to enter into competition with other incumbents on their main route. PNG registered companies can purchase or charter PNG ships and apply for a coastal trade licence;
- Overseas registered companies or individuals can register a business in PNG, register ships under the Act and apply for a coastal trading licence;
- The Minister has the power to permit a foreign flagged vessel to engage in coastal trade if in his opinion an existing service is inadequate, too expensive or allowing a foreign flagged vessel would otherwise be in the public interest;
- Larger individual shippers or collections of shippers have the capacity and the right to by-pass liner shipping companies and provide their own services (several companies already do this in PNG); and
- New operators can enter the market through purchasing equity in or the whole of the existing liner shipping companies.

Where possible, the Commission favours the use of market forces in determining the prices for goods and services. Price regulation is a second best option when it is clear that the market is not operating effectively or there is the presence of a monopoly/oligopoly situation that can result in the exercise of monopoly powers in the setting of price. In terms of the operation of the coastal shipping sector, the Commission notes that there are a large number of operators in this market. However, the price setters in the industry are effectively the tier one operators. Based on the information provided to the Commission, these shipping lines have established their businesses such that they predominately provide service in three separate parts of the country. Thus, while there may be some degree of contestability between the tier one operators and the other tier operators, effectively the tier one operators are able to set prices for the particular sections of the market in which they operate. With the continuation of the cabotage arrangement, the Commission would favour the continued operation of some form of price regulation arrangement possibly as set up through the CTC.

The Commission is satisfied that the *Merchant Shipping Act* provides for an approach to pricing which is consistent with best industry practice. It provides a forum for the industry through the CTC to attempt to set prices that are consistent with both market dynamics, including ability of consumers to absorb price increases, and the commercial realities of operating ships in the PNG context. Further, the Merchant Shipping Act provides an appropriate mechanism for independent review should the CTC be unable to convince the Minister of the merits of a potential price increase.

The Commission suggests that if the CTC is unable to provide advice to the Minister, then the Commission should be asked to arbitrate on the freight rates.

The Commission considers that, given the contestability of the market and the presence of alternative service providers in the market, an alternative price regulation model that allows the market to determine the appropriate level for prices should be encouraged. As such, the Commission considers that while the *Merchant Shipping Act* does provide a workable model for price control, it would be better if the market were able to freely determine prices with an independent party offering oversight over the market to ensure that there is no evidence of anticompetitive pricing or the exercising of monopoly market positions. Therefore, the Commission considers that a pricing setting arrangement based on the negotiate/arbitrate model should be adopted, whereby in the absence of commercial agreement of terms and conditions, including prices, between parties then either the customer or the service provider could initiate arbitration of the dispute by an independent third party, preferably the Commission.

The negotiate/arbitrate model is typically used in environments which have competitive elements or where both parties are able to exercise a degree of market power; that is the market exhibits both elements of a monopoly service as well as a singular or large customer. The negotiate/arbitrate model ensures that the industry is afforded the opportunity to enter into an arrangement which is satisfactory to both parties. Failing this, an independent body would be able to review the proposed pricing arrangements and make determinations that are binding on both parties. It is important that there is evidence that both parties have made reasonable endeavours to reach a mutually acceptable agreement before a case is brought to the attention of the relevant body. In the absence of this endeavour, the independent body should reject the proposed price increase. Figure ES.3 next page demonstrates the key steps in this process.

Figure ES.3 Negotiate and Arbitrate Model

Contractual relationship between parties (based on the current pricing arrangements)

Proposed change to current pricing arrangements

Two parties discuss the proposed new pricing arrangements either agreeing, amending and then agreeing or disagreeing and seeking arbitration

On evidence of reasonable endeavours to reach an agreement having failed, a case is brought to the attention of an independent arbitration body

Submissions from both parties to the arbitration body

Where appropriate, public submissions are called for, the independent arbitration body may call for specialist advice from the Coastal Trading Committee

Having considered the evidence and any relevant information an arbitration finding is delivered. This finding is binding on all named parties

The Commission considers that it is appropriate for it to be appointed as the independent body. The Commission would not expect that this function would be employed too often during a year, as the majority of price changes would be agreed between the parties rather than go through the arbitration process outlined above. As a further incentive to ensure that the negotiation process is given the necessary commitment from all parties, it is the Commission's recommendation that both parties meet the costs of the arbitration process based on a costs recovery model whereby the Commission's costs are covered directly from affected industry players.

It is therefore recommended by the Commission that freight rates be deregulated and that rates be determined by the market. In circumstances where there is a disagreement between the parties involved concerning those rates, the matter be referred to the Commission for arbitration. The Commission will also maintain closer price surveillance in the industry to protect against any predatory or anti competitive pricing behaviour.

1. Introduction

The Independent Consumer & Competition Commission (Commission) is a statutory body, established under the provisions of the *Independent Consumer and Competition Commission Act 2002* (the ICCC Act), which has been given responsibility for the promotion of competition and fair trading, the regulation of prices for certain goods and services, and the protection of consumers' interests and other related purposes.

The provisions of Part VIII of the ICCC Act empower the Commission to conduct specific enquiries as directed by the Minister responsible for Treasury or by the Parliament. On 26 January 2006, the then Minister for Finance and Treasury (Treasurer) formally referred the Commission to undertake a comprehensive review (Review) into the Coastal Shipping industry in Papua New Guinea. The main purpose of the Review is to consider competition issues and the role and place of regulation within that industry. This referral is part of the Government's 2006 Budget Strategy. Further to the receipt of this reference, the Commission has also received two additional references to investigate along similar grounds the Air Transport and Tourism sectors.

In terms of the coastal shipping sector, the Government has foreshadowed a review of the coastal shipping industry with a view to increasing competition and reducing sea transport costs. Included as part of this review are both passenger and freight issues and the operation of international shipping on domestic routes. The industry for the purposes of this review will also include the provision of freight and passenger services and cabotage arrangements.

The review of the each of these industries comes at an important time in the development of the PNG economy. After a number of years of contraction in the economy, general economic conditions are now favourable due to responsible fiscal discipline and a booming mineral and commodity sector. However, the PNG economy still faces a number of barriers to its economic development. These barriers are largely the result of structural problems within the economy, including most notably insufficient investment in basic infrastructure. This problem extends throughout the economy in a number of sectors including telecommunications, electricity, basic health, education and transport.

This review has endeavoured to canvass the coastal shipping industry to develop a view as to the impediments to the efficient operation of the industry. The review has had to grapple with extremely difficult questions relating to the matching of the dispersed population of PNG with the relative need for concentrated populations to support a modern coastal shipping industry. The industry as a whole has been in decline over a number of years, largely because of a contracting PNG economy. At the same time, the industry has experienced significant cost growth in a number of key cost inputs, notably fuel.

1.1 Objective of Review

The principle objectives and deliverables of the Review are to:

- Report on the current impediments, both regulatory and non-regulatory, to improved operating efficiency and competitiveness in the coastal shipping industry in PNG; and
- Identify issues and areas where Government action may be appropriate to improve the overall cost competitiveness and efficiency of the coastal shipping industry in PNG.

At the conclusion of this review, the Commission will make recommendations on actions that may be appropriate for Government to undertake in order to rectify any problems in the current regulation and operation of the coastal shipping sector, with a view to improving competitiveness and reducing coastal shipping costs.

1.2 Review of Terms of References

In the current domestic context, coastal shipping plays a crucial and important role due to the following:

- The absence of effective national road links or rail systems;
- The demographics and topography of PNG; and
- The reliance of PNG on international trade links outside of the country and links to remote export mining and agricultural activities within the country.

The Commission is required to investigate the various impediments to business resulting from the current structure of the coastal shipping industry. In doing so, the Commission has analysed the current operation of the coastal shipping industry in PNG, including:

- Identifying the characteristics of the market;
- The degree of competition and any countervailing power within the industry; and
- The extent of substitutability for coastal shipping services and the contribution of shipping to the tourist industry.

The Commission has also been instructed to address the following issues in the industry:

- The current coastal shipping regulatory arrangements;
- The current pricing practices within the industry;
- The possible barriers to entry and potential for the entry of new competitors into the coastal shipping industry; and
- The level of implicit community service obligations within the industry.

1.3 Intention of this Report

In discharging its responsibilities under the ICCC Act, the Commission is required to provide the Government with a Final Report highlighting its findings after the conduct of a wider public and stakeholder consultation process. The Commission is to identify whether there are any improvements that can be made to the efficiency of coastal shipping in PNG through reducing regulatory costs and increasing competition. In looking into the various issues throughout the industry, the Commission is required to identify and where possible quantify the potential benefits for the PNG economy from proposed changes to the structure of the industry.

This is the Commission's Final Report on this matter. This Report has been compiled after a detailed and rigorous analysis of the various issues associated with the industry and further builds on from the Commission's draft findings that were contained in its Draft Report released on the 4th October 2006. The Commission has received and considered submissions received on the Draft Report for the purposes of this Report.

The final conclusions and recommendations contained in this Report will now be presented to the Government for its consideration and appropriate action.

1.4 Submissions to the Draft Report

The Commission received a good response from shipping industry participants in respect of the Draft Report. Stakeholders have commented on the issues highlighted in the Draft Report, as well as raising other relevant issues including certain corrections to the factual materials contained in the Draft Report.

A list of the stakeholders providing written submissions on the Draft Report is detailed in Appendix D of this Report.

1.5 Structure of this Report

This Report has been structured to ensure that all comments from individual stakeholders have been addressed and that other related issues in the industry are carefully examined and assessed in order to make an informed decision for the purposes of the industry going forward. Furthermore, the Report has analysed the impact of the various alternatives to the current industry structure in an effort to determine the appropriate structure of the industry. In so doing, the Commission has been careful to consider the full implications of any potential changes to the current industry structure and has been mindful of the implications for related entities of changing the structure of the industry, with a particular reference to the tourism sector.

This report is structured as follows:

- Chapter 2 provides a contextual background to the importance of the coastal shipping industry and to the review;
- Chapter 3 considers the infrastructure issues associated with the coastal shipping industry;
- Chapter 4 considers the various issues associated with the current cabotage regime in PNG; and
- Chapter 5 addresses the various competition issues arising within the industry.

2. Context

The mobility of people, goods and information provides an important building block for economic development. The ability to move goods, information and people between locations easily has the ability to facilitate economic development. Unlike in many other countries, such mobility in PNG has been constrained. The limitations to mobility have been largely driven by the geographic constraints throughout the country. These constraints have resulted in the limited provision of road infrastructure. Furthermore, for those road systems that exist, the inability of the Government to fund proper maintenance restricts their usefulness as a means of transporting goods, services and people across the country. This has resulted in shipping and air being the two main methods of travel for longer, cross-island or inter-provincial trips throughout the country.

After a number of years of economic contraction, the PNG economy has started to grow. This growth is largely driven by increased activity in the resources sector but is also extending into other areas of the economy. However, the economy is under significant pressures due to infrastructure bottlenecks and shortcomings in a number of key sectors including transport and telecommunications. While this review is focused primarily on the coastal shipping industry, it is important to consider a number of concurrent reviews being undertaken, including:

- A review of the Air Transport Industry;
- A review of the Tourism Industry; and
- A review of the Telecommunications Industry.

The review of the aviation industry should be seen as the direct counterpart to this review in that a number of the findings, particularly as they relate to the provision of infrastructure, will be relatively common across both industries.

While it is beyond the scope of this review, the Commission notes the potential impact an integrated national highway system could have on economic development in PNG. An improved shipping industry will assist in economic development, but an effective road network would make a much larger contribution to the economic growth of PNG. This growth would be largely driven by the increased access of Papua New Guineans to cheaper transport than what is available in the shipping sector. This may be extremely important in terms of the access to markets in the larger centres. A national highway system could potentially result in a rationalisation of port facilities, which would assist the economic viability of coastal shipping routes by concentrating cargo into a few key ports, which are then maintained and serviced to the appropriate level. However, the Commission understands that an integrated highway system would require significant capital expenditure, continuing recurrent funding and would take decades to complete.

2.1 Importance of coastal shipping to PNG

The PNG coastal shipping industry is an important component of PNG's transportation industry. It plays a crucial role in the transportation of cargoes and passengers within PNG and internationally.

The demand for coastal shipping services is derived from the demand for goods and services in other markets. While there are alternatives, coastal shipping is generally more convenient than other substitutes such as airfreight because it provides the ability to transport bulk quantities of goods. Further, the wide dispersion of the population throughout coastal and island regions and the lack of an effective highway or rail network throughout PNG means that coastal shipping provides the main avenue for transporting goods between trading centres.

One of the important features of coastal shipping in PNG is therefore the need for services to be maintained into remote regions to ensure that all Papua New Guineans have access to commerce and trade markets at competitive freight and passenger rates. The availability of modern transport facilities in remote areas is expected to increase the mobility of goods and services, which in turn is likely to lead to increased economic activity and prosperity. Development of these regional economies will become a key driver of the sustained economic growth of the broader PNG economy.

This situation has lead to significant pressure on the industry to achieve commercial viability while at the same time providing port discharge and uplift services in certain regions that are not profitable. While an element of cross subsidisation in any large infrastructure network is likely to be the case, the overall business should be commercially viable. To the extent that cross subsidisation reflects an implied community service obligation (CSO) to certain ports within PNG, it is important that this be recognised and for the Government to provide appropriate support to operators. This is not to say that unprofitable ports should always be subsidised by the Government. Rather, if ports are likely to cease to operate without cross subsidisation, government support should only be provided where the operation of coastal shipping link is vital to the economic and/or social welfare of the people.

2.2 Legislative Environment

The three major pieces of legislation governing the coastal shipping industry are:

- *Merchant Shipping Act* (Chapter 242) consolidated to No.11 of 2003 (MSA);
- *Harbours Act* (Chapter 24); and
- *National Maritime Safety Authority Act 2003*.

The MSA consolidates the previous *Merchant Shipping Act 1977* with the various other Regulations that were made at that time. The MSA is the major merchant shipping legislation that regulates the operation and management of the coastal and international shipping industry in PNG. The Department of Transport - Maritime Division is the principal Government agency that administers the MSA.

The MSA restricts coastal trade to domestic flagged and licensed ships through provisions often referred to as "cabotage" (cabotage is discussed in more detail in chapter 4). The MSA also provides for foreign vessels to operate on coastal routes on a permit if the services provided by a licensed ship are inadequate or the issuing of a permit is considered to be in the public interest. The purpose of the MSA is to provide an environment in which a domestic coastal shipping industry and associated support infrastructure would evolve to meet the particular needs of PNG and to address the highly variable profitability and in some cases loss making nature of servicing ports in PNG.

Under the applicable provisions of the *Harbours Act* (Chapter 24), PNG Ports is responsible for the regulation, management, operation and control of declared ports and the movement in declared ports. It is also responsible for the provision and maintenance of lightships, buoys, piers, jetties, landing stages, landing ramps and platforms in declared ports as well as the provision and maintenance of machinery, equipment and installations used in connection with the operations of declared ports. PNG Ports operates almost all of the public ports in PNG.

The *National Maritime Safety Authority Act 2003* provides for the establishment of the National Maritime Safety Authority (NMSA) whose main roles and functions relate specifically to the co-ordination and overseeing of matters concerning maritime safety, marine pollution prevention, and search and rescue operations at sea, and other related technical functions within the industry.

2.3 Market structure

The market for coastal shipping services is based on two distinct types of services, namely liner services and charter services. Liner services are scheduled services that operate regularly between various ports. In contrast, charter services can be over a range of time periods, for example one day (i.e. spot charters) to multiple years on long-term contractual basis.

The market for charter services is generally more competitive than the market for scheduled services because operators do not face the risk of having insufficient cargo to cover costs and consumers are able to exercise a greater degree of market power because they have exclusive use of the service. Furthermore, consumers with long-term contracts with coastal shipping operators are able to achieve discounts on the commercial rate due to the ability for coastal shipping operators to lock-in payments from these consumers.

In contrast, operators in the market for liner services bear the risk associated with having sufficient cargo on the ships to cover the costs associated with running a ship between various ports. If there is not enough cargo to sustain individual routes and services, there is a need for a rationalisation of service providers. This could lead to a situation whereby it is more efficient for one service provider to service an individual route because demand is too low to warrant additional operators. This has indeed been the case in PNG, with one major operator, Consort, providing the majority of services to the northern ports and Steamship Shipping’s Laurabada Shipping Services (Steamships) providing the majority of services to the ports in the Central, Western and Gulf provinces.

In addition to cargo services, there are some shipping companies which provide passenger services throughout PNG. Rabual and Lutheran shipping both offer passenger services to regional ports. The provision of passenger services is subject to different safety and service considerations than cargo and the provision of service presents unique challengers to both shipping companies and port operators. Unlike general cargo, passengers require additional port side services including embarking/disembarking facilities, air conditioning on ships, and terminal facilities for arriving and departure. PNG Ports has recently introduced a passenger loading charge which has been introduced to facility further investment in port side services for passengers. However, port facilities in PNG are considered by many to be insufficient to cater adequately for passenger services at this time.

2.4 Consort Express Lines (Consort)

As noted in its submission to this review, Consort is a joint venture company between three equal shareholders, Steamships, Kambang Holdings and Anton Lee Transport Limited.

Consort was originally formed in the 1970s by a number of participants in the industry in response to the need to rationalise the industry[3]. The number of operators in the market was deemed unsustainable because of the high fixed costs of each operator and the inability of operators to carry enough cargo to deliver the required return on investment. The formation of Consort enabled these operators to consolidate their position and to provide a rate of return on their investments that was commensurate to the risk borne.

Consort has observed that this does not mean that there is a natural monopoly over service provision in its service areas. Rather, Consort must compete strongly for charter services (as described in section 2.3). While Consort has a strong market position in the liner services sector of the market, it claims that there are no barriers to entry into the coastal shipping industry, and thus other potential competitors are able to enter the market should they perceive that there is a market available for the services that they provide.

The Commission does not agree with the assertion that there are no barriers to entry to the market. The Commission notes, similar to many industries, there are a number of natural economic barriers that new entrants must overcome before they are able to compete with incumbents. These natural economic barriers include high set up costs and a high level of sunk costs. The Commission notes that this is somewhat contradictory to comments made by the industry regarding entry into individual markets. The presence of these barriers does not necessarily mean that incumbents have an unfair advantage over new entrants. However, where barriers are artificial in nature, there is the potential to provide a level of protection that would not otherwise be available to incumbents. For example, cabotage restricts competition in a particular market to particular operators or particular ships. The Commission notes that while there will always be some economic barriers to new entry in the shipping industry given the capital intensive nature of the industry, it is important that artificial barriers be retained only if there is a net benefit for their retention. Chapter 4 provides a detailed discussion of restrictions on entry into the market.

[3] The number of shareholders has decreased as individual shareholders have exited the arrangement.

2.5 Steamships

Steamships is a company that is registered and publicly listed in PNG with 71.37 per cent of its shares owned by John Swire and Sons, 23.63 per cent owned by private investors and 5 per cent owned by Nasfund.

Steamships is somewhat similar to Consort in that it holds a strong market position for shipping services in the Gulf, Central and Western Provinces. It is the only scheduled liner service which provides palletised, break bulk, liquid and containerised cargo to these ports. It is unique in that the majority of these ports are actually river ports rather than coastal ports. The nature of this market may provide Steamships with a significant competitive advantage over a potential new entrant given the need for ships with special dimensions and characteristics in order to service these ports and navigate the rivers involved.

While Steamships holds a strong position over liner services in this region, it faces a number of competitors in the market for charter vessels. Figures provided by Steamships in its submission to this review indicate that competitors account for nearly 75 per cent of the charter market (spot and other charter services) in the Central, Western and Gulf Provinces. The prices that Steamships can charge for their services in this sector are therefore generally constrained by competition.

Steamships has provided the Commission with confidential information that purports to show a very poor financial return on assets employed for its liner services and spot charter business. It has been suggested that on a stand-alone basis, Steamships could not afford to continue these services were it not for its other activities. The Commission is not able to confirm these figures, but notes that Steamships, as an integrated transport operator with other widely dispersed trading and business activities in PNG, is able to take a much broader view of its overall business operations, which would include not only a decision to continue services to ports that might not be profitable on a stand-alone basis, but also make decisions on the allocation of costs, particularly overhead costs between different profit centres. In its submission, Steamships notes that the profitability of services it provides varies across the different routes that it services. For example, the Goada Chief vessel operates on shipping routes with significantly more demand than those operated by the Augtoi Chief and the Kikori Chief vessels. This suggests that there is some degree of cross subsidisation between the various routes operated by a shipping service operator that services multiple parts of the country.

It should be of no surprises that there is a degree of cross subsidisation between various routes that a coastal shipping service may provide. To some extent, this is typical of the operation of a 'network' business, where, for overall efficiency and operational purposes, it may make commercial sense to service what would otherwise be uncommercial routes and ports in order to be able to provide a 'total' service. Given the nature of trade along the PNG coast and the remoteness of some ports, it may be inevitable that there will be a degree of cross subsidisation. To the extent that this is self funded within the business activities of the shipping company itself, this may create opportunities for competitors to 'cherry pick' the more profitable routes and thereby force an existing service provider to withdraw from servicing the less profitable (or loss making) routes. To the extent that this may result in a lack of transport into a particular region or location, this could raise national policy issues and the possibility for some form of government intervention to address the question of the funding of the implied CSO that is evident from the need to cross subsidise operations.

2.6 PNG Ports Corporation Limited

Prior to 2002, the major ports in PNG were owned and operated by the then PNG Harbours Board, a commercial government owned statutory body established in 1963. Its major functions were to provide wharf infrastructure and related facilities to service overseas and coastal shipping and to facilitate the handling of cargoes throughout PNG[4].

In 2002, in a sweeping set of economic reforms undertaken by the Government, the then Harbours Board was corporatised and subsequently incorporated under the *PNG Companies Act 1997*. The new entity became known as the PNG Harbours Limited (PNG Harbours). In early November 2006, PNG Harbours changed its corporate identity to PNG Ports Corporation Limited (PNG Ports). The main functions of PNG Ports are laid down in the PNG *Harbours Act* that gives PNG Ports responsibility for:

- The regulation, management, operation and control of Declared Ports;
- The movement of shipping in Declared Ports; and
- The provision and maintenance of lightships, buoys, piers, jetties, landing stages, landing ramps and platforms in such ports as well as the provision and maintenance of machinery, equipment and installations used in connection with the operation of Declared Ports.

Ports operated by PNG Ports handle more than 90% of all overseas ships serving PNG. PNG Ports operates 16 of the 22 Declared Ports in PNG including the ports of Aita and Samarai, which are operated by agents on behalf of PNG Ports. The six remaining Declared Ports are either operated by commercial interests (e.g. Bialla and Lihir) or are non-operational. The two fully self-funding ports are Port Moresby and Lae whilst about four ports break-even in terms of their financial viability. The remaining eleven ports including the port of Wewak are cross subsidised primarily by the operating profits made by the Port Moresby and Lae ports. PNG Ports classifies these ports as social or feeder ports.[5]

2.7 Profitability of the Shipping Sector

Demand for shipping services, be they for coastal trade (intra country) or for export (inter country), is heavily dependent on the general economic conditions prevailing in the country. Given that economic demand is an important proxy for demand for shipping, it is important to consider the economic activity in PNG and the impact of this economic activity on the shipping sector.

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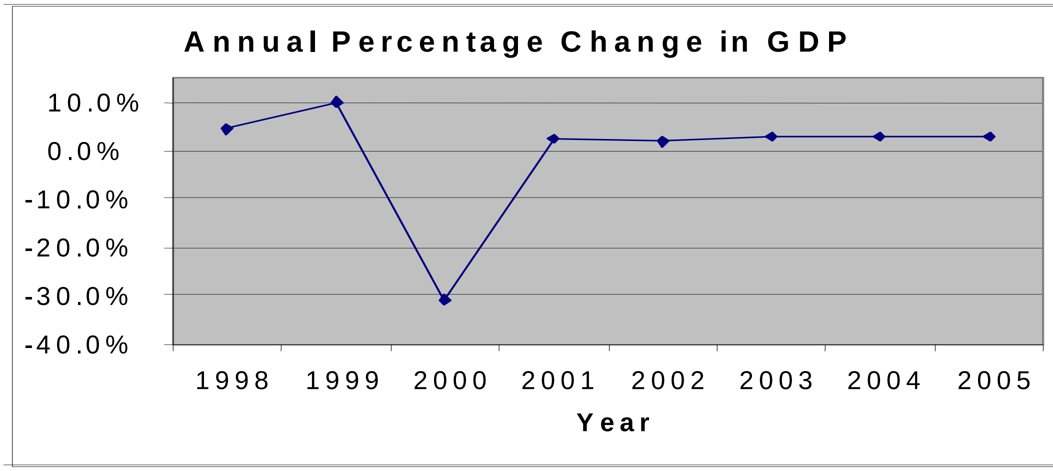
[4] PNG Harbours Limited, Briefing Paper on the Functions and Activities of PNG Harbours Limited, February 2004.

[5] Ibid.

There has been a significant contraction in the economy over the last decade (notwithstanding an important turnaround in recent years). Effectively, economic growth has declined significantly and in more recent years has shown only relatively modest growth. The decline in 2000 and the modest growth over the following years can be seen in Figure 2.1 on the following page.

Figure 2.1 Economic Growth in PNG



Source: National Statistics Office of PNG and Bank of Papua New Guinea Monetary Policy Statement

Although precise figures are not available, the contraction in economic activity has had a wide-ranging impact on various parts of the PNG economy, particularly the coastal shipping industry. In addition to this contraction, there have been a number of external economic factors that have had a significant impact on PNG shippers. The depreciation of the kina, the large proportion of shipping related costs that are denominated in US dollars and increasing fuel costs have combined to place significant pressure on the industry.

The industry has claimed that it has faced relatively poor profitability in recent years. This has been supported by confidential financial information provided in submissions to this inquiry. This data suggests that some of the operators are operating at less than break-even levels and others, while marginally profitable, are falling well below levels of return consistent with the risk profile for the business. These results do not necessarily mean that that the industry is about to collapse, as there is a cyclical nature to this type of activity with periods of relatively poor economic performance being compensated for by periods of stronger performance. Thus, investment in this industry is more of a long-term commitment rather than a short-term investment with regular movement of operators into and out of the industry.

The performance of the industry can in part be explained by the performance of the economy as a whole. Without strong growth, there is not the demand for shipping that will support the capacity that is in the market to meet periods of more robust economic activity. The ability of the market to revert to more subsistence type activities and away from traded market sector activities at times of economic downturn, poor international prices, or general economic uncertainty is consistent with an economy that still has a high proportion of its economic activity occurring in the subsistence sector. However, this is not conducive to the continued operation of activities which involve extensive fixed investment in infrastructure and which then rely upon a steady flow of activity to justify the initial investment.

The Commission notes that the reported financial position of some of the larger operators in the industry is a cause for significant concern. It indicates that there is either insufficient demand, prices are too low given the cost structure of the industry, or significant inefficiency exists in the market for coastal shipping. Competition within the industry would appear to have encouraged efficient operations by the existing operators. Competition is made possible by the ability for potential customers to seek charter operators to supply services for full loads on specific routes, or even to negotiate good rates for shipping of regular freight consignments on liner services. This places a ceiling on what rates the liner service operator can charge for shipment on a regular liner service. In a market where these potential alternative service options exist, the need to recover high fixed costs at a time of low volumes in the domestic market is possibly the main cause for the current poor financial results being reported by the industry. This conclusion seems to be supported by submissions received by the Commission, which have focussed upon the lower demand and volume results in recent years.

On the other hand, a more positive sign is that Consort has recently upgraded its infrastructure to ensure its services are of high quality and price competitive. Consort advised that:

> *To meet the expected growth in coastal trade in Papua New Guinea, Consort has recently invested 80 million Kina in upgrading and expanding its fleet. This has reduced our need to charter manned overseas vessels and will enable us to provide employment and training opportunities for PNG workers. This investment confirms our commitment to servicing the coastal trade in PNG.*

The additional investment being undertaken by Consort is a demonstration of the cyclical nature of the coastal shipping market in PNG, and the need to anticipate future demand opportunities.

Consort has argued that there are potentially significant economies of scale available to coastal shipping. It notes that because approximately 90 per cent of its costs are fixed, average unit costs fall sharply as tonnage carried increases. The ability to share fixed costs such as overheads, containers, equipment, fuel, crew and provisions, maintenance, survey, insurance, berthage, towage and pilotage over the total volume of cargo results in lower unit costs. As such, it may be more efficient in a low volume environment for one service provider to service the market.

At the same time, Consort has noted that the fact that a market serviced only by one liner shipping company does not necessarily mean that the market is not contestable. Rather, Consort argues that the threat of competition from charter operators or other liner service operators, who see the potential to extend their services given the relatively low additional costs associated with entering a new market, prevents an existing incumbent from extracting monopoly rents. This is a different situation to that which would apply to a new entrant who does not have existing operations elsewhere and who would be seeking to recover the initial start up and fixed costs all from the new market. In these circumstances, there would be less likelihood of any contestability being provided by a potential new entrant in a market where the incumbent is already well entrenched.

Given the limited number of companies providing shipping services in PNG, the issue of competition must be carefully observed. Indeed, the Commission has a responsibility, under the ICCC Act, to monitor market activity to ensure that the environment is fair and free of anti-competitive behaviour for all market participants and potential new entrants. The ICCC Act outlines the rules for market conduct, providing detail about practices that are prohibited, such as price fixing, abuse of market power, and preventing or withholding the supply of goods and services. The Commission believes that market forces should dictate the price set for shipping services and that it has a significant role to play in reviewing and overseeing pricing levels by market participants. However, this role should be more in line with a negotiate/arbitrate model described later in this document. While this is the more appropriate approach to general disagreements between shippers (those shipping goods) and shipping companies (those providing the shipping services), any evidence of systematic abuse of market power should be brought the Commission's and, if necessary, the court's attention as provided under the provisions of the ICCC act.

3. Infrastructure

3.1 Economic Impact of Inefficient & Deteriorating Port Infrastructure

Efficient economic infrastructure is critical to the success of any economy. In PNG, the role of ports infrastructure is particularly important because of the lack of viable transport substitutes to provide access to coastal and island regions. Without adequate investment in port facilities and associated infrastructure, it is difficult to address bottlenecks within the economy. These bottlenecks have the potential to significantly affect PNG's ability to trade and limit the access of coastal and island regions to markets for goods and services. Further, the limited provision of road infrastructure and relatively low levels of disposal income in PNG and the consequential limited access to more expensive methods of transport, i.e. air travel, results in passengers services being the primary method for people travelling between major coastal centres.

Over many years, the limitations associated with PNG's port facilities have been recognised. As part of a broader reform process undertaken in 2001-02, consideration was given to the privatisation of the former PNG Harbours Board. However, it was decided that ownership of the Board should be retained by the Government.

The Commission subsequently established a Regulatory Contract with PNG Ports (through its predecessor company PNG Harbours Board) which regulates the prices that PNG Ports may charge for the supply of Essential Port Services and Stevedoring Access arrangements[6]. Under the Regulatory Contract, key cost components of the build up to the regulated prices are forecasted capital expenditure and operating expenditure necessary to maintain service levels. Under the Regulatory Contract, PNG Ports must also ensure that the Minimum Service Standards specified in the Regulatory Contract are satisfied in respect of each Declared Port.

Submissions to this review have expressed concern about the standard of port infrastructure in PNG. The Commission notes that while the terms of reference for this review do not directly request the Commission to review the state of PNG's port infrastructure, and that some of the arguments regarding the upgrading of port infrastructure would be best dealt with in a focused review of the Regulatory Contract, it is impossible to divorce the state of physical infrastructure particularly in ports from the efficient operation of the coastal shipping industry. This is further highlighted by the fact that the majority of the problems identified in the submissions are localised in the primary port of Lae. It is also important to recognise the impact of poor or non-existent port facilities on the cost structure of shippers and the impact that this has upon the access to markets by those wishing to freight their products. The poor standard of port infrastructure has the potential to significantly impede economic development in PNG.

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[6] The Regulatory Contract is available for public download on the Commission's website.

PNG Ports faces a number of problems that are relatively unique to the PNG shipping industry. For example, the reduction in capacity caused by silt build up at the tanker berth at the port of Lae is in part a function of the geographical and environmental activities of the Markham River as well as poor positioning when the port was first established. The Markham River drains the Highlands and brings with it significant amounts of sediment, which is deposited into the Lae harbour, resulting in shallow depths which pose a high risk in berthing, manoeuvring and mooring of deep draft vessels. The deposit of sediments from the River has also lead to corrosion of port facilities.

3.2 Submissions

The Commission has received a number of submissions to this Review which have articulated concerns regarding the state of port infrastructure throughout PNG. The main issues raised are:

- PNG Ports' increased charges and level of capital expenditure undertaken against the standards set in the regulatory contract;
- The level of service being provided by PNG Ports at its ports and the associated costs of these services;
- The need for private investment in port infrastructure in PNG; and
- The lack of commercial focus of PNG Ports.

Steamships has argued that while ports are outside the scope of reference of the Commission, it is impossible to discount the importance of this infrastructure to the efficient operation and cost of coastal shipping. Of primary concern to Steamships is the issue of PNG Ports' increased charges. Steamships asserts that these increases have not been accompanied by functional increases in the level of service provided. Steamships is concerned that increased charges have been allowed under the Regulatory Contract on the basis of forecast capital expenditure which has since not been spent.

Further, Steamships has noted that there are significant congestion concerns at two of the major ports in PNG, namely Lae and Daru, which has resulted in PNG Ports failing to meet the minimum standards of service at its ports. In turn, this has resulted in significant costs to coastal shipping operators and their consumers, including:

- Direct costs associated with the initial time lost, such as additional fuel costs, wages and other operating costs, as well as the costs of capital which is not utilised efficiently;
- Indirect costs which cascade to other ports as ships are unable to maintain their schedules thus creating delays at forward ports; and
- Loss of customers due to the unreliability of the scheduled services.

Steamships has claimed that one solution to address these difficulties would be to allow private sector investment in both private and multi-user port facilities, which would also reduce the financial commitment required by the Government and PNG Ports.

Both the PNG Chamber of Commerce and Kambang Holdings (the principle owner of Lutheran Shipping) agree with Steamships' assertion regarding the level of private sector involvement in port infrastructure. Kambang Holdings has argued that the privatisation of PNG Ports would result in increased efficiencies and the reduction of losses incurred because of the current management of wharves. The Chamber of Commerce has called for privatisation of the provincial ports, with a subsidy system for those that are non-profitable. This system would require the Government to subsidise those operators who are willing to take on the day-to-day management of port infrastructure. The Chamber of Commerce has suggested that the remaining ports, which are not privatised, should be retained by PNG Ports but with greater private sector representation on the Board to bring a more commercial focus to the operation of port infrastructure.

In addition to privatisation of PNG Ports, Kambang Holdings has submitted that it believes that a different shipping model is needed to ensure that ports in small, remote communities are adequately serviced by coastal shipping. It believes that, to ensure remote areas of PNG receive shipping services in the future, it is necessary to adopt different fleet configurations to those currently in use, reflecting the particular needs of particular locations.

> *Luship has been purchasing new ships and new solutions to the coastal shipping problems facing PNG. It considers that a combined passenger and cargo vessels with roll-on-roll-off capability and shallow draft so it can go onto remote beaches could be the solution. Luship would use this to service remote locations that currently do not have shipping services. Such a service would need to be subsidised for a number of years in order to build up outwards cargo volume, which in turn provides income to encourage the purchase of inward cargo.*

Kambang Holdings considers that these ships services would still be governed by current cabotage arrangements applying on coastal shipping trade. However, port infrastructure upgrades would not be required in order to keep servicing remote communities. Rather, the type of ships and vessels that they are proposing would be able to meet the needs of the remoter locations efficiently without port upgrades, but while still retaining the protection provided by cabotage as a guarantee of access to the market by these vessels. Kambang Holdings argues that this would be consistent with the objective and outworking of a cabotage arrangement and would provide a net benefit to the nation.

Kambang Holding also raised concerns about pilotage charges imposed by PNG Ports. Kambang Holdings has claimed that recent increases in the pilotage, the charge paid by shipping lines to PNG Ports for assistance in navigating water close to individual ports, have been excessive and should be reviewed.

PNG Ports has cited a number of issues that they consider need to be addressed in order to provide a more workable environment for investment in harbours, including:

- Law order issues affecting the safe delivery of goods and services throughout the country;
- A lack of political will regarding the decision to relocate the two major ports in PNG;
- Limited availability of funds for continuous repairs and maintenance of wharf facilities, and upgrading of inadequate navigational equipment; and

- A lack of clarity regarding key policy issues and responsibilities.

3.3 Discussion

The Commission is aware of concerns being expressed about the current condition of many of the port facilities provided by PNG Ports. The Commission monitors the performance of PNG Ports, and as part of the Regulatory Contract is required to review its capital expenditure program as part of a 'mid term' capital expenditure review. Key considerations for the Commission are:

- whether PNG Ports is meeting its obligations under the Regulatory Contract;
- whether the Regulatory Contract provides for sufficient capital expenditure to ensure an efficient level of infrastructure;
- if there is not an efficient level of infrastructure, what are the associated costs to the PNG economy; and
- the possible options for achieving more efficient ports infrastructure.

The Commission notes that a number of other issues were raised in submissions, for example requirements and charges relating to pilot services. Together with consideration of the capital expenditure issue, these are discussed below.

3.3.1 The Regulatory Contract

As noted in the introduction to this chapter, during the PNG Government's major review of government owned entities in 2001-2002, consideration was given to the possible privatisation of the former PNG Harbours Board. The process was advanced to the extent that potential buyers were identified and the Government and these parties held detailed discussions regarding the sale of PNG Harbours Board and the associated port infrastructure. However, due to various policy considerations it was decided that rather than privatise the then PNG Harbours Board, there would be a significant port service reform program aimed at improving the quality of services, safety and environmental performance of ports in PNG and providing a clear framework for pricing and competition within the sector. As part of this process, the Commission and PNG Ports entered into a Regulatory Contract that regulates the prices that PNG Ports may charge for the supply of Essential Port Services and arrangements for Stevedoring Access.

The Regulatory Contract effectively provided a 10-year regulatory period to PNG Ports with guaranteed cash flow over that period. Under normal circumstances, the Commission would be reluctant to provide a regulatory contract over such a long period. However, the purpose of the 10-year price path was twofold:

1) The contract length allowed potential bidders the opportunity to assess the cash flows of the business to facilitate the valuation of the business and provide certainty over the operations of the business
2) The contract was designed to establish a firm financial footing for the company to ensure that there was the appropriate level of investment in the port facilities.

However, the Commission recognised that there was the potential for pricing to be reflective of a capital program which was not actually undertaken by the company. To prevent this situation from occurring, the Commission inserted a number of safe guards into the contract including the provision for a mid term capital expenditure review. The mid term capital expenditure review was inserted into the regulatory contract to ensure that if there was a significant underspend of capital expenditure, prices would be adjusted down to reflect the lower level of investment. The capital efficiency factor which was to be applied to PNG Ports was set at 80%. This effectively meant that PNG Ports was required to spend at least 80% of the capital expenditure assumed in the regulatory contract to retain the prices assumed in contract. If the expenditure level were lower than this, the Commission would reduce the prices in line with the level of under investment.

As noted, under the Regulatory Contract, the Commission monitors PNG Ports' performance against a list of service standards. In addition, as part of a mid term capital expenditure review, the Commission examines to what extent PNG Port has undertaken the level of capital expenditure projected and included in the price path that currently operates. In terms of the service standards, the Commission reviews these against an agreed level of performance as specified in the Regulatory Contract on an annual basis. The Commission publishes the results of this annual review and notes where PNG Port may have fallen short of the standards and what action is proposed to address this issue. In general, PNG Ports has met the requirements of the performance standards set out in the Regulatory Contract. However, due to the number of comments made by submissions to this inquiry, this may not reflect a true picture of PNG Ports' performance. In other words, the service standards that have been set may not be sufficiently prescriptive to highlight where PNG Port is falling short in terms of its performance. Nor have the service standards prescribed in the Regulatory Contract kept pace with the demands of the industry in terms of the desired service level. The performance standards as set out in the Regulatory Contract are presented as Appendix C to this report.

The Commission has recently undertaken a mid term capital expenditure review for PNG Ports as prescribed by the regulatory contract. The result of this review has found that PNG Ports has met the minimum requirements as set out in the regulatory contract regarding capital expenditure. That is, they have spent 80% of the capital expenditure assumed in the regulatory contract. However, although it is noted that the expenditure program by PNG Ports has been extensive over the period, not all the individual capital expenditure projects originally identified have been undertaken. Comments to the Commission by a number of stakeholders have noted that there has been a significant deterioration of ports in PNG for some time and many have expressed frustration at the pace of PNG Ports current capital expenditure program. Despite the Commission's findings regarding the expenditure set out in the regulatory contract, these comments are not without foundation. The current state of ports in PNG can at best be described as improving from a very low base. However, this comment, and the frustrations voiced by users of the port facilities, is reflective of the historical position that PNG Ports had been operating prior to the introduction of the current regulatory contract. The deterioration of PNG ports has been noted by a number of studies, including the commentary surrounding the current regulatory contract. As noted above, one of the aims of the regulatory contract was to establish an environment that would place PNG Ports in a viable financial position that would facilitate the appropriate level of investment.

The Commission's mid term capital review has found that while PNG Ports has met the minimum requirements of the contract, there is significant investment required to bring the ports up to the appropriate standard. The Commission is heartened to find that the regulatory contract appears to be working as PNG Ports, which has recently changed its corporate identity from its predecessor, PNG Harbours, is proposing a number of capital expenditure programs in the next four years which are over and above those outlined in the regulatory contract. Table 3.1 outlines the forward capital expenditure proposed by PNG Ports Corporation compared to the assumed capital program articulated in the regulatory contract.

Table 3.1 forward capital expenditure program for PNG Ports Corporation

Years	Capital Expenditure		
	Per Regulatory Contract (K)	Proposed by PNG Ports (K)	Difference (Times)
2007	3,163,461.00	31,849,998.00	10.07
2008	10,757,691.00	24,250,000.00	2.25
2009	10,103,845.00	20,710,000.00	2.05
2010	1,923,077.00	40,720,000.00	21.17
Total	**25,948,074.00**	**117,529,998.00**	**4.53**

Source: PNG Ports

The Commission notes that the forward capital expenditure program is over 4 times higher than the capital program outlined in the regulatory contract. The Commission considers that the regulatory contract appears to have provided the PNG Ports Corporation with a stable financial position from which to plan future capital expenditure. Further, the Commission notes that this level of investment is significant and outweighs the underspent capital expenditure of the first five years of the regulatory contract.

The Commission received a number of submissions suggesting that the Commission had the power to force the PNG Ports to increase its capital expenditure. Importantly however, while the Commission can bring strong indirect pressure on PNG Ports, it cannot directly force it to undertake particular capital works projects. The aim of independent regulation of bodies such as the PNG Ports is to avoid any external interference in operational decisions. Rather, the Commission's role is more in terms of setting the right financial and regulatory environment for new investments to occur and then to monitor the performance to ensure that there are no inappropriate price/service outcomes for the industry. As such, the Commission's role is more about ensuring that there are appropriate economic incentives for the industry. This helps to ensure that the PNG Ports is free to conduct its business in the most efficient manner without having any political interference in its day-to-day operations. Under this model, PNG Ports is responsible for setting the strategic direction of the business, including the capital expenditure program.

It is important to note that while PNG Ports is operating under a regulated price path, if there is a perceived need for additional capital expenditure above and beyond that which has been factored into the calculation of this price path, PNG

Ports will still effectively be able to recover a return on this investment and depreciation allowance on this additional capital expenditure involved. Under the form of regulation mandated by the Regulatory Contract, and the regulation that will be applied when the price path is updated in five years time, the ICCC will effectively be required to roll into the asset base of PNG Ports any prudent capital expenditure which has been undertaken over the course of the price path period by PNG Ports. Thus, to the extent that there is expenditure above and beyond what has currently been allowed in the price path, PNG Ports will still be able to recover this expenditure over the life of the assets involved; albeit, it will miss out on the initial revenue associated with this capital expenditure in the initial regulatory period. However, given this capital is rolled into the regulatory asset base at the time of the regulatory reset, the Commission does not consider that this is a material loss which would dampen the incentive to invest in the first instance. Thus, there is still an incentive for PNG Ports to undertake new capital investment, as it knows that it will recover the costs through the regulated price path. In addition, to the extent that the capital will be spent on improvements in facilities that will increase the volume of trade through particular ports, PNG Ports will benefit from this increase in volume of traffic, as it will generate additional revenue. Under the current price regulatory arrangements, the Commission allows PNG Ports to keep these additional revenues, thus further providing an incentive for PNG Ports to invest over and above the capital expenditure plan specified in the Regulatory Contract.

3.3.2 Costs associated with inadequate port infrastructure

Pacific Island countries such as PNG are primarily trading countries and rely on their ports and shipping for all trade transactions, both domestic and international, plus the transport of passengers. Port infrastructure is therefore vital to the economic performance and development of the countries concerned, and for PNG in particular.

Poor or nonexistent infrastructure has the potential to significantly add to the cost structure of individual shipping lines and users of these shipping services. Major costs are typically idle waiting time and loss in inventory value because of congestion (see the case study in Box 1). This problem is particularly evident in Lae Port, the main port facility for domestic and international trade in PNG. As an Asian Development Bank Technical Assistance Report[7] observed:

> *port congestion at Lae is frequent, imposing high costs on port users. According to a shipping company, delays of 3–5 days have become the norm rather than the exception, and a 1-day delay in the harbour costs the company $20,000 per day. Some vessels are turning away from the port. Others are considering imposing congestion charges, which will translate into higher costs for importers and exporters, and eventually, consumers and the general economy. Port congestion also poses health and safety issues, and the issue of compliance with the International Shipping and Port Security Code.*

Given the nature of shipping as an intermediate good, these costs are generally passed through to consumers or producers depending on whether the shipping is for the supply of consumer goods or the transport of export goods. For all of PNG traded commodities and exports, PNG is a price taker in the international market.

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[7] Asian Development Bank (2006), *Papua New Guinea: Preparing the Lae Port Development Project-Tidal Basin Phase*, Pp2-3.

Thus, the 'cost' of transport within PNG effectively becomes a cost that the producer must bear as part of the process of getting product to market. For consumer goods, PNG is also a price taker in that it needs to pay the international price for the goods that are imported and also must pay for any additional transport and handling costs incurred in PNG. Thus, the implication of inefficient and costly port facilities and port operations is borne within PNG regardless of whether the goods being carried are for home consumption or for export sale. The people of PNG, either as consumers or producers, carry the cost of inefficiency in transport operations and to the extent that poor port facilities contribute to this inefficiency, then the people of PNG pay for this also.

As noted above, the existing port facilities are generally of a poor standard despite the passenger loading charge. The impact on the comfort, safety and security of passengers of this poor infrastructure should not be discounted. Further, the development of terminal facilities also has the potential to create centres of trade between passengers and merchants which may to lead to significant gains in economic efficiency.

Poor port facilities can create bottlenecks for the free flow of goods within the economy. At the absolute extreme, they can result in a failure in the supply of transport in any form, as the shipping lines concerned avoid certain ports or landing places because of known delays and additional costs associated with using these facilities. Various studies have been conducted internationally on the cost associated with this bottleneck effect. Most notably, Limao and Venables (2000) in a World Bank review determined that, where an increase in transportation cost is completely passed through to consumers, as would be the situation in PNG, an increase in transport costs of 10% could reduce trade volumes by 20%[8].

Case studies on the impact of inefficiencies in PNG ports are limited. However, drawing on a study of Puerto Limon port in Costa Rica conducted by Kent and Fox (2004), some broad observations can be made about the likely negative effect of inadequate port infrastructure on the PNG economy. There are parallels that can be drawn between PNG ports and the Puerto Limon port in Costa Rica. Both are developing countries with poor ports infrastructure and services. They are also both challenged by congestion. The case study of the port of Puerto Limon is presented in Box 1 on the next page.

[8] Limao, N. and A. J. Venables. 2001. Infrastructure, Geographical Disadvantage, and Transport Costs. World Bank Economic Review 15, pp. 451-479.

Box 1: Case study - Economic Impact of Poor Port Infrastructure

This case study seeks to make a comparison between two distinctly different ports. The paper analyses the operation of a Costa Rican port challenged by congestion, Puerto Limon and compares it to a Columbian port known for its efficient operations, Cartagena. The authors, Kent and Fox, also aim to quantify and calculate the overall trade and welfare effects of inefficient port operation in Costa Rica.

Kent and Fox indicate that the main cost factor of inefficient port operations and congestion (as a result of poor infrastructure) is due to idle time. Kent and Fox estimate that for a port with a total loaded/discharge volume of 352 containers and 520 TEUs, the total cost of idle time or added vessel cost from berth waiting is approximately $USD 16.79 per TEU.

The products in the container also incur an inventory cost on the goods due to loss in time value. Kent and Fox indicate that merchandise incurs an inventory cost of 0.8% per day. Under the assumption that the average product value is $USD 40,378 per container, this is approximately equivalent to total inventory cost of $121 per TEU or $182 per container[1]. Therefore, the cost of inefficient port equates to $USD 138 per TEU.

Kent and Fox then employ a general equilibrium simulation model (GTAP) to estimate the impact of increasing port efficiency through improvements in port infrastructure and adequate port services. The simulation indicates that Puerto Limon port's inefficiency costs the Costa Rica's economy approximately 0.5% of its annual GDP. Therefore, if the inefficiency is removed, Costa Rica's GDP will rise by 0.5% or approximately equivalent to a net welfare impact of $USD 76.5 million on an annual basis.

The Kent and Fox analysis could be applied to the PNG coastal shipping market to estimate the impact of port inefficiencies on the PNG economy. For the purposes of this review, the Commission has confined its analysis to noting the potential impact and welfare benefits that are available to the economy from ensuring that port facilities are operated as efficiently as possible. This places considerable responsibility on PNG Ports to meet its service and capital investment objectives, and also on the Commission to ensure that the performance of PNG Ports is made public and transparent, so that appropriate policy action can be taken if there is clearly a failure in performance. Given the backlog of work that needs to be undertaken on port facilities in PNG and the expanding need for improved facilities, particularly in the major ports and those that are servicing the minerals boom, there is a need for PNG Ports not only to meet its 'projected'capital expenditure targets as specified in the Regulatory Contract, but to extend itself beyond these targets so as to address the emerging need for further improvements in the shipping transport infrastructure. The projected capital works program summarised in Table 3.1 suggests that PNG Ports is taking the next step to address the problem.

3.3.3 Pilotage services

A number of submissions have made reference to the increased charges for pilotage recently announced by PNG Ports. The Commission notes that the recent change in both the quantum and the manner in which pilotage is charged has had the effect of increasing the charges paid by shippers for these services. In addition, the Commission notes that the changes to pilotage arrangements have included the need for a PNG Ports' pilot to assist with almost all approaches to port.

While the Commission is responsible for the regulation of essential port services provided by PNG Ports, pilotage is not an essential port service under the Regulatory Contract. The Commission notes that it is the responsibility of both PNG Ports and the NMSA to ensure safety around port infrastructure. Given this requirement, the Commission notes that the introduction of pilotage arrangements that increase the safety of all parties is a desirable objective. However, the Commission considers that it also important to consider the costs and benefits of these new arrangements and to ensure that there is an appropriate balancing of the net cost/benefit outcome.

The provision of pilot services is an important function of PNG Ports. It allows for local knowledge of reef systems and tidal impacts to ensure safe passage for ships with inexperienced crew. However, the Commission questions whether regulation which mandates the presence of pilots on ships that are already crewed by highly skilled and experienced professional crews is necessary for safety purposes. This is especially true for coastal vessels where the crew has many years' experience in PNG waters and has approached the relevant port on numerous occasions.

The Commission considers that where a ship captain has considerable experience in navigating a particular port, consideration should be given to waiving the requirement for pilotage services as this simply adds to the cost that is ultimately borne by the nation, as it cannot be passed on to export markets or simply absorbed by the shippers or the shipping lines.

3.3.4 Reform options

There is a strong call from within the shipping industry for reform of the operation of the nation's port facilities and the implementation of additional capital expenditure projects by PNG Ports to address perceived shortfalls in the infrastructure at existing ports. In discussions with PNG Ports, there would be a general acceptance that there has not been as much attention given to new capital programs over the first five years of the Regulatory Contract as is possibly desirable. However, PNG Ports would argue that they are now acting to rectify this particular problem and that they have instituted a number of major new capital investment projects in recent years and more are scheduled over the next five years.

The problem that the industry has identified and that is faced by PNG Ports and the Government is to what extent can a government owned entity, despite its corporatisation, be relied upon to deliver on these commitments. In the PNG context, there is already a history of poor performance by a number of government public utility businesses, and this has acted to constrain the potential for PNG to enjoy the economic benefits of its natural resource attributes and opportunities. The government has introduced a regulatory regime over PNG Ports, but this is taking time to have an effect on the performance and behaviour of PNG Ports. Notwithstanding that, there are currently promising signs in terms of the future management of PNG Ports, there is much to be achieved and there has been a significant loss of time in addressing some of the more significant shortfalls in port facilitates and service capabilities. It is therefore not surprising that the business community and the shipping companies in particular are calling for major reform in the ownership, management and operation of the nation's ports. These groups argue strongly and with some justification that it is crucial that PNG's ports are properly structured, not only to operate efficiently and commercially, but also effectively in the broader public interest.

Internationally, many ports with poor infrastructure and efficiency performance have undergone reforms and modernisation over the last decade or so. These reform processes have typically resulted in improved port efficiency, as highlighted by the following examples[9]:

Port	Reform undertaken	Impact of Reform
Port of Cartagena in Columbia	Deregulation of activities Public-private partnership for port operations, which today is a model for port reform around the world. Private entities awarded concessions to operate Columbia's ports in 1994.	Key indicators of improvement in port efficiency from 1993 to 2003 are: Reduction in containership waiting time from 10 days to 0 Reduction in containership turnaround time from 72 hours to 7 Gross productivity per hour increased from 7 moves/ship hour to 52 moves/ship hour Port costs decreased from $984 per move to $222 per move
Puerto de Buenos Aires in Argentina	Deregulation of activities Award of concessions for port operations and infrastructure administration, maintenance and improvement	Container throughput rose by more than 100% between 1994 and 2001, amounting to more than 1.08 million twenty-foot equivalent units (TEUs) in 2001. Port rates for export declined from US$6.7 in 1993 to US$1.5 in 2000. Reduction of time in port from 2.2 to 1.3 days between 1997 and 2000.
Puerto Colón in Panama	Deregulation of activities Award of concessions for port operations and infrastructure administration, maintenance and improvement	Operating costs reduced by more than 50%, most likely due to increase in efficiency and elimination of vessel cost from idle time and inventory cost on the goods. Container throughput volume (three terminals) is over 1.3 million TEUs per year, (reflecting a five-fold increase during the 1990s).
Puerto Cabello in Venezuela	Deregulation of activities Award of concessions for port operations and infrastructure administration, maintenance and improvement	The duration in port declined from five to two days in, and the number of ships that were handled rose by 40% between 1997 and 2000. There are 60 new industrial parks in the vicinity of the modernised port, bringing employment opportunities and industrial development with export orientation.
Puerto de San Antonio in Chile	Deregulation of activities Award of concessions for port administration	The tonnage transit rose by 25% between 1998 and 2001.

The examples quoted highlight the potential for improvements in port operations. While these examples focus primarily on movement in cargo carried on international shipping, they highlight the potential for improvements in the way in which ports can operate. Kambang Holdings considers its plans for the re-equipping of its fleet with vessels having roll-on and roll-off capabilities as a type of investment at the

[9] Carlos M. Gallegos, *The Strategic Role of the Port Industry for the Economic Development of Latin America and the Caribbean.*

coastal shipping level that can contribute to improvements in the transfer of goods to and from vessels while in port. PNG Ports, as part of the proposed redevelopment of the Lae port, has given particular attention to the need to provide facilities that will allow for more modern and cost effective ways of servicing vessels while in port by planning for greater use of roll-on and roll-off facilities at the new port.

The question that must be asked is whether PNG Ports in its present form will be capable of making the long term, commercial, financial commitment that is required to see these improvements for the ports for which it is responsible. There is an ever present danger that, as a government owned entity and notwithstanding the presence of the Independent Public Business Corporation (IPBC) as an 'independent' holder of the Government's shares in PNG Ports, there will continue to be a requirement on PNG Ports to transfer its annual profits as dividends to government consolidated revenue, rather than take the longer term view of returning these profits to new investment activity to address the current shortfalls in port facilities. The focus of the options brought forward through the submission and the Commission's consultations is to remove the responsibility for the operations of the ports from PNG Ports to some form of private sector organisation. These options are discussed in more detail below, but broadly encompass:

- More commercial board representation;
- Privatisation;
- Local community ownership;
- Public private partnerships; and
- Government funding.

<u>More Commercial PNG Ports Board Representation</u>

The Chamber of Commerce has suggested that there be greater private sector representation on the Board of PNG Ports. Under the *Harbours Board Act 1963,* the Head of State, on advice from the Minister, has power to appoint four members of the board[10]. Under the current arrangements whereby the Independent Public Business Corporation is responsible for the Government's shareholding in public business such as PNG Ports, it is the IPBC who takes an active role in advising on the appointments to the Board and in oversighting the performance of PNG Ports. The objective in establishing the IPBC was to remove some of the direct political interference in the day-to-day operations of entities such as PNG Ports and to ensure that they had boards that combined the appropriate commercial and business skills with those that reflected the broader economic objectives that might be held by the government of the day. The IPBC has had varying degrees of success in this process to date for the various public utilities that it oversees on behalf of the public interest.

There is certainly merit in the Chamber of Commerce's proposal for greater involvement of private sector representatives on the PNG Ports' Board, as this would add to the commercial expertise that could be brought by this body to the broader decisions that a board would normally take. These private sector representatives

[10] The other three members of the Board are the Head of the Department responsible for financial matters, the Head of the Department responsible for transport matters and the Head of the Department or Office responsible for national planning matters (or their nominees).

could come from the shipping industry or from industries that are users of the services of the shipping industry, for example local producers who rely upon shipping services.

Irrespective of the industry or sectors from which the private sector representatives are drawn, the diversity of experience that these members could potentially bring to the Board would be invaluable. Further, the commercial acumen of these representatives would also have a significant benefit to the financial operation of the business.

The Commission strongly recommends that further consideration be given to the inclusion of members on the Board who have strong commercial expertise and background.

Privatisation

Submissions from Steamships, Kambang Holdings and the PNG Chamber of Commerce called for the privatisation of ports infrastructure.

Privatisation, which involves the full or partial transfer of ownership of public assets to the private sector, is one option of raising capital and introducing strong commercial incentives without increasing taxation or shifting public resources from essential services. The rationale for privatisation is that private entities can more efficiently deliver a service than government, especially where government has limited access to the resources necessary to equip and build up the public entity concerned. Worldwide, there has been a movement towards the privatisation of ports to ensure the right incentives are created to maximise management efficiency, provide access to needed investment funds, and give priorities to activities and the development of new capabilities that match emerging national needs and that are designed to resolve blockages and unmet demand.

In the PNG context, the issue of privatisation of national businesses is not on the government's agenda. That is not to imply that some form of privatisation would not add value to the supporting infrastructure for shipping in PNG. However, there is a need to consider carefully any proposal to privatise the existing operations of PNG Ports. In its current form, PNG Ports operates a network of port facilities with a significant degree of cross subsidisation internally within the business to compensate for the less profitable and loss making ports. The continued presence of PNG Ports in these ports and maintenance of the facilities even where the port itself may not be fully recovering all its costs effectively may be seen as part of meeting the overall country wide need for some form of transport services, allowing remoter regions to be connected with the larger towns and urban centres.

Under the privatisation arrangements proposed in 2001/2002, it was envisaged that these loss-making ports would be 'stapled' to the profitable ports in order to retain a national ports network for wider social and economic welfare reasons. However, this is not the only option that could be adopted should consideration again be given to the privatisation of PNG Ports. However, before any plan to privatise PNG Ports was implemented, the arrangements for the continued operation of the loss making ports would need to be carefully thought through. Separation arrangements would need to be put into place to ensure that those ports, which the government considered desirable to retain from a national welfare perspective, were adequately provided for in some way such that they would continue to operate irrespective of ownership. The sale of individual ports to commercial operators also has implications for the way in which the Regulatory Contract operates in terms of its determination of a future price path. While these matters can be changed, they must be carefully considered and the options evaluated before action is taken to adopt the privatisation option in any form.

Privatisation has shown itself to be effective, but must be accompanied by appropriate regulatory oversight particularly where there is no other competing operator in the market. The Commission notes the advantages available through privatisation through better access that a privatised entity would have to funding for new investment (over the current arrangements), and the incentive that it would be created for the delivery of services and the investment in new facilities that would generate future revenue flows for the business. However, it is not clear that these same conditions have always available to PNG Ports although currently under the IPBC, there appears to be some improvement being made to the ability of PNG Ports to access capital and introduce incentives consistent with privatisation.

Aside from the political implications, the other disadvantage to a privatisation agenda is that it will take time to implement, and therefore does not provide a short-term solution for the industry. At this time, when the Government has not publicly embraced the concept of privatisation, it may be more appropriate to consider other options more in line with the present Government's policy directions, if any short-term improvement is to be seen in the activities of the PNG Ports.

Local community management/ownership

One alternative option to a privatisation model is the empowerment of local communities in the operation of smaller ports. This approach was adopted by New Zealand in 1988 when it transferred port ownership to local authorities[11]. There are also similarities in PNG in terms of the operation of some of the smaller air landing strips, and even the move to transfer some of the larger airports to the control of the relevant Provincial Governments.

Towns and regions have a strong feeling of ownership toward their ports. In addition, the opportunities for economic development to be maximised are often best identified by local communities as they have the strongest incentives to achieve these outcomes. Where these ports double as passenger facilities, this increased incentive is represented through the opportunity for the development of a commercial market place. Greater development of passenger services again has the potential to greatly increase the economic efficiency of the economy.

However, the Commission notes that there are some practical limitations to this model where provincial administrations do not have the necessary skill sets or funding to ensure successful management. This may be a problem in PNG if the provincial authorities and governments do not exhibit good governance and management skills. This problem has been highlighted in the Commission's report on the airline industry released in September 2006. There is also the added complexity of the cross subsidisation of many of the ports currently owned and operated by PNG Ports. The extent of this cross subsidisation is not fully known, as at this stage there are not independent accounts for the various ports operated by

[11] Roger Kerr (Executive Director New Zealand Business Roundtable), *Paying for Parochialism: The Costs of Stalled Port Reform*, AIC 7th Annual Waterfront, Ports & Shipping Conference.

PNG Ports with appropriate allocations of fixed and overhead costs. It would not be in the interest of the continued operation of some of these loss making (or marginally profitable) ports to be separated from their cross subsidising funding source unless some other form of funding could be found (for example, through a fully funded Community Service Obligation (CSO)). This could take the form of a more transparent subsidy from Government. However, in the PNG context it is unlikely that such a subsidy would be provided, and even if agreed, past performance has suggested that there would be little guarantee that the subsidy would be continued to be paid in future years.

In some locations, local communities already own and operate their own landing facilities. These are usually very rudimentary facilities and suitable for landing craft and similar vessels that can land goods without the need for a wharf or other infrastructure such as cranes and other physical port infrastructure. The investment in maintaining and upgrading these existing facilities is well within the means of the local villages and communities. Thus, the operation of this type of facility can be assumed to continue, although this will only be so to the extent that the shipping lines are willing to service these locations and possibly link them with larger operators with facilities in the larger towns.

As a first step towards any consideration of local ownership of some of the PNG Ports' ports, there is a need for the further development and refinement of the financial accounts of PNG Ports. In particular, there is a need for a set of accounts which separates out fully the costs and operating results of each of the ports. This will allow greater transparency in any discussions on the transfer of these facilities to other authorities, and to the understanding of the underlying profitability of each of the ports. It will also provide a better tool by which PNG Ports can manage their business interests.

Private Public Partnership

Many governments around the world that have been in similar situations to PNG have chosen to enter into public private partnership (PPP) arrangements with private partners to obtain capital to fund redevelopment of ports or other public infrastructure. Under a PPP, a government service is funded and operated through a partnership of government and one or more private sector companies.

PPPs share some characteristics with privatisations. Like privatisation, PPPs make it possible to:

- attract private funding, and thus minimise the impact of essential port development on public budgets; and
- introduce commercial incentives to port management.

However, PPPs are distinct from privatisations in that they represent collaboration between the government and the private sector to build new infrastructure assets and to provide the related services.

The International Monetary Fund (IMF)[12] notes that a typical PPP takes the form of a design-build-finance-operate scheme. Under such a scheme, the government specifies the services it wants the private sector to deliver. The private sector company then designs and builds a dedicated asset for that purpose, finances its

[12] International Monetary Fund, *Public-Private Partnerships*, March 12, 2004, Pp6-7.

construction, and subsequently operates the asset and provides the services deriving from it. The IMF observes that this contrasts with outsourcing arrangements whereby the government contracts with the private sector to build an asset but the design and financing is provided by the government. In most cases, the government then operates the asset once it is built. The difference between these two approaches reflects a belief that giving the private sector combined responsibility for designing, building, financing, and operating an asset is a source of the increased efficiency in service delivery that justifies PPPs.

The typical benefits of PPPs include[13]:

- Value for money - this is the underlying rationale for using PPPs;
- Transfer of risk to the private sector, which can usually manage it at the lowest cost (although it should be noted that under a PPP arrangement, the private sector can effectively negotiate to transfer the risk back to the public sector which in part defeats the purpose of the PPP); and
- Incentives for the private sector to improve performance. For example, where a PPP involves the private sector partner providing a 'bundle' of services such as the design, construction and maintenance, the private party has an incentive to construct the infrastructure to an appropriate standard that minimises whole of life costs.

The following is a brief summary of recent port projects using public private style arrangements:

Project	Project type	Project remarks
Karachi Container Terminal – Pakistan (2003)	Turnkey	The $31.8m project entails the development and operation of a container terminal at Karachi port in Pakistan. The terminal is to increase the port's handling capacity by an extra 150,000 TEUs per year and bring benefits to the shipping lines, exporters and importers through lower transportation costs. Premier Merchantile Services was granted the 21-year concession agreement with the Karachi Port Trust. PMS will manage and operate the container terminal. Technical services are to be provided by Hamburg Port Consulting. On May 2003, International Finance Corporation (IFC), the private sector arm of World Bank Group signed an agreement to provide a $7.5m senior loan and a $1.5m subordinated loan to the SPV Pakistan International Container Terminal. Further financing of $7.75m is to come from the OPEC fund.
Maputo Port Project – Mozambique (2003)	Concession (BOT) PFI / PPP	The project entails upgrading, maintaining and operating the port of Maputo. Works are to include dredging the approaches to the port from the current 7.5m back to 9.4m and other infrastructure improvements. The project is to be carried out on a 15-year build, operate and transfer basis and is the first public, private partnership port in Africa. A UK-led consortium named Maputo Port Development Co (MPDC) signed a preliminary agreement with the Mozambique government on November 18 1999. The consortium has the option to extend the

[13] Research Paper no. 1 2002-03 Public Private Partnerships: An Introduction
Richard Webb and Bernard Pulle Economics, Commerce and Industrial Relations Group
24 September 2002

Project	Project type	Project remarks
		concession period after ten years. The consortium is to invest about $67.5m in the project. MPDC is to pay a fixed annual rent of $5m as well as 10% of gross income for the first five years of the concession, rising to 12.5% in years five to ten and to 15.5% in years 11 to 15. MPDC is to take control of the port on April 14 2003 and the rehabilitation is to take three years. The project is to be financed by some $38m in loans coming from Standard Bank, DBSA and FMO, which is providing a senior debt tranche with DBSA as well as an undisclosed sub debt bilateral tranche. MIGA is providing risk cover on some of the equity, some of which is made up of shareholder loans.
Colombo Port Expansion – Sri Lanka (1999)	Concession (BOT)	South Asia Gateway Terminals (SAGT) - a consortium led by P&O Ports Australia - was awarded a mandate to develop the Queen Elizabeth quay on a BOT basis. The first phase of the 30-year concession involves the refurbishment of the existing berths and the expansion of Queen Elizabeth quay at a cost of $240m. The second phase will cost $350m and includes construction of a breakwater. The third phase involves building 10 berths in the outer harbour at a cost of $400m. The P&O consortium has the right to refuse participation in the third phase. The first phase of the project is stated for completion in 2003 and is expected to increase the terminal's capacity from 285,000 to over 1.1m twenty foot equivalents (TEU).
Salalah Container Port Terminal – Oman[14]	Concession (BOT)	In May 1996, a Memorandum of Understanding was signed between the Ministry, Sea Land Services Inc and its Omani partners, for the transformation of Port Salalah, Sultanate of Oman, into a modern container terminal. It was designed to attract trans-shipment trade from the Far East. Salalah Port Services Company (SPS) were contracted by Sea Land to be the project's managers, equipping and operating the terminal for 30 years, until 2028. The initial phase of development began and was completed in 1997, with the dredging and landfill necessary for the construction of new jetties. Phase I (berths 1 & 2) and phase II (berth 3) were finished by late 1998, and phase III (berth 4) was completed soon after, in 1999. Salalah Port Services Company (SPS) is a joint venture, both privately and publicly funded. The Government holds a 20% stake in this venture. Sea Land owns 15%, Maersk 15%, Omani companies 19%, pension funds 11% and the final 20% generated by public offerings. Total investment in the project was $260 million. In phase I, the terminal had a 900,000 TEU capacity. Once phase II was complete, this capacity had risen to 2 million TEUs. From 1998-2000, approximately 1 million TEUs were handled, 300,000 TEUs higher than projected.

[14] http://www.port-technology.com/projects/salalah/

Project	Project type	Project remarks
Port Said – Egypt[15]	Concession/BO /BOT	The construction of the new Port Said forms part of a huge plan called the Suez project. The project aims primarily at expanding Egypt's industrial base and encouraging local and foreign investors to establish export oriented industries. A consortium has been awarded a 30 year concession by the government of Egypt to build and operate a new container terminal at the new Port Said East now under construction. The coastal engineering works and dredging have been awarded to an international consortium of Boskallis, Ballast Nedam, Jan De Nul and Hyundai. The contract was awarded in 1999. The Container terminal is expected to become operational in the second half of 2001. Private investors under a build-operate-transfer (BOT) agreement will be responsible for terminal equipment. The port is designed to service third generation ships carrying 2,000 to 3,000 containers. It has a capacity of 1.7 million containers annually.

The PPP options provide a mechanism that could allow PNG to access funding and expertise to undertake the significant upgrading works that are required across the port sector. Not all of these port facilities are directly related to the activities of the coastal shipping fleet; although, to the extent that goods are transferred between international and coastal shipping at the ports, there is a direct link between the improvement of the ports to handle all forms of shipping and the needed improvements to address the requirements of coastal shipping.

The PPP option has both advantages and disadvantages. PPP agreements need to be carefully negotiated with a clear understanding of just what are the objectives of the funding arrangement. PNG Ports is able to access funding based on its own balance sheet plus funding from concessional funding agencies through its government ownership. The ability to plan and implement the development activities that need to be undertaken potentially becomes a greater constraint on some projects than simply accessing the funds. Regardless of how a project is to be funded or undertaken, good governance requires that PNG Ports maintains close supervision of the work being undertaken. In addition, there is a need to consider the ability of the market to pay for the services that are being offered. To the extent that there is cross subsidisation occurring within the operation of the ports network owned by PNG Ports, there is a danger that the wrong signals will be sent in terms of the ability of particular ports to pay for the upgrading or extension of the facilities that currently exist. At the same time, there needs to be careful and prudent consideration given to the likely growth or change in demand patterns over time, so that decisions can be taken that anticipate future needs rather than allowing the emergence of bottlenecks and port limitations to effectively limit trade growth opportunities.

The Commission notes the availability of PPP arrangements, but highlights the need for caution in using this form of funding without very careful and precise consideration of all the issues involved in the project to be undertaken in this way, particularly as they relate to the transfer of risks between the various parties involved. Again, a first step will be the development of financial accounts within PNG Ports that allow open and transparent consideration of the costs and potential

[15] Ibid.

benefits of the operation of the individual ports. It is only with access to this type of information that a fully informed decision can be taken regarding the benefits of potential PPP opportunities.

3.4 Conclusion

Efficient port infrastructure is critical to the future growth and economic development of the PNG economy. Adequate port infrastructure is particularly important to PNG's social and economic development because of the lack of viable transport substitutes to provide access to coastal and island regions. This includes investment in the infrastructure relating to passenger services, ranging from basic access to ports through to terminals for arriving and departing passengers.

Serious concerns have been raised concerning the level of new investment and the maintenance of the existing facilities in PNG ports. The Commission notes that based on preliminary estimates to hand, PNG Ports has spent a considerable amount on maintenance and new facilities in the last five years. However, because of the need to address major funding failures in the past, much of this work appears to have been by way of catch-up, and even here, the large part of this expenditure has occurred only in the last couple of years. As a consequence, with the continuing growth of the economy, the minerals boom, and the ever-changing nature of shipping technology, the PNG port system is straining under the present demands being placed upon it. Lae port in particular is suffering from severe limitations to its capacity, both in terms of wharves and landing areas, in addition to portside services such as storage and transhipment handling areas. While additional capital expenditure is projected for this port, in particular as part of a significant expansion of the port, the current limitations are placing increasing strains on the international and coastal shipping sectors with consequential additional costs to the economy. As noted in some of the research that has been undertaken, these costs are effectively passed back in to the PNG economy as it is not possible to pass them on to overseas suppliers or buyers.

The Commission has highlighted some alternative funding options that are available to PNG Ports and the Government. These provide options that are worth considering. However, whatever approach is adopted, there is a need to improve the overall transparency of the financial accounts for PNG Ports, so that there is a better understanding of the costs and potential commercial opportunities at individual ports. In addition, the Commission notes that none of these options provide simple short-term solutions to the problems that currently face the industry. A concerted effort will be required over the next five years to start to resolve the longer-term infrastructure needs and bring the port facilities up to a standard that allows costs savings to be passed through to consumers and producers alike.

In terms of the smaller landing areas and 'ports', the Commission notes that these are often very poorly maintained and operated. Essentially, for coastal shipping purposes they provide little more than a landing stage for goods or passengers that are to be carried on coastal vessels. The industry itself is showing signs of addressing this issue, not perhaps in terms of the development of the 'port' facilities as such, but in the adoption of vessels that are better suited for the needs of coastal transport. There has always been an element of this form of innovation in the operation of the shipping sector, and PNG has had a history of being involved in the development and implementation of new methods of loading and unloading vessels at small, poorly serviced port facilities around the country. The local communities will have limited ability to develop port facilities to meet the needs of the industry, and thus the industry will need to adopt shipping transfer arrangements which best fit with the facilities that are available, particularly in areas where demand for such services does not justify further capital expenditure.

For some of the larger ports that are privately owned, there has been extensive investment in facilities, usually designed to load overseas shipping which is servicing a particular need (e.g. a gold mine or palm plantations). The coastal shipping sector can benefit from this infrastructure although it may not directly suit the operations of coastal vessels as such. In the longer term, it can be expected that provincial governments will come to a point where they will not only recognise the value of a port facility associated with their region, but also will be in a better position to fund some of the infrastructure needs of such a facility. However, this is not likely to be the general experience of the industry in the near future. This is primarily driven by low demand for services and a consequential lack of opportunity to generate the necessary returns on the capital investment required to upgrade these facilities.

In summary, further investment is required as matter of some urgency in many of the ports servicing the coastal trade in PNG. PNG Ports will be able to address some of these needs, but work and funding commitments need to be prioritised and this will require better information on the costs and potential revenue streams from individual ports and appropriate cost/benefit assessments of the various proposals that will be brought before the board of PNG Ports. It would assist PNG Ports in making these decisions if its Board membership were strengthened to include commercial and industry expertise. However, there will still need for a trade off against the various competing needs, notwithstanding the potential for other forms of funding which may assist PNG Ports to identify and access the funding and expertise needed to undertake all these projects.

4. Cabotage

Cabotage can be defined as the laws and regulations that govern the transportation of goods between two ports in the same country. Cabotage is determined by government who can restrict the type of ships operating in the coastal shipping industry based on their registration details, the origin of the business operating the ships, the nationality of seamen and port workers, and where the ship was originally built. Cabotage rules differ depending on the individual country's objectives and historical circumstances. Cabotage aims to protect a country's shipping industry from international companies that may enter the market and provide competing shipping services to the national shipping lines.

The USA is an example of a country with strict cabotage laws. Coastal Shipping in the USA is governed by the *Jones Act*, which restricts shipping activity in the USA to US built, US registered, US manned and US owned ships. Papua New Guinea has had cabotage laws in place since independence in 1975. Although additional forms of regulations like safety regulations have been introduced over the past 30 year, cabotage is not as strict in PNG as in the USA. Nevertheless, the cabotage rules in PNG relating to coastal shipping require:

- Shipping companies and operations to be registered as a business in Papua New Guinea;
- Ships to be registered in Papua New Guinea for operation in PNG waters; and
- Seamen and port workers to be Papua New Guinean or international workers who have obtained a PNG work permit.

The provisions relating to cabotage are contained in Part IX – Coasting Trade of the *Merchant Shipping Act (Section 221)*. This regulation exempts ships that are of traditional build, of less than 10 metres in length or are pleasure craft from the provision of Part IX. As a consequence, all coastal ships moving cargo or passengers along the PNG coast that are greater than ten metres in length are subject to cabotage laws. In addition, ships must have an appropriate coasting licence to legally engage in PNG coastal trade.

Changes to cabotage rules in PNG have the potential to affect the operation of the coastal shipping industry in PNG by possibly allowing lower cost shippers to enter the market. Such potential competitors might be vessels currently operating on scheduled international routes who take the opportunity to ship cargo from one PNG port to another as part of their scheduled visits to those ports. Such operators could benefit from already having their fixed costs covered by the international freight that they are carrying, and thus be able to provide shipping services between ports in PNG at little more than marginal cost. Some concern has been expressed that allowing such operators to carry coastal freight would effectively make the current coastal shippers uneconomic and unviable, thus forcing current operators from the market. This would then have adverse impacts in those ports and areas within PNG that are not serviced by those international shipping lines, as they may find their services no longer being maintained by the remaining coastal operators. These issues are discussed further below as part of the consideration as to whether or not the cabotage rules should be relaxed and to what extent cabotage brings a net benefit to the PNG economy.

4.1 Submissions

Cabotage has a significant effect on a wide range of issues in the coastal shipping industry in PNG, as it influences the majority of operations undertaken by shipping companies. Submissions were received from a variety of stakeholders including the major shipping companies, smaller shipping companies, the Papua New Guinea Chamber of Commerce and Industry, the Maritime Workers Industrial Union and PNG Ports. The submissions to the Commission address a variety of issues that can be broadly summarised as including:

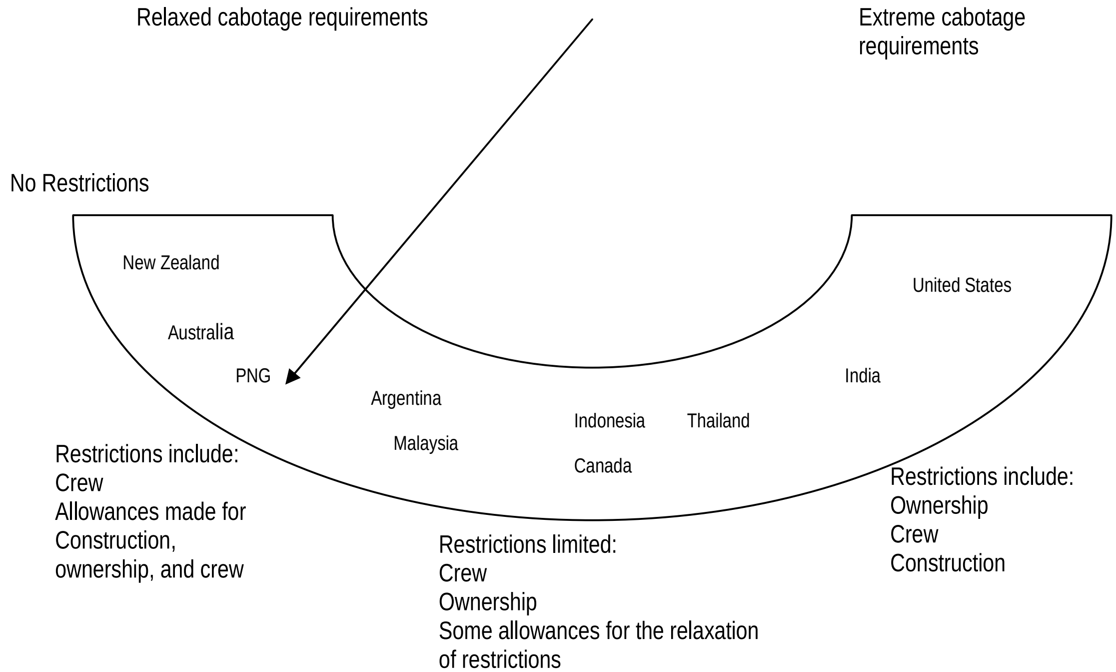
- The impact of cabotage arrangements on the types of ships used in coastal shipping;
- The impact of removing cabotage on current cross subsidisation between profitable and non profitable routes;
- The impact the removal of cabotage could have on the employment and training of PNG maritime workers;
- The experience of cabotage in other economies; and
- The actual potential for international shippers to effectively 'cherry pick' the more profitable routes and ignore the less commercially viable routes should cabotage be removed.

4.2 PNG versus International Arrangements

A summary of the cabotage arrangements that apply in countries throughout the world is at Appendix B[16]. A summary of the relative 'restrictive nature' of the various cabotage arrangements is provided in Figure 5.3 on the next page. As can be seen from this figure, PNG has a relatively relaxed cabotage arrangement by comparison to other countries where these types of laws exist.

[16] Details have been provided as part of the submission from Consort Shipping

Figure 5.3 International Benchmarking of cabotage arrangements



The majority of countries in the Asia Pacific region surrounding Papua New Guinea reserve coastal and inter island shipping for locally registered vessels and thus have some form of cabotage in place. Arguments in favour of cabotage in these countries are relatively consistent, namely:

- The protection of the local shipping industry; and
- The certainty of trade access for goods and services to the majority of ports across the country concerned.

Not all nations have the degree of exemptions and special allowances as are provided in PNG (and other nearby countries such as New Zealand and Australia). The more hard line cabotage arrangements extend to the requirement that coastal vessels are actually built in the countries concerned and that crewing arrangements are limited to nationals of that country. This is a much more restrictive form of cabotage and extends the purpose of this policy beyond simply reserving coastal trade for domestic registered vessels (thereby providing some degree of certainty regarding the availability of vessels on the coastal routes), to include construction and crewing matters that have more to do with manufacturing policy and labour and immigration laws.

4.2.1 Discussion

The PNG cabotage arrangements represent a relatively relaxed approach to industry protection compared to the arrangements in other countries. Interestingly, the United State's Jones Act is often quoted as the most severe cabotage regime in the world. Indeed the requirement to have American owned vessels, American crewed vessels and American constructed vessels operate this service represents significant protection for the American industry.

The New Zealand model provides an interesting case study in that, following the relaxation of the cabotage regime to allow foreign-flagged vessels to provide coastal shipping services, the locally based coastal shipping industry was effectively dismantled and vessels travelling on international routes were able to handle all the cargo requirements previously sent on domestic vessels.

The exemptions provided under the PNG arrangements are actually quite generous and remove some of the protection that might otherwise exist under a Jones Act type situation as in the USA. They also recognise the reality for PNG in terms of its ability to construct ships, have their ownership in PNG, and fully man them from PNG. Thus, under these exemptions, any company registered in PNG, irrespective of whether the actual ownership is in PNG or elsewhere, can apply for a coastal trading licence. The requirement to crew ships with PNG seaman only if there is crew available is also very relaxed compared to say the United States where crew must be US citizens. Further, the ability of ship owners to apply directly to the Minister for the issuing of a decision waiving the requirement for a coastal trading licence provides an environment that is relatively free from the heavier restrictions of Japan, the European Union, and the United States.

At the same time, the cabotage arrangements provide a degree of protection to ensure that 'fly by night' operators do not enter the market to cherry pick the more profitable sectors of the market. This is important as the coastal shipping arrangements involve a degree of internal cross subsidisation within the shipping lines themselves as they service both profitable and unprofitable ports as part of their regular scheduled services along the coast.

The protection afforded to the local industry from the cabotage arrangements in PNG can be readily avoided should a new entrant wish to establish activities in the market. This could be a situation where an international shipping operator wishes to take advantage of the low marginal costs at which it can price its services should it wish to pick up and discharge at coastal ports along its route into or out of PNG. Under the regulations, the Minister has the discretion to grant one off allowances for foreign vessels to enter the market. This discretion would be used should there be a shortage of coastal vessels to handle demand for coastal services. Thus, effectively the coastal shipping industry faces a situation where there could be new entry into the market at relatively short notice should demand increase to a level that the industry is unable to meet. This therefore acts as a constraint on the ability of the domestic industry to charge rates that might be regarded as excessive or exercising a degree of monopoly profit taking. Again, the comparison with the USA cabotage laws is worth noting, as there are no such opportunities under the *Jones Act*, which provides practically full protection to American coastal shippers.

The cabotage laws in PNG do not prevent the participation in the industry of foreign companies. Rather, foreign companies only need to register as a business in PNG to enter the shipping market.

Supporters of relaxing cabotage arrangements in PNG argue that it will increase the competitiveness of the domestic shipping industry and decrease freight rates across the country. While this argument would normally be accepted, in the current circumstances in PNG it is difficult to see how the current system restricts competition or new entry. What the removal of cabotage is likely to do in the short term is to place pressure on rates applying between the major ports in PNG as opportunistic entrants will take up freight contracts on these routes without the need to service other less profitable routes. This will result in the coastal shipping industry either increasing rates on more remote ports, or cancelling services on these routes as they will be unable to continue to cross subsidise between relatively high volume routes and lower volume routes. Over time, should operators be forced to withdraw from the market, there is the potential that freight rates across PNG will increase as competition declines. However, before this occurs there will be other social dislocation issues as services are wound back from the less profitable routes and shipping users seeking transport into or out of those locations face increasing costs in order to get access to transport facilities.

This outcome is a consequence of the cross subsidisation of routes that has occurred over time in PNG. Without some form of direct subsidy from government, there will be no incentive for shipping lines to continue to service the less profitable routes. This may in turn encourage further innovation and new methods of providing a cost effective shipping service to these ports and locations. Possibly the proposal by Kambang to invest in roll on/roll off vessels provides a mechanism whereby services to some of these ports can become more profitable or at least be able to break even. However, ultimately, the ability to provide transport services into a particular location is a factor not only of the fixed and operating costs of the form of transport provided, but also of the volume of cargo that can be transported from these ports. Higher freight costs into and out of those ports will of itself impact upon the willingness of producers to set up activities needing to use those ports and will thus further contribute to the reduction in volume needed to make the services profitable.

Another important consideration is the access to passenger services. The relaxation of cabotage any further to allow the larger international shipping lines on to the PNG coast has the potential to minimise the availability of passenger services as these lines are unlikely to be appropriately equipped to offer these services. This reduction of service would have a significantly detrimental impact on the economic efficiency of the PNG economy. The lack of access for the majority of the population to travel between the various coastal locations will result in a loss in terms of dynamic efficiency which is dependent on the transfer of skills and ideas as such as goods and raw materials.

While a more acceptable solution to this form of ‘market failure’ other than cabotage would be to introduce direct and transparent government subsidises to support the transport service, in the PNG context the provision of such subsidies is not an option that is likely to occur. Thus, the alternative may be to retain the cabotage arrangements in that, while they are a relatively light-handed form of market intervention, they provide the basis for the moment for determining which services will continue to be provided to many of these less profitable regions and ports.

4.3 The impact on the types of ships used in coastal shipping

The size and type of the ship travelling on a route can significantly affect the cost of shipping goods to certain locations. Fuel costs and labour costs are significantly higher on larger ships and must therefore be carrying close to a full load to recover all expenses. In addition to these factors, the size and type of ship can be determined by the specific port being serviced and the depth and infrastructure available at either end of the journey. These factors in turn have a significant effect on the type of ship able to service certain routes.

The type of ships used in coastal shipping in PNG is dependent on the destination and point of origin of the cargo. Relevant factors include port infrastructure, draft depth and quantity of goods being transported all of which have a significant bearing on the type of ship used. These points can be broadly summarised as follows:

- The size of the community and the quantity of goods that are being transported between ports. Large ships do not travel between small ports because of the inefficiencies involved in not ensuring the vessel operates at or near full capacity.
- The return journey for many shipping companies in an expensive trip. In many instances, the smaller communities that receive goods do not have goods to reload the vessel; meaning that for the vessel's return voyage, it does not carry cargo.
- Draft depth and port depth. Smaller ports that are used by small communities often do not have the port depth or equipment to dock, load or unload large container ship. Some routes in PNG require ships to travel up rivers to access remote communities. These ships cannot have large drafts, which in turn restrict the overall size of the ship.
- Fuel costs. Larger ships use more fuel than the smaller ships. Thus, it is important to maximise the loading of the vessel to make the voyage financially viable. An inability to recover homeward costs by obtaining sufficient back loading means that rates on the outward journey need to be increased, thus further adding to the costs of consumers who rely on coastal vessels to bring foodstuffs, clothing, household goods and fuel to remote locations which have no alternative transport options.

4.3.1 Submission

It has been argued by the major shipping companies: Kambang Holdings, Consort, and Steamships, that a relaxation of the rules on cabotage will result in larger ships possibly seeking to service the coastal trade as an extension of their international voyage schedule. While there are only a limited number of ports in PNG which are able to take these larger vessels with their deeper draft and need for more sophisticated loading and unloading facilities, they are argued as providing a potential threat in terms of the ability to cherry pick the more profitable markets. These companies have argued that given the need for specialist investment in the vessels needed to service remoter locations, there is justification in the government providing some protection against these larger vessels so that companies which have invested in specialist infrastructure are able to generate a return on this investment.

4.3.2 Discussion

It is argued that, should the Government remove the cabotage arrangements, large international carriers will begin to transport goods between Port Moresby, Lae and Rabaul meaning the larger container ships currently servicing these ports as part of the coastal routes will no longer be needed in PNG. Coastal shipping companies will then revert to the use of smaller vessels that are able to service the ports in remote areas. However, these are the less profitable ports and even with smaller vessels, the industry is concerned that there may be insufficient profits from these routes to make long-term operations viable.

The Commission notes that a relaxation of cabotage would result in a more open, competitive market. Normally this result would be consistent with efforts to achieve a market outcome that is efficient in terms of productive and dynamic efficiency. However, the Commission would be concerned should a number of allocation efficiencies be foregone if the relaxation of cabotage meant that there is a concentration of coastal services to a few major routes. There has been some significant investment by existing participants in the coastal shipping sector, which would suggest to the Commission that it is unlikely that these participants would walk away from the coastal shipping market immediately once cabotage is relaxed. However, at the same time the Commission recognises that there is a need for shippers to earn a rate of return that is commensurate with the risks taken as investors. To the extent that there is cherry picking of profitable markets, the Commission notes that the relaxation of cabotage could potentially have a significant impact on the rate of return available to coastal shippers, which may have a negative impact on further investment decisions.

The Commission strongly encourages innovative approaches to service delivery and greater competition would encourage such investment in innovation if it were considered likely that a return commensurate with risk was likely from the investment made. Different shipping solutions may be possible to address the varying needs of different ports and locations around PNG, and desirably if they were to be funded they would need to lead to lower costs in the long run, particularly where the new solution means that costly port facility upgrades and development are avoided and smaller ports are able to be serviced. At the same time, it is important that there is an investment environment that supports such decisions being made. If retention of cabotage allows for the continuation of a cross subsidy between the profitable and unprofitable routes and this in turn encourages further investment in the PNG shipping sector there are arguments for the government to continue to support the industry. Increased competition would normally be a spur to innovation and new products and services and a reduction of cross subsidies which would lead to considerable dynamic efficiencies. However, if the ports/routes to be serviced are unprofitable due to there simply being a lack of demand for services and that demand is unlikely to increase thus increasing the profitability of the port/route in the near future, there is little that the shipping companies can do to address this problem. That is supply of services will not necessarily generate demand. In this instance removing cabotage may result in an increase in competition in the short run. However, the longer run equilibrium in the market may well result in a complete withdrawal of service as the incumbent service providers are unable to cross subsidise between routes and routes become too unprofitable to service. Therefore, the removal of cabotage and the greater competition that this will create may not have a net benefit for the PNG economy.

Currently coastal shippers have invested in vessels designed specifically for particular PNG environments and locations. This specific investment is a major factor in the current availability of services across PNG. Thus, it is likely that allocative efficiency has actually been optimised because of the investment that has occurred under the existing cabotage arrangements rather than in spite of cabotage.

That is, the investment in new ships designed to cater for the special circumstances in PNG is a practical way of ensuring that services will continue to be offered to remote locations provided the shipping companies can recover their investment through the cross subsidies that exist in the current rate structure. However, this potentially comes at the cost of some dynamic and productive efficiency, which would otherwise be encouraged by a more competitive market environment. Therefore, in assessing the desirability of removing the cabotage arrangement, it is important to consider the public policy benefits that accrue to individual communities from having a regular coastal shipping route versus either having no access or limited access to markets.

It is difficult to assess which benefits are more important. On the one hand, the dynamic and productive efficiencies may contribute to significant economic growth to the PNG economy, particularly in the more market-oriented part of the economy. On the other hand, the impact of a loss in allocative efficiency could mean that the total economy is disadvantaged by the withdrawal from the market of cash crop producers in remote areas who can no longer afford to get their produce to the relevant markets. Further, there are also potential social implications that need to be considered. For example, a loss in a regular shipping service and access to cash generating activities may result in a population movement away from traditional villages into the urban centres, with consequential overcrowding, unemployment and urban social unrest leading to increased crime and risk of civil disturbances.

The Government has indicated a desire to improve the opportunities for people living outside of the main urban areas in an attempt to encourage a slow down in the drift of population to the larger towns and urban areas. While the commitment of government funds to activities that will directly influence where people live is not a realistic option at this time, as Papua New Guinea continues to experience a process of urbanisation of the population, the adoption of policies that allow access to services in villages and remoter areas will contribute to discouraging this movement of people. The Commission notes that the factors that contribute to urbanisation are very diverse. Nevertheless the withdrawal of services to rural communities is a contributing factor to urban drift. The removal of cabotage may lead to less access to services and markets, which may magnify the situation outlined regarding urbanisation. Given these circumstances, and given that the optimum solution of direct transport subsidies from the public purse is not a practical solution, the retention of cabotage may present a more manageable and sustainable solution at this time to ensure that there are adequate services provided to rural and remote populations.

4.4 Shipping Routes and Cross Subsidisation

Currently there are 14 coastal shipping companies in PNG that service ports around the country including several river ports. These companies provide vital linkages for remote communities to access goods and services. However, there are relatively small amounts of trade on individual routes to justify providing services on a standalone basis for that route alone. Thus there is a cross subsidisation between the various routes serviced by each of the companies.

It has been argued that removal of cabotage will result in these less profitable routes being serviced by smaller operators as larger tier one operators will be unable to justify the servicing of such routes, as they are unprofitable for these operators. Tier one operators have argued that with their withdrawal from these routes, the unreliability of second and third tiers shipping companies will reduce the supply of essential goods and services on these routes resulting in a loss of service throughout the country. One solution may be for the tier one companies to increase their volumes on these less profitable routes and provide less frequent services. In this way, the shippers may be able to ship larger quantities of goods when a voyage is made and as a result may achieve greater profitability on these routes. Adoption of this approach would require investment in the terminating ports concerned, as it would be necessary to have increased storage areas for larger shipment deliveries and the necessary port facilities to handle the larger volumes being delivered when a ship did arrive. Similarly, there would be a need for larger areas to store products to be shipped out of these ports, as the frequency of service would be reduced.

4.4.1 Submissions

Each of the existing coastal shippers has argued against the removal of cabotage. The loss of the opportunity to cross subsidise their operations between the profitable and the less profitable routes has been the main point raised in this argument.

For example, Lutheran Shipping claims that relaxing cabotage would allow international companies to deliver goods between domestic ports that are conveniently on their international route such as Port Moresby and Lae. These services could be provided at lower cost than coastal shipping organisations such as Lutheran Shipping. This may inturn force coastal shipping companies to drop more routes because of the inability to cross subsidise these routes.

Consort has said in its submission:

> *"If international shipping companies are allowed to carry coastal cargo, it will only pay them to carry convenient cargo that sits at ports along their international routes. That is, they will service high volume, containerised cargo. PNG shipping companies would be unable to match the rates of the international lines because the only additional costs they would face are the additional turn around time and cargo handling cost and international rates are lower than coastal shipping rates reflecting the more favourable economies of international shipping. International liners would not carry break bulk and small containers on the high volume coastal shipping routes and they would not visit other ports in the country."*

The coastal shipping companies such as Consort, Steamships and Lutheran note that they currently provide scheduled quality service across PNG partly because of the cabotage restrictions. They claim that PNG companies would be unable continue these existing services should cabotage be removed unless there was a substantial increase in shipping rates. This would affect their customers, it is argued, who would in turn be unable to afford increased rates and would turn to cheaper, but lower quality second and third tier services.

In addition to the concern expressed by coastal shipping companies, the Maritime Workers Industrial Union argued that:

> *'the report developed by DFAT provides no compelling case that freight costs across the country will be reduced if Cabotage is relaxed. The report focuses on the reduction in costs that may occur at the international port such as Port Moresby and Lae. It does not consider the issues associated with small isolated communities and the cost of providing services to them'.*

Lutheran Shipping operates passenger and cargo vessels to smaller ports from Lae, including Morobe, Finschhafen, Aitepe, Madang, Wewak, Vanima and several smaller ports along the way. It recently ceased operations to Kimbe and Rabaul, Oro Bay and Milne Bay because of profitability issues. Lutheran Shipping argues that rising fuel costs have had a significant effect on the profitability of many routes across the country and that this would also impact on the ability of the shippers to continue to support services to smaller ports should cabotage be removed.

4.4.2 Discussion – Cross Subsidies

The existence of a cross subsidy between the servicing of larger ports and the servicing of smaller remoter ports is readily acknowledged by all stakeholders. The Lutheran church, part owner of Kambang Holdings, currently subsidises high cost routes by between K500,000 and K1,000,000 per annum, a practice that has been going on for many years. The potential loss of the more profitable routes resulting in a lessening in the ability of the tier one operators to continue to service these remoter locations is generally accepted as being likely in the event of a withdrawal of cabotage, although the exact point at which a shipping company will withdraw from one location and not another is subject to a number of factors, not the least being the other ports located in a particular region and the possible existence of a significant port which would not be on the normal route for international shipping companies. As PNG Ports has noted:

> *"There are some outer islands or coastal locations where vessels do not visit at all because it is not economical for shipping companies to do so."*

A lack of tier one services to a particular community does not necessarily mean that there is no service to that port, as there are potentially second and third tier operators who will service these ports. Furthermore, some of these more remote ports may not support an ongoing service. Where the level two and three operators determine that it is unprofitable to provide any form of service to an area, there may then arise a situation where the shipping link to the rest of the country is lost. In addition to the possible economic consequences (which may initially be small otherwise there would have been sufficient activity to maintain the shipping service in some form), there are also likely to be social and possibly political consequences. These need to be recognised, as they may encourage governments to introduce subsidies or other measures that may not be carefully considered in terms of their overall efficiency.

For example, the Commission notes that an operating subsidy to fund shipping services to these communities is not necessarily the appropriate approach to addressing the transport needs of the area, and may result in an inefficient allocation of services and government funds. However, where these communities are able to create sufficient economic activity (for example, cash cropping) to justify some form of coastal transport, it may be appropriate after consideration of all the facts, to provide some form of support mechanism which encourages shipping operators to provide initial services to the community. An example of this support would be some form of capital grant to repair a wharf or improve the landing areas for a landing barge to deliver and uplift cargo. Operating subsidies should be avoided, as these are likely to become permanent arrangements rather than a short-term incentive to encourage the commencement or recommencement of services to a particular area. Should any form of subsidy be provided however, this should be on the basis of equivalent funding or funding in kind from the community to ensure that the community values and protects the infrastructure for which they will be responsible if they want the shipping service to continue.

It has been argued by DFAT that the removal of the cabotage arrangements and allowing international carriers to transport goods between ports in PNG will reduce the cost of freight for consumers. As discussed above, these savings may come at a cost to the economy as a whole as a result of a loss in allocative efficiency. The Commission would generally favour the removal of a barrier to competition, and the cabotage arrangements are such a barrier. However, the Commission also considers that it is appropriate to consider the overall benefit/cost trade off from the removal of this barrier to competition. With the ready acknowledgement that the more profitable ports cross subsidise the less profitable and unprofitable ports, the Commission has had to consider what would be the implications for those other ports and communities that use those port facilities who might find that they no longer have a shipping service in any form.

The Commission considers that the tier two and tier three service providers would take up some of the less profitable ports should the tier one operators decide to withdraw. However, not all of these ports would continue to receive service, and for those that do their service may be less regular. Again, as discussed above, new investment by the existing operators in the market, particularly the tier one operators may result in the adoption of new types of vessels and other equipment that would make some of these smaller ports less marginal in terms of their profitability. Any 'network' system of the type operated by a shipping line will inevitably involve some degree of cross subsidisation, and this will continue even should the international operators take the more profitable Lae/Port Moresby/Rabaul routes. The question remains as to whether there is sufficient contestability in the market in its current form to encourage these operators to invest in technology and infrastructure which results in innovation, or will it take the removal of the cabotage protection to force this type of innovation.

The Commission acknowledges the importance of the cross subsidy that currently exists in relation to the more profitable routes and the other less profitable routes, and the concerns being expressed by the tier one operators in particular that they will loose the profitable market should cabotage be removed. While the Commission has some information on proposed new investment by one operator, the Commission is unaware of what action is being taken by the industry to anticipate competition and to address the concerns of shippers operating out of the main ports about the freight costs in PNG. The Commission is not inclined to regulate these coastal shipping rates at the main ports as a substitute for competition or as a trade off for the continuation of the cabotage arrangement. However, there is a need to find a mechanism that will encourage continuing innovation and investment by the existing industry in the absence of competition from the international shipping operators.

4.5 Humanitarian disasters and the national fleet

Submissions to the inquiry have argued that the loss of a coastal shipping fleet that can service all regions in PNG will have an adverse effect on the country in times of military, civil and natural disaster emergency.

4.5.1 Submissions

Steamships noted that the removal of cabotage has the potential to "drastically reduce the size of the Papua New Guinea national Fleet." Reducing the number of ships operating in PNG will reduce the frequency, efficiency and quality of services within PNG at times of emergency.

Lutheran shipping strongly supported the view that cabotage contributes significantly to PNG's military defence by ensuring that the nation has an adequate pool of qualified seafarers to meet *interalia* military sealift requirements. It was also argued by the Maritime Workers Industrial Union that using domestic carriers and crew also meant that there was less chance of terrorist and criminal activity in PNG.

> *"Cabotage is an essential component of maritime security, foreign seafarers are not, and possibly can never be subjected to the same level of rigorous background security checking."*

4.5.2 Discussion

The Commission does not consider that the retention of cabotage should be linked to the size of the PNG fleet as is suggested in the Steamship submission. The PNG national fleet has been declining since the 1970's. However, the Commission is not necessarily concerned with the size of the decline due the nature of the original peak in the 1970's. The transfer of ships from the Australian register to PNG at the time of independence over inflated the actual size of the PNG fleet. Further, rationalisation within the industry has occurred over the last 30 years and the number of vessels registered in PNG currently more accurately reflects the needs of the nation.

While the Commission notes the performance of the private sector in providing assistance during the time of either natural disasters or other humanitarian events, such as the Bougainville crisis, the Commission finds it difficult to justify cabotage on the basis of such events. Rather, the argument for a national fleet to assist in time of such disasters should be seen as part of an integrated disaster management plan, which should be administered by the state in a formal manner rather than relying on a shipping policy that has been designed for other purposes.

Any disaster management plans to deal with such circumstances should include provision for cooperation between all parties, be they in the private sector, e.g. coastal shippers, or the public sector, e.g. civil defence forces. However, the involvement of the private sector should not be dependent on the retention of protection policies such as cabotage. Nor should the disaster planning arrangements for PNG be dependent upon some specified number of private vessels whose presence in PNG will be guaranteed by the existence of the cabotage arrangements. Clearly, to the extent that there are private vessels operating within PNG, they become assets that are available to be used at the time of an emergency. However, it is not possible to use this as justification for the retention of the cabotage policy as the policy's retention does not guarantee any particular number of vessels being registered in PNG.

The Commission also does not accept the argument that having locally manned vessels operating in PNG waters will lessen the threat of terrorism or criminal activities. Recent events in PNG which have involved the illegal entry of people coming into PNG and also foreigners fishing in PNG waters demonstrates that there is a much larger danger from the illegal entry of vessels into PNG waters than would arise from having foreign workers on some vessels servicing the coastal ports.

4.6 Employment and Training

Under the current cabotage arrangements, only Papua New Guinean locals or expatriates with valid work permits are permitted to be employed as seamen on coastal shipping vessels. This ensures that the shipping industry in PNG is contributing to the economy by employing skilled locals. It is argued that international carriers are unlikely to employ PNG locals on ships that would compete with current coastal shippers, as they would continue to employ existing vessels and their international crews. It is feared that when this effect is combined with a reduction in shipping routes as discussed above, this will mean that there will be a loss in employment for Papua New Guineans throughout the coastal shipping industry.

4.6.1 Submissions

The Maritime Workers Industrial Union argues that the removal of cabotage will have a 'catastrophic effect' on the employment of hundreds of seafarers and other employees presently employed by shipping operators. Coastal shipping operators are also involved as shipping agents, stevedoring and container repair and maintenance and employ a large number of PNG workers in these business activities. It is argued by the Union that the removal of cabotage will significantly affect these workers due to the increasing number of international carriers delivering goods throughout PNG.

> *"There would be a major run down of maritime skill base and experience that can be drawn upon in areas such as port administration and port services, pilotage, logistics, IT services, shipping regulatory agencies – all required in a country totally dependent on sea transport for economic functioning."*

The Maritime Workers Industrial Union also believes that the removal of cabotage will place doubt on the viability of the continued existence of the PNG Maritime College based in Madang. The Madang training facility is training and equipping seamen and ship officers with internationally recognised sea-going qualifications and certificates of competency, conforming to the International Maritime Organisation standards. The Union argues that allowing international seafarers into the PNG shipping industry will result in the pool of trained seamen increasing and may result in general decrease in the need to have fully qualified PNG seamen. In the short run, this may mean a reduction in enrolments to the Maritime College, which would reduce the revenue coming into the college, and thereby place the longer-term financial health of the organisation in jeopardy, potentially threatening the continuing existence of the training facility.

The Maritime Workers Union has also argued that cabotage has an effect on wages and working conditions enjoyed by employees across the country:

> *"it is an incontestable fact that no other section of the PNG labour force is required to compete with a wage and conditions regime that equates to the country of origin of the workers engaged in that industry or occupation"*

> *"That is, the labour is paid/reward in accordance with the standards of the country in which the labour is engaged, not the standards for wages and conditions of the country of origin of the labour."*

It is argued that the relaxation of cabotage arrangements will force PNG seamen to compete for employment on the basis of other countries' employment laws. This will in many situations reduce the employment and value of qualified PNG seamen.

4.6.2 Discussion

The Commission notes that the Maritime College in Madang is one of the premier maritime colleges in the world. The facilities in Madang and the qualification from the college are recognised as being equivalent to those received from the Australian Maritime College in Tasmania. However, the Commission notes that this reputation comes at a significant cost in terms of the commitment from the students and their employers to the college. As with any training institute of world standing, a significant monetary expense is required to maintain the facility at the required standard.

While the submissions have argued that relaxing cabotage would result in the potential closure of the Maritime College, the Commission does not consider that this is necessarily the case. Currently, there is a shortage of appropriately training seafarers, and as such, any training institution capable of providing services at an internationally competitive standard is well placed to provide training services. Further, given the relative wages of a Papua New Guinean worker compared to the wages of a seafarer from a more developed society, PNG seafarers have a comparative advantage in the market. Once this is enhanced by the training, which is available on the PNG seafarers doorstep, it is unlikely to see a situation whereby PNG seafarers are unemployable.

The College itself should be seen as a training institute not only for PNG seafarers but also for seafarers worldwide. It has a number of natural commercial advantages that it should be seeking to exploit, including:

- Its location in the middle of major shipping lanes into major markets, including the United States, China and Japan;
- Its relative cost base compared to other Colleges;
- Its unique training environment, which includes access to one of the more challenging shipping environments given the proximity to extensive reef systems.

Irrespective of the decision regarding cabotage, the College should be seen as a potential export earner for PNG capable to stand alone without the need for a hidden subsidy provided by way of the cabotage arrangements. By extending training opportunities to seafarers of other countries, the College could potentially be able to attract significant economic benefits to itself and to PNG. The College is consequentially not exclusively linked to retention of a cabotage policy. Rather, the College should be trying to attract as many students as possible regardless of their ethnic backgrounds.

The submissions noted the flow-on economic benefits that accrue to staff who are employed to support the functioning of a domestic shipping industry. The Commission notes that there is always an economic multiplier effect that arises from direct employment, as these parties in turn demand services. While in a normal economy where the majority of workers are employed in the formal sector, it easy to ignore these economic multipliers as the impact of displaced workers from one industry are likely to be absorbed by jobs created in another. However, in a developing economy where there is a relatively high participation of labour in the informal sector the direct economic impact of lost employment should not be understated. The loss of jobs in this economy has the potential to significantly impact on the employment of others in related industries.

While in the short run it may be difficult for displaced seafarers to find new employment, if cabotage is relaxed and there is significant structural adjustment as a result, in the medium to long run the Commission expects that these employees would be readily able to find new employment because of their proven training and work experience. This would ultimately lead to an increase in economic production so long as there is a more economically efficient employment available to these displaced workers.

It is claimed in the submissions to the inquiry that the removal of the cabotage arrangements will also have an impact on a range of other employment positions in areas such as pilotage, stevedoring, shipping administration and the like. Any loss of employment opportunities in these areas would only occur if there were a decline in shipping activities across the whole nation. It is acknowledged that if the coastal shipping lines were to withdraw from remote and less profitable ports, there could be a reduction in the volume of cargo handled through the main ports. However, this reduction is likely to be relatively insignificant, particularly as the ports concerned would only become un-serviced because effectively they have very little cargo that requires shipment. Thus, the Commission is not convinced that there would be a significant flow on effects to the employment positions in these other service areas supporting the shipping industry. Indeed, if the efficiency savings that are achieved as a result of lower shipping costs at least between the main ports assist in making the PNG economy more competitive, then there is every likelihood that a more competitive and dynamic economy will want additional support service providers in these positions, not less as claimed in the submission.

Finally, discussions on the wage rates paid to PNG seafarers compared to those paid in other countries raises an issue that is used to justify the continuation of some form of protection for this industry in discussions in other countries. In reality, PNG's work place laws and employment conditions for non citizens and temporary residents already set requirements for who can be employed in PNG and on what jobs. In this sense, these foreign crews cannot be employed directly in PNG and on rates inconsistent with rates of pay applying in PNG. The cabotage arrangement is not the appropriate policy vehicle to use for this purpose.

Removal of the cabotage arrangements and the extension of the activities of the international shipping lines to carry cargo between domestic ports in PNG will occur regardless of whether the wages paid to seamen on these vessels is below or above that paid to PNG seamen. These operators will already have an advantage over the domestic operators in that they can literally charge for cargoes between domestic ports at the marginal cost of loading and unloading the containers. The wages and salaries of the seamen on these vessels are already recovered in the freight charges being applied to the cargoes being carried on the international routes. Regardless of whether the wage rates paid to the crews of these vessels are above or below that for PNG seamen, it would have no bearing on the freight costs that they could charge, as these costs would have already been recovered. It is therefore not a question of the fairness of PNG wages and salaries competing with wages and salaries paid under different circumstances. Rather it is a question of whether the international shipping lines, because they do not need to recover their fixed costs from the movement of cargo within PNG have an unfair advantage over the PNG coastal shippers who have to recover both their fixed costs and variable costs in the rates that they charge for freight shipment.

4.7 International Shipping Companies

Throughout the submissions received by the Commission, there has been repeated reference to the opportunity for international shipping companies entering the market if cabotage is further relaxed to cherry pick the profitable routes in the market. The stakeholders who have argued this point are concerned about the equity of such an outcome given their ability to marginally cost their freight charges. As noted by Steamships in its submission on the Issues Paper:

> *"Changes to the cabotage regime would allow foreign flagged vessels to enter the market and has the potential to result in 'cream skimming' along the main routes, a practice that could undermine the economic viability of the Tier One coastal shipping operators."*

There is also a concern that having captured the profitable routes, the international shipping lines may take the opportunity to increase freight rates on these main inter domestic port routes. The Maritime Workers Industrial Union notes that based on pervious experience, overseas shipping companies are notorious in initially under-cutting freight rates forcing out local competition. Once this is achieved, international companies may increase freight rates and other charges to a level the market will handle without jeopardising company profits.

The likely behaviour of the international shipping lines is interesting to consider. While it is generally assumed that they will seek to aggregate containerised cargo in particular and carry it between the main domestic ports of Port Moresby and Lae, and possibly Rabaul, their strict scheduling and need to keep to that schedule because of commitments to shippers from a number of countries may place a limit on what cargo they will be willing to carry on the domestic route. Coastal shippers also have fixed sailing times and objectives, yet they are able to offer some flexibility in service if for no other reason that they can offer more frequent sailings from the main ports and a full service (whereas the international shipping lines will only be interested in fully containerised cargo). Thus, not all shippers will be satisfied with the service that the international shippers have to offer. In addition, the international lines may find that the additional work involved in handling the cargoes available on these domestic routes does not warrant their commitment of time and resources to this market.

It is far more likely that the international lines will seek intra country cargo if it is available and will establish arrangements to aggregate it for shipment when their vessels are in PNG ports. However, it can also be expected that the tier one operators in PNG will also seek to retain as much of the cargo as possible, especially as they will still be looked upon to provide break bulk and other non-containerised cargo on these routes. The domestic coastal shippers will also be able to offer additional services in terms of linking main port transfers with outer ports and remote port voyages.

The Commission notes the comments of the Maritime Workers Union in relation to possible predatory pricing practices by the international shipping lines. Under the provisions of the ICCC Act, the Commission has the power to address this form of anti-competitive activity and would use this power should it be demonstrated that such action was being taken to lessen competition in the market place.

4.8 Safety of coastal shipping

Tier one coastal shipping companies are required to operate under international environment and safety standards in order to provide a safe working environment for all employees. There is concern by the tier one shipping companies that removing or relaxing cabotage further will lead to a reduction in the safety of the shipping industry in PNG. It is argued that with fewer tier one companies providing services to remote ports in PNG, infrastructure and shipping standards will slip and will no longer meet international standards for safety and the environment.

The Tier One coastal shipping companies providing services across PNG all meet international shipping standards. To become a tier one shipping company, companies must comply with international shipping standards for safety and environmental care. However, tier two and three shipping companies often have to service remote communities due the costs associated with tier one companies providing the service. Profit margins are tight or non-existent on routes to smaller, local communities, meaning tier two and three shipping companies are often forced to purchase second and third hand infrastructure that is not up to international shipping standards.

Allowing international ships to provide services in PNG will inevitably decrease the profit margins of coastal shipping companies, limiting the number of infrastructure and vessel upgrades implemented by local shipping companies. A lack of new infrastructure and fewer upgrades will cause a reduction in the quality of services to the ports still in operations. The profits of the coastal shipping companies will not be sufficient enough to improve infrastructure and service quality at ports around PNG, jeopardising their compliance with international shipping standards.

The Commission notes that under the normal competitive pressures there will be a natural amount of product differentiation between various class carriers. This is highlighted by the difference in the quality of service offered between the various competing operators in the coastal shipping industry. While tier one service providers have claimed that they provide a superior service to the small operators this is not necessarily the case. Instead, the level of services provided by the different operators is likely to be reflective in the different level of charging between these operators. Assuming that second and third tier operators are unreliable or operate at lower safety standards than tier one operators actually questions the operation of the NSMA Act. Under the NSMA Act, the NSMA is required to conduct inspections on all vessels, irrespective of the tier of the ship.

The Commission accepts that, in addition to the need for operators to meet the standards set out in the NSMA Act, the insurance requirements for some of the larger operators provide an additional layer of compliance which may further increase the safety of coastal shipping. If the submissions prove correct, regarding the reduction of tier one operators in the coastal shipping industry as a result of removing cabotage, it is likely that this additional layer of compliance would be removed on the routes which are not offered by international carriers as these international carriers are likely to have similar insurance requirements as those tier one operators which have left the industry. However, on the remaining routes which are either not on the scheduled service of these new entrants or simply not profitable for larger operators it is likely that the services would be lower than if they were supplied by those operators. However, this is no different from the present situation regarding tier two and tier three operators. If there is a real problem regarding the safety of these smaller operators, this situation should be addressed irrespective of the removal or retention of cabotage.

The Commission notes that while larger tier one operators have stated that the removal of cabotage will result in a decrease in the overall level of safety within the industry, there has been no evidence to suggest that under the current arrangements there are significant problems regarding safety. The Commission notes that if safety is likely to be a significant problem once cabotage is relaxed it is likely to be an issue in the market today. As such, the removal of cabotage is unlikely to alter the situation regarding safety and as such is unlikely to increase the costs of supply significantly.

4.9 Retention of Services

The existence of the cabotage arrangement does not of itself oblige domestic registered vessels to service all parts of PNG. The practice to date is that the main tier one operators have tended to focus upon certain parts of the country, operating primarily out of the three main ports, Port Moresby, Lae, and Rabaul. However, market forces effectively determine whether a particular port or landing area will be serviced by a coastal vessel.

As noted by the Maritime Workers Industry Union, cabotage has not resulted in a consistent level of services across all ports as evidenced by Luship's recent decision to withdraw from the New Guinea Islands and parts of the Milne Bay, Oro and Momase coast. Luship has argued that the cost of providing these services has continued to rise whilst fares and freight rates have not risen commensurately.

The withdrawal of Luship from these locations has been a matter of some concern by the communities involved. They will continue to be serviced by tier two and tier three operators, but the regular service provided by the Luship vessels will now no longer be available. It remains to be seen as to whether Steamships or Consort decide to enter this part of the market.

It is also noted that the removal of the cabotage arrangement will not ensure the provision of services to the areas vacated by Luship. These locations are effectively outside of the main routes and ports that are serviced by the international lines when their vessels are in PNG waters.

At the same time it is also noted that the frequency of overseas shipping services to PNG has reduced and been restructured in recent years such that the main ports of Lae and Port Moresby, and to a lesser extent Rabaul, have now achieved the status of 'hubs' from where coastal ports are served. Previously international lines would have visited other ports including Madang, Wewak and possibly Alotau. However, with the move towards a more hub and spoke model, the main focus of the international shipping lines is the ports of Port Moresby, Lae and Rabaul. This effectively supports the need for coastal shipping arrangements that are able to operate out of these hub locations and service other main ports, outports and the remote ports. There is no reason to believe that the removal of the cabotage arrangements will encourage more frequent sailings to PNG from overseas ports in order to service these ports. Thus, effectively the need to provide services to these other ports in PNG will remain with the tier one, two ands three operators notwithstanding any removal of the cabotage arrangements.

5. Other Competition Issues

5.1 Access to Coastal Shipping Licences

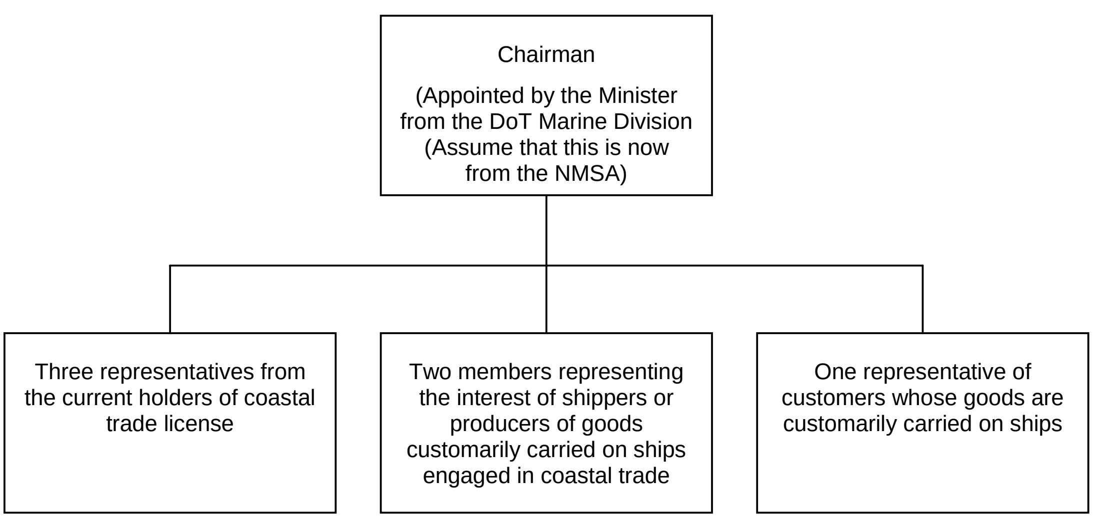
In submissions received by the Commission, most of the shipping companies have stated that while cabotage exists in PNG, it is in name only as the requirement to receive a coastal shipping licence is not so onerous as to prevent a foreign vessel from operating a liner services in PNG.

To legally engage in coastal trade in PNG, section 224 of the *Merchant Shipping Act* requires parties to have a coastal shipping licence. The Minister may exempt shippers from this requirement for a specified period under the provisions of section 225. While the Act does not prescribe the circumstances under which such an exemption would be granted, the Commission notes that this requirement is specifically targeted at foreign-flagged vessels. Further, the Minister's power under section 226 means that if it were deemed appropriate, and subject to the various provisions of the Act, the Minister may in fact issue a coastal trading licence to any person who the Minister is of the opinion is able to provide an efficient and adequate service.

While the Act gives the Minister ultimate discretion regarding the holding of a coastal shipping licence, it also provides for the establishment of the Coastal Trading Committee (CTC). The CTC was established as an advisory committee to the Minister, advising on any matter relating to coastal trade. This role included the provision of licences, as provided for under section 226, and the decision to invoke the Minister's power under section 225 to exempt a party from holding a coastal shipping licence while still trading on the coast.

The Commission notes that the provision under the *Merchant Shipping Act* provides for a situation under which a foreign flag vessel could apply to the Minister for either a coastal trading licence or an exemption to hold a coastal trading licence in order to undertake coastal shipping activities. The CTC was intended to provide a check on the use of this power by the Minister. The composition of the CTC membership is depicted below:

Figure 5.1 The Coastal Trade Committee



The CTC is intended to provide advice to the Minster on a range of coastal trade and shipping matters. It is therefore understandable that its membership should be made up of existing coastal shipping operators and representatives from the shippers and customers of the shipping line operators. This membership is appropriate for this purpose. However, to the extent that the Committee also advises the Minister on the possible issuing of new shipping licences or even exemptions for certain vessels, there are potential conflicts of interest.

There are a large number of existing shipping operators on the Committee and they would have a direct interest in any decision to possibly license another competitor to their existing activities. Even the users represented on the Committee may be heavily influenced by the shippers with whom they have to deal for services to various parts of PNG. Given the regional focus of each of the tier one operators, there is a sense that they have a degree of market power in terms of the level of service that they are offering their customers. Thus, there can be situations where the interests of the shipping line and the shippers may become the same, particularly when the shipper can pass the costs through to the final consumer, or if shipping on behalf of a producer, then to the producer. Given the incentives for incumbents to resist increased competition, the CTC is likely to provide advice to the Minister that may be contrary to the net economic benefit of the PNG economy due to their personal/business interests. The receipt of biased advice places the Minister in a compromising position and raises concerns regarding conflicts of interest. Thus, the Commission believes that an independent entity is required to oversee the process for granting coastal shipping licences.

The potential impact of this influence is highlighted by the situation in which a competitor to one of the members of the CTC makes an application for a coastal licence. When faced by this direct threat it is fundamental economics that suggests that the effected party will have the perverse incentive to block or discourage market access where it has the opportunities. While there were a number of issues associated with recent entry of the MV Milne Bay into the market including the use of an inappropriately designed vessel, the initial selection of shipping agents affiliated with incumbent ship owners highlights this potential for conflict of interest. In this example these shipping agents allegedly gave preferential treatment to the affiliated companies over the new player. In addition, the threat of competition from the MV Milne Bay in the passenger services market caused a significant reduction in fares from at least one service provider only for these reductions to be withdrawn after the departure of the MV Milne Bay form service in PNG. These two responses highlight the incentives/opportunities that competitors face in terms of blocking or discouraging market access. The CTC in its present form present another opportunity for this to occur.

As an independent body, the Commission is well placed to appropriately consider issues relating to licence applications and the impact that it may have on the market and competition. Indeed, there are provisions in the ICCC Act, encapsulated in Part IV (Competitive Market Conduct), that allow the Commission to monitor market activity and anti-competitive behaviour. Thus, the ability for the Commission to review coastal trading licence applications is a natural extension of the Commission's remit under the ICCC Act.

The Commission believes that a process, which clearly articulates the requirements and criteria for the granting of licences (such as safety issues and insurance requirements), needs to be established in order to assess applications. This will provide transparency in the decision making process. Should there be disagreement about a decision, there should also be an avenue for review through the Courts. This review provision is already contained in the ICCC Act.

In light of this suggested new process, the Commission considers that the CTC still has an important role to play in continuing to provide advice in relation to coastal shipping licences and other matters. However, in order to retain the integrity of the process, the Commission is in a better place to assess the applications for shipping licences, albeit with input from the CTC, as deemed necessary.

5.2 Price regulation of coastal shipping rates

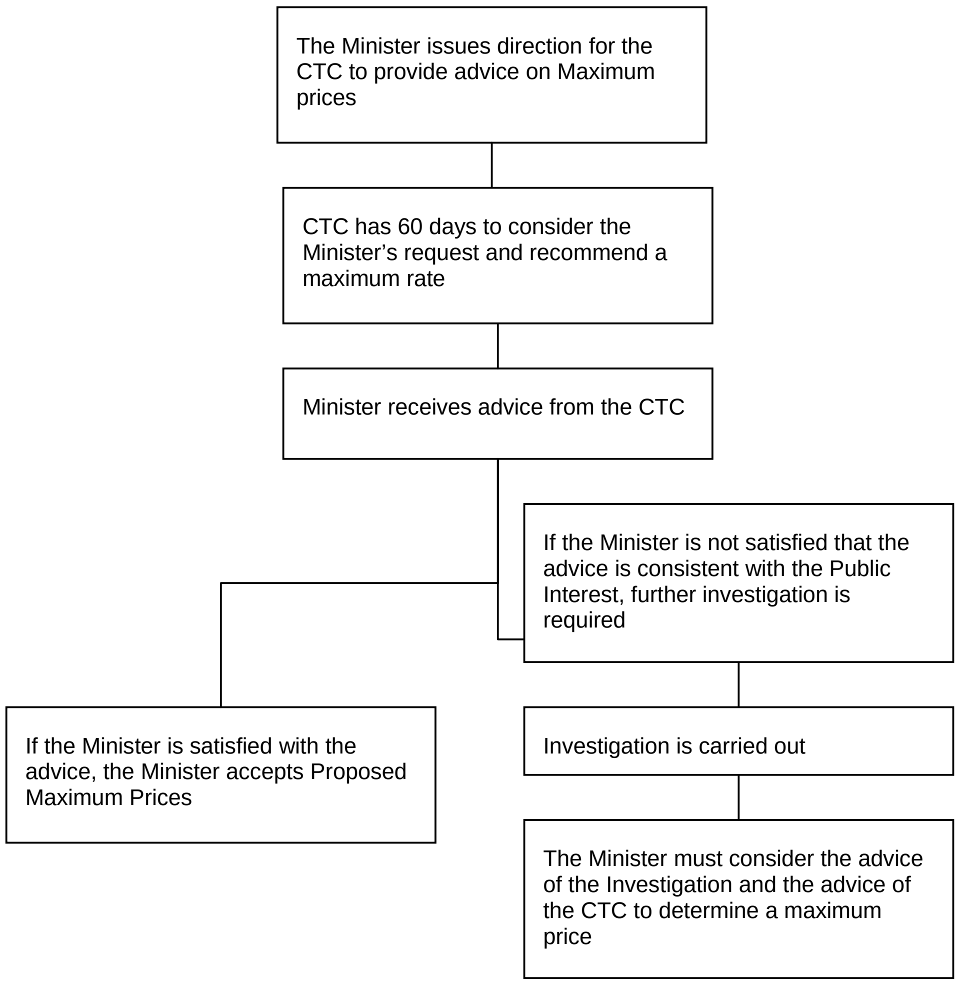
Provision exists under the *Merchant Shipping Act* for the Secretary for Transport to set the maximum price for coastal shipping charges. A maximum freight tariff for coastal shipping was set by the Department of Transport in the mid 1980s in accordance with Section 238 of the Merchant Shipping Act (Chapter 242). The last time that the tariff was reviewed was in 1990 and the recommended maximum tariff came into force on 1 January 1991. Key aspects of this tariff included:

- Existing operators competing in PNG coastal trade can purchase or charter additional ships and can apply for a coasting trade licence to operate these ships in the coastal trade;
- Licences are generally not restricted to routes so incumbents are able to enter into competition with other incumbents on their main route. PNG registered companies can purchase or charter PNG ships and apply for a coastal trade licence;
- Overseas registered companies or individuals can register a business in PNG, register ships under the Act and apply for a coastal trading licence;
- The Minister has the power to permit a foreign flagged vessel to engage in coastal trade if in his opinion an existing service is inadequate, too expensive or allowing a foreign flagged vessel would otherwise be in the public interest;
- Larger individual shippers or collections of shippers have the capacity and the right to by-pass liner shipping companies and provide their own services (several companies already do this in PNG); and
- New operators can enter the market through purchasing equity in or the whole of the existing liner shipping companies.

As part of the responses received by the Commission, a number of the industry participants noted that the existing maximum price controls have been in operation since 1990. The only change to this price has been the inclusion of a currency adjustment factor, which was last updated in 2002.

The *Merchant Shipping Act* provides for the Minister to set the maximum rates of shipping services. One of the primary functions of the CTC was to advise the Minister, at the Minister's direction, as to what the CTC considered the maximum rate that should be charged for particular shipping services should be. If the Minister is not satisfied that the advice provided by the CTC is consistent with the public interest, the Minister is then able to refer the matter for investigation by an alternative party. This process for determining the maximum freight rate is outlined in figure 5.2.

Figure 5.2: Reviews of Maximum Prices for Coastal Shipping



While the *Merchant Shipping Act* clearly articulates the process by which maximum prices should be set, the Commission has been unable to find any evidence of this process being followed. Further, the Commission notes that while the *Merchant Shipping Act* provides for the establishment of the CTC, the Commission was unable to find any evidence of the CTC having met in the past three years. While no reason was given by any industry participants, the Commission observes that this failure to meet was probably because of the changes and transfer of functions from the Department of Transport's Maritime Division to the NSMA, which now has complete carriage over the division's responsibilities. The Commission considers that it is vital that the CTC reform as soon as practically possible, so that it can address the issues of any advice it should be providing under the provisions of the *Merchant Shipping Act*.

Where possible, the Commission favours the use of market forces in determining the prices for goods and services. Price regulation is a second best option when it is clear that the market is not operating effectively or there is the presence of a monopoly/oligopoly situation that can result in the exercise of monopoly powers in the setting of price. In terms of the operation of the coastal shipping sector, the Commission notes that there are a large number of operators in this market. However, the price setters in the industry are effectively the tier one operators which may not face the necessary competitive tension to ensure that prices are as efficient as they should be in the short run. Based on the information provided to the Commission, these shipping lines have established their businesses such that they predominately provide service in three separate parts of the country. Thus, while there may be some degree of contestability between the tier one operators and the other tier operators, effectively the tier one operators are able to set prices for the particular sections of the market in which they operate. With the continuation of the cabotage arrangement, the Commission would favour the continued operation of the price regulation arrangements as set up through the CTC. The Commission is satisfied that the *Merchant Shipping Act* provides for an approach to pricing which is consistent with best industry practice. It provides a forum for the industry through the CTC to attempt to set prices that are consistent with both market dynamics, including the ability of consumers to absorb price increases, and the commercial realities of operating ships in the PNG context. Further, the *Merchant Shipping Act* provides an appropriate mechanism for independent review should the CTC be unable to convince the Minister of the merits of a potential price increase. The Commission suggests that if the CTC is unable to provide advice to the Minister, then the Commission should be asked to arbitrate on the freight rates.

The Commission considers that, given the contestability of the market and the presence of alternative service providers in the market, a model that allowed the market to determine the appropriate level for prices should be encouraged. As such, the Commission considers that while the *Merchant Shipping Act* does provide a workable model for price control, it would be better for the market to be able to freely determine prices with an independent party offering oversight over the market to ensure that there is no evidence of anticompetitive pricing or the exercising of monopoly market positions. Therefore, the Commission considers that a pricing structure based on the negotiate/arbitrate model should be adopted, whereby in the absence of commercial agreement of terms and conditions, including prices, between parties then either the customer or the service provider could initiate arbitration of the dispute by an independent third party, preferably the Commission.

The negotiate/arbitrate model is typically used in environments which have competitive elements or where both parties are able to exercise a degree of market power; that is, the market exhibits both elements of a monopoly service, as well as a singular or large customer. The negotiate/arbitrate model ensures that the industry is afforded the opportunity to enter into an arrangement which is satisfactory to both parties. Failing this, an independent body would be able to review the proposed pricing arrangements and make determinations that are binding on both parties. It is important that there is evidence that the both parties have made reasonable endeavours to reach a mutually acceptable agreement before a case is brought to the attention of the relevant body. In the absence of this endeavour, the independent body should reject the proposed price increase. Figure 5.4 on the next page demonstrates the key steps in this process.

Figure 5.4 Negotiate and Arbitrate Model

Contractual relationship between parties (based on the current pricing arrangements)

Proposed change to current pricing arrangements

Two parties discuss the proposed new pricing arrangements either agreeing, amending and then agreeing or disagreeing and seeking arbitration

On evidence of reasonable endeavours to reach an agreement having failed, a case is brought to the attention of an independent arbitration body

Submissions from both parties to the arbitration body

Where appropriate, public submissions are called for, the independent arbitration body may call for specialist advice from the Coastal Trading Committee

Having considered the evidence and any relevant information, an arbitration finding is delivered. This finding is binding on all named parties

The Commission considers that it is appropriate for it to be appointed as the independent body. The Commission would not expect that this function would be employed too often during a year, as the majority of price changes would be agreed between the parties rather than go through the arbitration process outlined above. As a further incentive to ensure that the negotiation process is given the necessary commitment from all parties, it is the Commission's recommendation that both parties meet the costs of the arbitration process based on a costs recovery model whereby the Commission's costs are covered directly by affected industry players.

APPENDICES

Appendix A: Official Terms of References

Inquiry under Section 123 Independent Consumer and Competition Commission (Act) 2002

Review of Certain Business Impediments in the PNG Coastal Shipping Industry

The Government is committed to fostering a more efficient and faster growing economy through removing impediments to business. The Terms of Reference herein support the 2006 Budget announcement that business impediments in the passenger and freight coastal shipping industry caused by regulation and barriers to competition will be assessed by the ICCC (the Commission) with a view to identifying regulatory improvements. The inquiry is conducted pursuant with the powers of the Minister for Finance and Treasury under Section 123 of the ICCC Act 2006.

In establishing a review, the Government is aware, among other things:

- of the fundamental importance and potential of coastal shipping to national economic growth and development through services to:
  - agricultural producers, many whom rely exclusively on shipping to get their produce to export markets and ports connecting with overseas shipping;
  - domestic manufacturers, importers, suppliers and government agencies who are seeking to deliver their products and services to consumers within PNG; and
  - the coastal and island populations, who are heavily reliant on shipping passenger transport to other parts of PNG, and to a lesser, but increasingly important extent, tourists to PNG;
- that the *Merchant Shipping Act (1975)* restricts the ability of non-coastal licensed ships to collect domestic cargos and transfer them to other ports within PNG – a framework originally adopted to allow shipping services to evolve to meet the particular needs of PNG whilst recognizing the highly variable profitability of servicing ports in PNG;
- that issues concerning the efficiency, cost and competitiveness of coastal shipping have been raised by the Government's Business Impediments Working Group; and
- that a competitive coastal shipping industry, effectively regulated to ensure appropriate safety, can foster a more efficient transport industry capable of contributing its full potential to the PNG economy.

Specific requirements of the Inquiry

1) The Commission is to examine and report on impediments to business caused by regulatory and competitive constraints in the freight and passenger coastal shipping market with reference to:

a) the current operation of the coastal shipping industry in PNG, including through consideration of market characteristics, the extent to which unmet demand is apparent, the degree of competition and countervailing power within the industry, the availability of alternatives to coastal shipping services and the contribution of coastal shipping to the tourist industry;

b) the current coastal shipping regulatory and legislative arrangements, including the impact of the Merchant Shipping Act (1975) and various ports management and servicing legislation, and their impact on the efficient operation of the coastal shipping industry;

c) current pricing practices within the industry, including the existence and rationale for any cross subsidy or subsidized arrangements, pricing and access arrangements for essential shipping infrastructure, the setting of fees for regulatory services and the extent to which government fees or charges are incurred by the industry;

d) possible barriers to entry and the potential for the entry of new competitors into the coastal shipping industry; and

e) the extent to which some coastal shipping and support facilities are supplied implicitly as community service obligations for the purpose of attaining social objectives.

2) The Commission to identify:

a) where justified, improvements that can be made to the efficiency of coastal shipping in PNG through reducing regulatory costs and increasing competition; and

b) the potential benefits for the national economy, including in the key areas of agricultural transport and delivery of government services.

3) In discharging its responsibilities under this review, the Commission is to consult with stakeholders, through both public hearings and submissions on specific matters as the Commission considers appropriate, and follow a three stage reporting and consultation process through:

a) presentation to the Treasury on the findings of 1 (a) to (e) of the terms of reference and preliminary comments on 2;

b) presentation of a written draft report for consideration and comments by the Government and other interested parties, including a minimum one month opportunity for submission of written comments on the Draft Report; and

c) presentation of a fully documented written Final Report to the Treasurer for presentation to wider Government.

The Review is to submit its final report by 1 September 2006.

Minister for Treasury and Finance

January 2006

Appendix B: Consort's highlighted cabotage case studies across the world.

- *The European Union:* Freedom of access to EU domestic maritime trades for EU registered ship owners with ships flying an EU member-state flag. Foreign or non-EU flagged vessels are generally not allowed to participate in the EU's maritime Cabotage trades. However, a number of EU states provide waivers for foreign flag vessels to participate in EU maritime Cabotage, albeit on strict conditions.
- *The United Kingdom:* Is liberal in terms of the EU with free/unrestricted coastal trading. The UK flags all ship involved in EU maritime trade.
- *The United States of America:* Very restrictive approach to Cabotage. The Jones Act of 1920 requires that domestic maritime trade be done by US built, US owned and US registered and US manned ships.
- *Canada:* Allows access to its domestic trades to Canadian-flag vessels only. However, its position is not as extreme as the US. When a Canadian ship is not available for trade, it will use foreign-flagged vessels.
- *Japan:* Only allows Japanese-flag carriers to carry cargo and passengers between Japanese ports. Japan does not provide any waivers.
- *New Zealand:* Has no restriction on coastal trade. Immigration requirements have the effect of limiting the amount of continuous time that a foreign crew can stay in New Zealand
- *Australia:* Ships engaged in coastal trading must either be licensed or be operating under a permit. There is no legislative prohibition restricting foreign-flagged vessels. However, obtaining a license or permit is a small barrier.
- *India:* A comprehensive system of reservation or Cabotage cargoes with all coastal traffic being reserved for Indian-flagged ships, manned by Indian crews. No formal waiver system exists.
- *Indonesia:* Tightly controlled access to its coastal trades, reserving them for national vessels. When local tonnage is not available, shipping companies are permitted to use foreign-flagged vessels.
- *Myanmar:* Cabotage is an important issue which controls minimum pay scale, recruiting seamen and controls the registration of vessels under the terms for bare coast catering. Virtually all Myanmar's vessels are local.
- *Nigeria:* Essentially copies the Jones Act used in the US, but has waivers in place for exceptional circumstances.
- *Argentina:* Has strict Cabotage policies. Recently passed an Act that required all foreign ships to use Argentinean crew.
- *The Philippines:* Reserves Cabotage cargoes to domestic shipping operators. Overseas vessels are now allowed to carry empty containers between ports. When no flagged ship is available a single voyage permit is available (mainly used for petroleum and gas)

- *Vietnam:* 100% Cabotage, except when no alternative exists. Alternatives are rarely needed, as Vietnam does not have an issue with over demand for shipping services.
- *Malaysia:* A licence per vessel is required by a Malaysian citizen or country. Temporary licenses, upon exemption given by the minister, are granted to Malaysian companies that are required to operate foreign-flagged vessels due to the non-availability of suitable Malaysian flagged vessels.

Appendix C: Minimum Service Standards-PNG Ports

1) Wharves must be maintained:

   a) in a condition which is suitable for safely berthing a vessel with a minimum size of Length 57m, Beam 9.8m, Draft 3.3m;

   b) in such condition to enable the safe carriage of a fully loaded standard "20-foot" container, placed onto a standard tractor-drawn 4-wheel container-trailer.

2) A suitable hardstand area must be maintained at each wharf or end of causeway to allow for the manoeuvre of a tractor and container-trailer. As a minimum, the hardstand must be reasonably smooth and level gravel, free draining, and have area allocated for the storage of at least 10 containers, stacked single height.

3) Roads and pavements within a wharf must be maintained in a well-graded condition, free of large potholes or failed areas, freely draining and such that container trucks can load, unload and turn without undue hindrance.

4) The minimum security requirement will be a robust 1.8m high chain wire fence maintained around each wharf area, with lockable access gates 4.2m wide. The fence must not have holes or gaps that would allow an unauthorised person to enter.

5) A suitably equipped office must be maintained and must be manned at least during normal office hours, with functioning radio facilities available for communication from, to and with vessels wishing to obtain Essential Port Services or requiring any other service.

6) Town water must be available to reprovision vessels.

7) Full telecommunications service must be supplied to the port office.

8) Power (3ph 415 v) must be available, supported by a functioning back-up generator of suitable capacity, if primary power supply is Elcom reticulated supply.

Appendix D: Stakeholders that have provided written Submissions

The following table details the stakeholders who have provided written submissions to the Commission in relation the Issues paper and Draft report released by the Commission for such purpose. Apart from those, there were also numerous meetings and interviews conducted with various stakeholders including members of the public during the stakeholder consultation process.

Table D1: Schedule of Stakeholder who provided written Submissions

STAKEHOLDERS	SUBMISSIONS	
	ISSUES PAPER	DRAFT REPORT
Steamships Shipping	Yes	No
Consort Express Lines	Yes	Yes
Kambang Holdings Limited	Yes	Yes
Rabaul Shipping	Yes	No
Hon. Sir Peter Barter, MP	No	Yes
Peninsula Shipping Limited	No	Yes
National Maritime & Safety Authority	No	Yes
PNG Ports Corporation Limited	Yes	No
PNG Maritime College	Yes	No
China Navigational Company	Yes	No
PNG Chamber of Commerce & Industry	Yes	No
Agmark Pacific Limited	No	Yes
Nestle (PNG) Limited	No	Yes
Department of Treasury	Yes	Yes