

# Anatomy of a port financing transaction

Exploring the changes in the size and nature of large-scale investments in ports, and the critical elements needed to secure financing

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Billion dollar investments are no longer uncommon in world-class ports today, where five years ago the average port investment was less than a tenth of this amount. Is this a self-destructive, me-too phenomenon with each port vying to outdo its competitor(s) in adding capacity to attract a diminishing number of ever larger container carriers, or are there fundamental economic drivers fuelling this investment spree? The answer lies in reviewing the underlying economics of these billion-dollar transactions, and understanding why the international investment community is so eagerly financing them.

## Are billion dollar port investments rational?

Historically, between 1990 and 1998, a total of \$9.2 billion was invested in 112 privatised ports worldwide, and over 85% or \$8 billion was concentrated in ten countries in Asia and Latin America. Six East and South Asian countries accounted for the 70% or \$6.3 billion of these investments, most likely because many of these were Greenfield investments, while the Latin American investments were modernisation investments (Figure 1).

On average, Asian investments hovered in the range of \$100 to \$140 million per port, while worldwide the average was significantly lower at \$83 million per port.

Even as recently as three years ago in the United States, where several large competing ports are within six “steaming” hours away from one another and competition for carriers is intense, only four out of fifty-one public ports have averaged about \$250 million in investment per port – primarily for expansion of capacity and modernisation of existing facilities (Figure 2).

Then, it would appear that almost overnight the stakes have suddenly been raised five-fold, and \$1 billion+ port investments are springing up in every region of the world, from Long Beach

in the United States, to Jebel Ali in the United Arab Emirates and Qingdao in China, as represented below:

• Long Beach	\$2.2 billion
• Pusan	\$1.9 billion
• Colombo	\$1.8 billion
• Tianjin	\$1.5 billion
• Westport	\$1.4 billion+
• Los Angeles	\$1.3 billion
• Jebel Ali	\$1.2 billion
• New York/New Jersey	\$1.0 billion
• Qingdao	\$1.0 billion

## Drivers of mega-dollar port investments

While some ports have been caught unawares by the surge in container traffic at their ports over the most recent three years, and are reacting to an immediate scarcity of capacity in their particular markets, a closer look indicates that these mega-investments are in fact driven by significant, more stable, longer-term economic benefits. The principal drivers of the increase in billion dollar ports investments include:

1. Major world-class ports have experienced an unprecedented increase in container traffic between 2002 and 2004:
  - Total container traffic of top container ports with traffic in excess of one million TEU increased to 220 million TEU in 2003, an increase of 13 percent over 2002. By 2020, container traffic is projected to increase by a further 350 percent.
  - The major Chinese mainland container ports, representing over 25 percent of world container traffic, grew by an average of 30 percent per year.

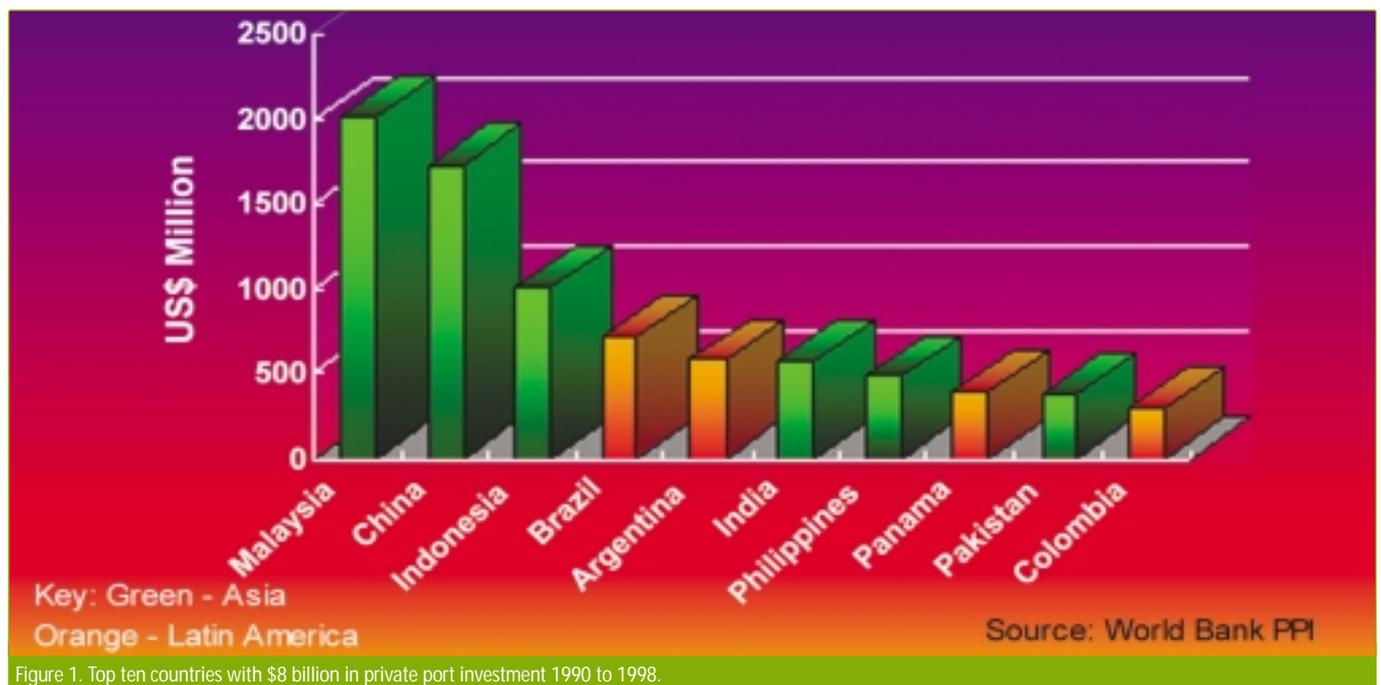


Figure 1. Top ten countries with \$8 billion in private port investment 1990 to 1998.

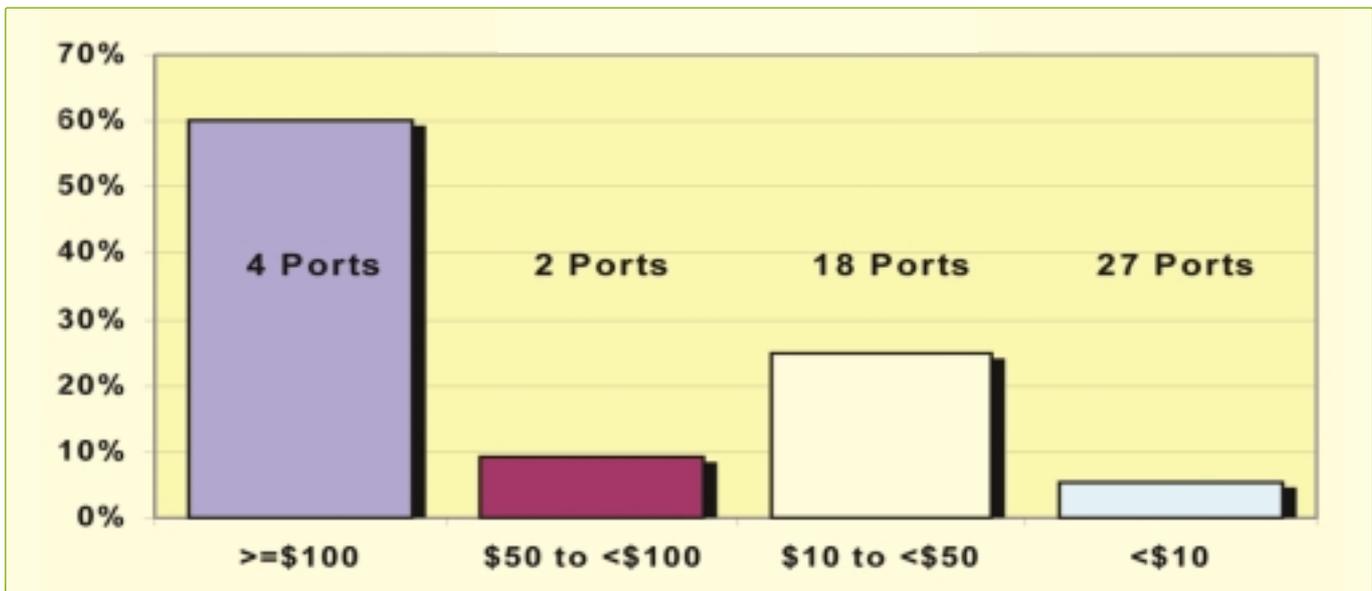


Figure 2. US ports capital expenditure 2002 – \$1,700.

Growth at major world-class ports in 2003 was an astounding 20 percent to 60 percent, and was similarly impressive in 2004: Port Tanjung Pelapas grew by 31 percent in 2003; Dubai showed an increase in container cargo of 23 percent in 2003; Salalah increased container traffic by 60 percent over a one-year period; Major U.S. Ports' container traffic increased by 15 percent to 20 percent over one year.

- According to a special survey of major east-west container carriers conducted by The Cornell Group, Inc., carriers want deeper, faster and bigger ports. Contrary to "conventional wisdom" and lament of several ports, tariff levels are less important (Figure 3).
- The containerised port business, particularly if privatised and operated by an experienced professional operator, is very profitable, even in countries with a higher level of political and economic risk. The projected Internal Rate of Return (IRR) of large port investments, after adjusting for country risk, is estimated at over 25% percent for several recent port transactions:
  - Sri Lanka IRR 24%
  - India Ports IRR 25%
  - Guatemala IRR 30%
  - Lebanon IRR 34%
  - South Korea Return On Invested Capital (ROIC) 19%.  
Debt Service Coverage Ratio (DSCR) 1.35
- The economic impact of a successful port investment can be significant over the life of the investment:
  - A Greenfield port project can generate up to 25,000 jobs through direct and indirect employment; and
  - A deeper, bigger and faster port able to handle the future generation of larger vessels can result in transportation costs savings of up to \$8 billion (Figure 4).

While this explains the eagerness of both Multilateral Funding Agencies like the Asian Development Bank as well as international investment banks to finance these multi-billion dollar mega-ports, each investment proposal must pass a rigorous due diligence and risk analysis criteria to loosen the purse strings of these entities.

### Risk analysis – the gold standard

On average, billion dollar plus port projects will have a need to mobilise between 60 percent to 80 percent of debt. With at-risk debt providing over 60 percent of the project funds, achieving financial closure may be delayed indefinitely unless the risk allocation and management needs of the lenders are addressed.

Lenders will diligently review the project risks and ensure that adequate risk management mechanisms are in place. The lenders will test the project for "bankability."

### Mitigating primary risks, and delivering a bankable project

There are five major categories of risks that lenders focus on when evaluating the bankability of a project. These include Construction & Completion Risk, Operational Risk, Market Risk, Non-Commercial Risk and Force Majeure.

#### A) Construction and Completion Risk:

This is the risk during the engineering, design, construction and start-up phases of the project. During this phase, the project utilises the majority of the loan to finance design and engineering cost, construction of civil works, and acquisition of equipment required prior to commencing operations. In this phase, the staffing is also completed and marketing commences. Lenders prefer to transfer these risks to the construction contractors and project sponsors, and tie them down with fixed date turnkey construction contracts and fixed commencement dates. Project sponsors and lenders use a number of tactics in dealing with construction and completion risks, including:

- Fixed price, fixed date turnkey construction contracts with provisions for liquidated damages if the contractor fails to perform, and bonuses for early completion;
- Purchasing start-up insurance;
- Adding a provision for contingency costs and overruns;
- Maintaining standby credit facilities; and
- Requiring sponsors, particularly if they are also the construction contractors, to retain a minimum ownership in the project through the operations stage.

Construction and completion risks are considered as medium level risks by lenders.

#### B) Operational Risk:

Project operating performance that is inefficient or below business expectations is considered as an operational risk by lenders. Operational risks may result from inefficiencies within the project and through the actions or lack of performance by other parties upon whom the project depends. Operational risks are caused by a number of factors, including inexperienced operators lacking technical or industry expertise, pull-out of initial promoters and shareholders who are also the

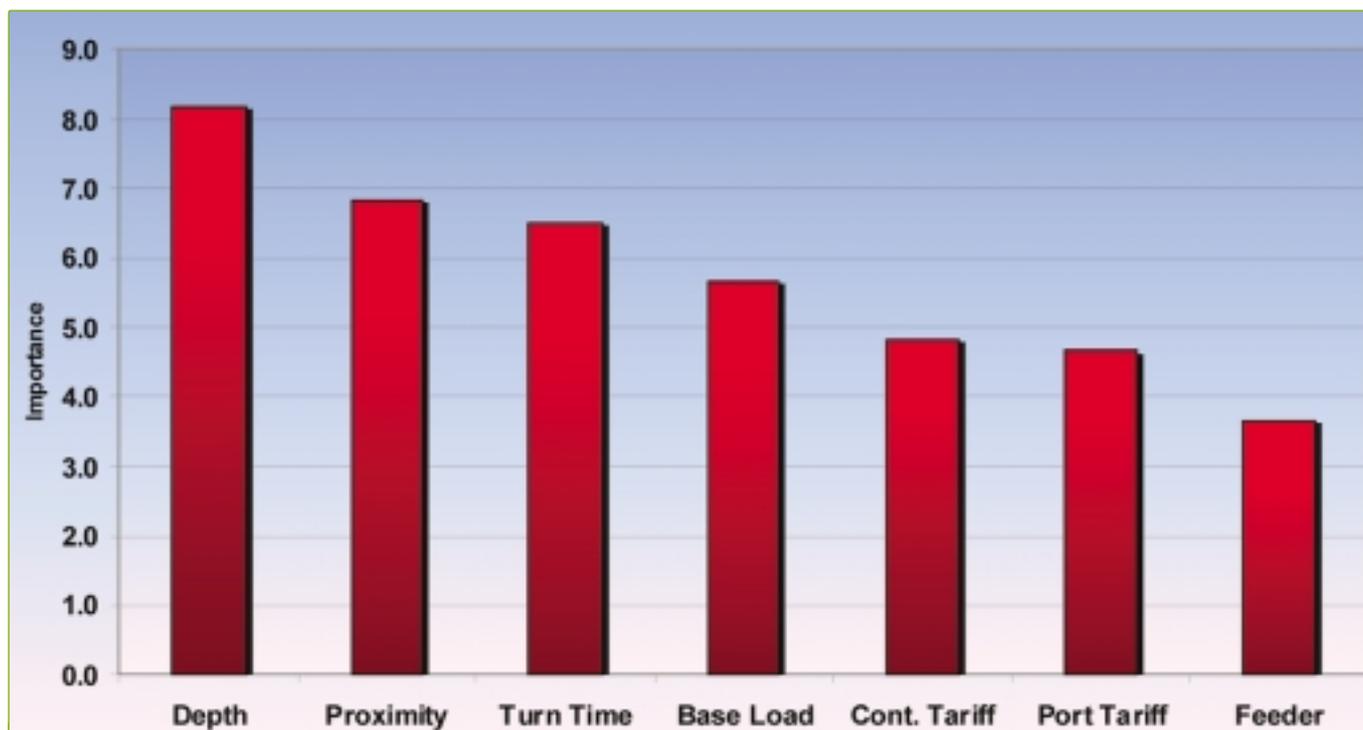


Figure 3. Selection criteria for transshipment port.

technologically qualified operators of the project, delays or failure caused by equipment suppliers and others related to the project, risks related to labour union actions, and inability of the project to maintain planned performance levels.

Frequently, operational risks have arisen due to the failure of a government agency to provide the infrastructure needed by the project to operate, thus delaying the start-up of the project. Lenders use a variety of risk management tactics to cover operational risks including:

- Concession agreements linking payments to required performance levels, and penalties for inability to maintain agreed service levels;
- Equipment and fuel supply agreements;
- When technical skills needed for project operations are with lead sponsor, lenders require a minimum ownership agreement; and
- Posting of performance bonds.

All projects have a certain amount of operational risk, which cannot be eliminated and must be managed. To manage this risk, lenders structure loan conditions such that the managers must operate the enterprise in a financially responsible manner. For example, the International Finance Corporation (IFC) requires borrowers to sign agreements that govern the use of project funds and assumption of new liabilities during the loan's term. Loan covenants help protect the ability of the project to service its debt out of cash flow. These covenants may include the following conditions:

- Minimum Debt Service Coverage Ratio (DSCR);
- No cash dividends if current ratio is less than specified;
- Limit on capital expenditures per year;
- No additional long-term debt if debt/equity ratio exceeds a specified amount; and
- Short-term debt not to exceed a specified percentage of current assets.

DSCR is an important measure of the project's operational risk as it measures the ability of the project's cash flow to service its debt. It is a key indicator that lenders use to determine the bankability of the project.

#### C) Market Risk:

The risks that operators face in conducting business in a competitive environment are evaluated as market risks. They include business volume projections, price projections, cost increases, risks from non-payments of invoices and risks from competitors. Market risks are also considered normal business risks, and lenders protect their capital from market risks through a number of strategies:

- Project feasibility, demand projections and asset valuation conducted by independent professional experts, including auditors, appraisers and consulting firms;
- Requiring lower debt/equity ratios;
- Establishing escrow accounts to allow debt to be serviced in a timely manner even in the event of a temporary downturn in business or reduction in cash flow;
- Requiring the purchaser of the project's services to issue a standby letter of credit in favour of the project, thus guaranteeing the project's cash flow in the event of a purchaser defaulting on payments;
- Government guarantees such as power purchase agreements for power projects; and
- Bundling of a number of assets in the concessions to give investors more confidence in the project. Lenders may be more comfortable about debt servicing if a number of different projects generate the cash flow to service the debt.

#### D) Non-Commercial Risk:

Non-commercial risks include risks that are political, country-specific, regulatory, due to foreign exchange regime, risks due to investment policies, shareholding policies and repatriation policies, expropriation risks, war and civil disturbance risks, regulated tariff risks, permit risks, subsidised competition risks and legal framework risks, among others. These risks are prevalent where the investors are concerned about the consistency of the country's economic and political policies, and the government's will to implement a competitive market regime. These risks are in the high-risk category, and lenders use a number of tactics to protect themselves against them. These risk

Savings compared to a 4200 TEU Vessel	Vessel 2005	Vessel 2010
Vessel TEU Capacity (TEU)	6600	8000
Port Cost Savings to Domestic Shippers (\$/TEU)	\$10.72	\$14.90
Savings in Ocean Freight due to larger vessel scale efficiencies (\$/TEU)	\$150	\$289
Total Savings for Domestic Containers over 35 years (\$ Million)	\$3,716	\$7,876

Figure 4. Example of transportation cost savings resulting from a successful port investments.

management strategies include:

- Investing in lower risk projects that generate foreign exchange revenues, which include ports, airports and telecommunication services. Power plants operating in a market with significantly excess demand are also in this category;
- Contractual provisions with tariff formulas – which automatically adjust the tariff which the project can charge in the event of higher than average inflation or devaluation of the currency;
- Partnering with local investors or with government enterprises to reduce the political risk; and
- Partnering with or involving multilateral financing institutions such as the IFC. These arrangements offer various types of security to project sponsors, as well as some costs such as bureaucratic processing procedures. The presence of some institutions, such as the IFC, offer assurance by their presence as investors and lenders and their good track record on similar projects.

#### E) Force Majeure:

Force majeure are events that are beyond the control of either party, including domestic and international political events, war, riot, general strikes in the project country and in the supplier country, changes in laws, as well as non-political events and “acts of God”.

Lenders can protect themselves against this category of risk by ensuring that potential risks have been identified, specified, analysed and allocated to the appropriate stakeholders. Lenders will take out insurance to protect their capital against these risks. Overseas Private Investment Corporation (OPIC) and Multilateral Investments Guarantee Agency (MIGA) provide political risk insurance for lenders.

#### Lessons learned – what not to do!

Through our experience in large-scale port financing, The Cornell Group, Inc. professionals have learned some key lessons on what is required to develop a successful bankable port transaction, and many painful lessons on what not to do. To develop a bankable transaction, the promoters must:

##### The do's:

- Conduct their own, conservative, due diligence to determine the value of their assets and the transaction;
- Define and prepare a strategy to mitigate the primary risks;
- Find the right partners – port investor/operator and lenders; and
- Fix the “Deal Killers”.

##### The don'ts:

What are the “Deal Killers”? While there are a number of things that can create delays for a port-financing project, most are fixable. In our experience, we have learned very painfully, that there is only one critical element that will “kill the deal” every single time: Lack of a clear, focused and well-supported political consensus at every level, from the government down to the labour unions and staff at the port. This has been a “deal killer” at recent transactions in India, Lebanon, Russia, Georgia, Guatemala, and other ports.

For a successful port financing transaction – Watch the do's and avoid the don'ts.

#### ABOUT THE AUTHOR



**Pamy Arora** is Executive Vice President at The Cornell Group, Inc., USA. He has successfully assisted in attracting investments to and completing several Build Own Operate (BOO) and Build Operate Transfer (BOT) deals for large scale enterprises. Mr. Arora specialises in business planning, privatisation and diversification strategy for transport, manufacturing, and energy sectors, and is experienced in conducting financial feasibility evaluation, attracting private investors, securing financing for capital improvement, developing strategic options, and assisting clients negotiate with investors.

#### ABOUT THE COMPANY

**The Cornell Group** is a management consulting firm providing Privatisation assistance, Port Planning, Institutional and Regulatory Restructuring, Economic Restructuring, Investment Planning and Infrastructure Development advice to senior management in the Port, Waterways, Aviation, Rail and Intermodal Transportation Industries. Their Port Planning and Engineering Group provides assistance with Master Planning and Operations Improvement at Ports. The Information Systems Group assists port and transportation industry clients improve productivity and enhance competitiveness through better application of Information Technology. Their Investment Banking Operations provides Strategic, Transaction and Financial Advisory assistance for Infrastructure projects world-wide. The Cornell Group specialise in identifying and attracting investors for operating and managing Greenfield ports and terminals.

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