SUMMARY

The purpose of this research is to structure a defensible risk management strategy to deal with uncertainties relating to investment in seaports. This has been demonstrated with Jurong Port in Singapore as the case study.

A critical constraint to the realisation of high growth potential of developing countries is the inadequacy of physical infrastructural capacity to support desired industrial developments, due to *inter alia* the lack of public funds. As a result, governments are freeing up physical infrastructural projects like seaports for the private sector to invest.

A particular characteristic of seaport projects are their 'lumpiness' which implies that investments in them are likely to be large and the pay-back period likely to be long. These make them risky ventures. Furthermore, private investors may have difficulty or are not prepared to bring in sufficient financing to enable them to have adequate management control. Strategies are therefore needed to make them attractive for investment.

It was established that the two major categories of risks confronting Jurong Port are firstly, the mostly uncontrollable exogenous factors like those relating to external competition and uncertainties of the market; and secondly, those relating to
internal weaknesses which if not addressed may render Jurong Port totally irrelevant to the industry.

In order to rationalise the risks associated with the huge capital investments required of seaports, it is only natural that ports aspire to become load centres as this will not only allow scale economies to be reaped, but also allow them to leverage on the logistics chain of the hinterland they serve. Many seaports therefore initiate various expansion projects plus ancillary developments such as new berths, more warehouses, new cranes, new trailers, and deeper drafts in anticipation of receiving load centre status.

The research subsequently identified that there are basically two strategic directions Jurong Port (JP) could adopt: to develop itself as a full-fledge container terminal as many ports in the world are aspiring to become; or to configure itself as a Maritime Industrial and Logistics Park (MILP) which calls for seaports being not only locations for the interface of sea and land transportation, but also an integrated estate for logistics services and port related industries. In the selection of a strategy that is necessary to prevent JP from slipping into oblivion, a sense of reality in view of its small size and limited capacity must be put into perspective. In this regard, significant innovation accompanied by major investments have been proposed to revitalise a product that is well into the mature stage of its life cycle. This, by way of packaging it as a MILP rather than as a pure container terminal for the obvious reasons of competence and strategic “wholesomeness” of the former strategy, it is
argued, should create a new set of demands and begin the life cycle again. In particular, the hosting of value adding processing and industrial activities, the regional distribution centre, and warehousing has been identified as necessary complements to reduce the elasticity of the otherwise extremely elastic transhipment business.

Additionally, in order to demonstrate the viability of the recommended “MILP” strategy as against the “container terminal” strategy, quantitative simulations involving of the returns of each these strategies were carried out. The results from risk simulations for scenario planning purposes and from non-linear constraint programming indicate that although the projected returns of the “MILP” is not as impressive as the “container terminal” strategy, nevertheless the variability of the former’s return and, hence, its risks are very much lower than that of the latter strategy.