SUMMARY

This dissertation attempts to arrive at an economic model to assist project managers in making the decision between the two alternatives of refurbishment and redevelopment of office buildings. It also attempts to address the different project management issues surrounding the two forms of urban renewal in the broader perspective.

In deriving the economic model the various economic factors surrounding the decision are considered and the latest state of art is looked at before a model is derived for office buildings in Singapore. Needleman's model for the comparative economics of the two courses of action for housing is used as a base from which the model is developed.

The model incorporates the rate of interest, the future length of life of the renovated property, the running costs of the property, the difference in rental received and also the different lettable area between refurbishment and a redevelopment. Also these economic considerations are brought to the present value for an equal basis of comparison.

The model gives a maximum percentage of new build cost to be spent on refurbishment for it to be economically viable. The advantage of this model over the other methods currently used to analyse the two different options is the relative ease of use by means of computer. The various graphs and tables and charts which can be derived easily provide the decision maker
with different scenarios where interest rates vary and also where the plot ratio can be changed and different extensions of the life of a building can be considered with regard to refurbishment when refurbishment takes place. Armed with this and perhaps a more detailed cost-benefit analysis for marginal cases the project manager would be able to handle any situation where he has to make such a decision.

The model developed is further tested using seven case studies in Singapore. In six of the cases where the decision was to refurbish the expenditure was within the predicted level given by the model. In the sole case of redevelopment, the expected refurbishment expenditure was above that given by the model.

In the broader perspective the different project management issues surrounding the two different options of urban renewal in Singapore is reported under the headings of Financial Management, Design and Documentation, Construction Management, Planning and Contract Administration. It concludes that management of a refurbishment project is completely different from that of a redevelopment project. The constraints of the existing structures and also the high organisational element resulting from a high proportion of specialist subcontractor work are some of the main differences.
The Singapore Institute of Architects standard form of contract or the SIA87 though commonly used in Singapore is not the best way to allocate risk among the parties to the contract for refurbishment as it is more pro-employer biased.

A contract based on cost reimbursement and percentage profit would be a better way to share the risk of refurbishment construction. In this respect Management fee contracting or cost-plus contracts are recommended.