CHAPTER 6

CONCLUSION

6.1 SUMMARY AND CONCLUSION

The main purpose of this paper was to verify the traditional belief that property is a good hedge against inflation. This was done by way of testing the hedging effectiveness of property assets; particularly residential property and property stock against actual, expected and unexpected inflation. Using the empirical data of Malaysian markets, the results varied in terms of the different hedging abilities of the various property assets.

Although property may not be a hedge against actual inflation in its technical meaning as implied by the Fama and Schwert methodology, property investment offers enough protection against inflation as the annual returns from property exceeds the inflation rate most of the time.

With respect to expected inflation, most of the residential property and property stock were found to be effective hedges. The only non-effective hedge against expected inflation was the Malaysian high rise house category. As for unexpected inflation, it was found that all property types including property stock showed significant complete positive hedges.

On the whole, the regression models found evidence supporting the view that property is an effective inflation hedge. This specifically means that residential
property is a good hedge against inflation. The same finding also applies to property stock. Hence, investing directly in property or indirectly in property stock does not differ in terms of inflation hedging or protection in Malaysia. This was evident during the period of study.

As far as residential property is concerned, the above findings concur with Bond and Seiler (1998) for the USA and also with Hoesli et al. (1997) for the UK. Brown's (1991) analysis on regional housing markets indicates that real estate is a most effective hedge during long sustained periods of high inflation.

It is also true in Canada (Li 2001) where statistically significant results suggested that property could hedge against both expected and unexpected inflation over annual holding periods and that the responses of property to expected inflation were more than one to one.

The above finding for property stock is similar to that of Sing and Low (2000) for Singapore where securitized real assets showed significant positive hedges against expected and unexpected inflation during the period of 1993 – 1998. Another similar finding was by Maurer and Sebastian (2002) who found that German real estate mutual funds seemed to be the only indirect real estate investment which provides simultaneous good inflation hedging features for private investors.
6.2 RESEARCH IMPLICATIONS

The results obtained have several implications for investors. They can be used for personal forecasts of expected inflation where decisions can be made to invest in the different asset types that provide at least some protection against inflation. Since unexpected inflation results from a reaction to new market information that had not been considered previously in the computation of expected inflation and is not directly priced into the market, hedging against both the unexpected inflation and expected inflation would be an investor's concern. The positive relationship between property returns and unexpected inflation implies that investors can expect returns to be higher during periods when inflation is expected to be high (Brown 1991).

Investment in property results in a hedge against inflation as property values move in tandem with inflation and as such the values are maintained. Residential property returns generally are higher than inflation especially during the boom period whilst maintaining a relatively low risk profile.

For fund managers, adding a sufficient amount of property can improve the inflation protection ability of a mixed-asset portfolio, in addition to its diversification benefit. Rubens et al. (1989) found that portfolios, which include property, realize an increase in inflation hedgeability.
6.3 SUGGESTIONS FOR FURTHER RESEARCH

This research was subject to several limitations such as, availability of indices, time frame, specific geographic areas and so on. It is recommended that further research be performed on inflation hedging effectiveness of other types of property such as commercial (retail and office) and industrial, other financial assets such as bonds, stocks, and treasury bills.

Data could be analysed based on monthly or quarterly returns to be consistent with Fama and Schwert’s framework and this could include periods of low and high inflation to see the hedging difference, if any. The specific time period has been shown to be a vital factor in the results obtained, as the differences between these results and studies such as Limmack and Ward (1988), Brown (1991) and Matysiak et al. (1996) show.

A more suitable proxy can be used for expected inflation so that a constant expected real return through time can be adopted. A proxy that will give a regression coefficient of not being significantly different to one would be ideal. Perhaps the ARIMA technique can be considered to determine the expected inflation.

Total returns on the property assets inclusive of capital gains and rental yields, can be computed to test for inflation hedging abilities. As for property stock, the use of capital gains and dividend yields can be collectively utilised. This will show the true return of the assets in question.
A further analysis comprising mixed-asset portfolios can be used for consideration. This would essentially mean to include different percentage of property to see inflation hedging ability especially during a volatile inflationary environment as analysed by Rubens et al. (1989).

The Fama and Schwert methodology is based on a static regression method where the short-term movements of inflation rate and property returns are captured and as such, responses of property on inflation are not adequately reflected. Due to the nature of property where illiquidity, long transaction periods and inefficient information are characteristics of the assets, the adjustment of property returns to changes in inflation cannot be expected in a short time. Hence a longer time frame is recommended.