A Model for Examining Foreign Direct Investment in Real Estate

Stuart Ross
Faculty of Business
University of the Sunshine Coast, Australia
Email: sross@usc.edu.au

Abstract

Purpose- The purpose of this paper is to develop a model which can be used to examine the influence of economic factors on foreign direct investment in real estate.

Design/methodology/approach- The approach used in this paper involves analysis of selected economic factors as they relate to foreign direct investment in real estate in Queensland over the 10 year period 2000 to 2009.

Limitations- Whilst the economic factors presented in this paper have relevance to and foreign direct investment in real estate in Queensland it should be noted that no one set of factors may be equally applicable to all international real estate markets.

Practical Implications- The variables identified provide the opportunity for future research to test the veracity of the model proposed in this paper.

Keywords: Foreign investment in real estate, foreign direct investment, currency exchange rate, gross domestic product, inflation, cost of capital, 10 year government bond yields, national savings.

JEL code: G15, G25.
Introduction

Globalisation has produced a number of changes in the real estate markets around the world (Stephens, 2003). One particular aspect of this has been an increase in foreign ownership of real estate which prior research has identified as occurring in countries such as the USA (Ford, Fung & Gerlowski, 1998; Gerlowski, Fung & Ford, 1994) and Spain (Rodriguez & Bustillo, 2010). This phenomena has received very limited attention in the literature in recent years and the research has for the most part relied on disparate aspects of portfolio theory to explain the incentives for foreign investment in the real estate market. The various aspects of the prior research have yet to be examined in any comprehensive manner. Subsequently, there is a gap in the literature in regards to a model to test the validity of the variables derived from the prior research and to explore additional variables that may contribute to this phenomena.

The availability and quality of data pertaining to foreign investment in real estate varies considerably from country to country and Australia is no exception to this problem. With the Federal Government bearing the main responsibility for monitoring foreign investment through its Foreign Investment Review Board processes, the approach of State Governments can only be described as disparate with most having absolved themselves of any degree of monitoring outside of that provided federally.

This ‘hands-off’ approach by the States is surprising, particularly given the potential importance of foreign investment in real estate and the degree of fascination it creates within the media and among influential rural and urban interest groups who seldom see such investment as virtuous. For example, Japanese investors were seen as inflating the prices of the real estate market on the Gold Coast of Queensland in the 1990’s. More recently, Chinese investors have been viewed with suspicion while acquiring ‘significant’ rural land holdings for resource and agricultural production and development. Despite keen media and public interest only one state, Queensland, maintains a register of foreign land ownership (Foreign Ownership of Land Act 1988 s11).

Model Development

A model is developed based on the literature which provides a number of factors or drivers that have shown to be vicariously acting as determinants for foreign investment in the real estate market. The main approach to studying foreign investment in real estate has been based on portfolio theory as espoused by Markowitz (1959). Early research examined individual real estate markets employing relatively crude proxies for real estate values derived from rental rate growth (Ross & Webb, 1985; Marks, 1986). In later research real estate assets were added to a mixed asset portfolio along with international shares and bonds as part of the opportunity set (Hoesli, Lekander & Witkiewicz, 2004; Ziobrowski & Ziobrowski, 1997; Ziobrowski & Curcio, 1991). Yet other studies compared direct real estate assets against other types of investments, in particular the share markets in the various countries in which the research was conducted (Quan & Titman, 1997, 1999). The majority of the research found that diversification would be more likely to produce benefits in markets that were not perfectly correlated, although there was a degree of variability depending upon the countries examined (Moshirian & Pham, 2000). For the most part these studies were based on data that was restricted to a relatively short period of time and may not have reflected the true performance of real estate investments.

A small number of research studies allowed for the risk associated with foreign currency exchange rate fluctuations (Johnson, Lizieri, Soenen & Worzalla, 2006; Ziobrowski & Curcio, 1991). The studies tended to seek ways to mitigate the risk in view of the short-term exposure in the share market as against the long-term exposure of real estate. However, the issues and importance of foreign currency exchange rates as a factor in
determining whether to invest in real estate in a foreign country has gone relatively unexplored. A significant number of other issues have also received little or no attention in the research because of the focus on using the portfolio theory as the basis for the studies.

Literature shows the factors determining foreign investor choice are complex (Moshirian & Pham, 2000; Sirmans & Worzala, 2003; Jeon & Rhee, 2008). The independent variables offered here are not intended to be exhaustive. Nor are they necessarily considered to be the pre-eminent drivers of foreign investment capital flows. The ‘portfolio effect’ for example, an established driver for institutional investors seeking risk mitigation (Ross & Webb, 1985; Hoesli, Lekander & Witkiewicz, 2004), has been ignored precisely because its place in the decision making process is well established and understood. Instead they are variables considered likely to be influential but that have been largely neglected in the literature to date.

Non-economic variables such as personal preference, family connections and political intervention, have been ignored. While it is acknowledged that these too may provide motivation, particularly in concert with economic determinants, or as a precursor to migration, analysis of their influences is considered outside the remit of this paper.

The model for the purpose of this paper comprises variables that have been shown, by prior research (Rodriguez & Bustillo, 2010), to have an impact upon investment in foreign real estate such as GDP per Capita and long term interest rates (10 yr Govt Bonds), as well as variables that have so far been ignored or treated as peripheral. The model is therefore an extension of the prior literature and makes allowances for factors that when combined with the existing set of variables is potentially better able to explain and predict the phenomena of direct foreign real estate investment as it occurs between different countries.

Method

The lack of quality data, in particular disaggregated data sets across the full spectrum of property markets Australia-wide, has required the initial model development focus on aggregated data sets taken from the Queensland Foreign Ownership of Land Register (QFOLR)(DERM2000-2009), it being the most comprehensive collection nationally.

The foreign ownership of land data for this research was derived from the Annual Reports of the Queensland Foreign Ownership of Land Register. The Register is administered by the Department of the Environment and Resources, a department of the Queensland State Government, and the annual reports are produced by the Registrar of Titles.

The reports are provided in accordance with Section 16(1) of the Foreign Ownership of Land Register Act 1988 (Qld) (the Act) and covers titles registry operations annually for the period 1 July to 30 June. All foreigners, as defined in the Act (Section 4(1) - foreign individuals, corporations or trusts), are required to notify the Registrar of Titles of any acquisition no later than 12 months after the acquisition date and, in the case of disposals, no later than 90 days after the disposal is affected. Within these notification parameters the Register is both comprehensive and up to date.

The annual reports provide aggregated data on land acquisitions and disposals for the preceding year based on area (hectares) and by value (A$). The model here uses land value data as the dependent variable, this data being the most appropriate measure of foreign capital inflows.
The model that is proposed in this paper is posited to consist of a Dependent variable and Independent variables listed at Table 1. A neo-classical approach was applied to the selection of variables. Thus they are limited to a selected array of economic indices such as the cost of capital, GDP per capita, national savings and inflation. These data are derived from a variety of reputable international and Australian data indices and reports the details of which are provided in the ‘Source’ column in Table 1.

Table 1
List of Variables*

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreign Investment</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1.Currency Exchange Rate</td>
<td>IMF International World Economic Outlook Database Sep 2011</td>
</tr>
<tr>
<td>V2.GDP Per Capita UK</td>
<td>IMF International World Economic Outlook Database Sep 2011</td>
</tr>
<tr>
<td>V3. GDP Per Capita Aust</td>
<td>IMF International World Economic Outlook Database Sep 2011</td>
</tr>
<tr>
<td>V6.Inflation UK</td>
<td>IMF International World Economic Outlook Database Sep 2011</td>
</tr>
<tr>
<td>V7 Inflation Aust</td>
<td>IMF International World Economic Outlook Database Sep 2011</td>
</tr>
<tr>
<td>V8. Cost of Capital (Base Rate) UK</td>
<td>Bank of England</td>
</tr>
<tr>
<td>V9. Cost of Capital (Cash Rate) Aust</td>
<td>Reserve Bank of Australia</td>
</tr>
</tbody>
</table>

*The paper refers to the variables listed in Table 1 as factors or drivers. This less robust terminology is deliberate as the paper seeks only to analyse the theory of the model rather than test its statistical veracity. It is envisaged that future research will use the model as a framework to statistically test the variables.

Analysis

The levels of foreign direct investment in real estate in Queensland have fluctuated over the 10 year period from 2000-2009. During this period the currency exchange rate between the UK £ and Australian $ has declined in favour of the A$. Under these circumstances the expectation would be a concomitant reduction in UK investment in Australian real estate as a result of exchange rate induced price disadvantage. However data depicted at Figure 1 suggests that this was not the case during the study period when investment continued to rise despite the decline in the exchange rate.

Consistent with prior research (Worzala, 1995; Johnson, Lizieri, Soenen & Worzala, 2006; Rodriguez & Bustillo, 2010) foreign currency exchange rates are influential in determining levels of foreign direct investment in real estate in Queensland.
Figure 1
Exchange Rate – A$ v UK£


Data derived from the IMF shows (Figure 2) that there was a parallel in both quantum and growth rate between the two countries until approximately mid-2007. This divergence resulted in the UK GDP declining while the Australian GDP experienced continued but slower growth. This may be explained by the impact of the Global Financial Crisis (Laing, 2011).

The comparison of the Gross Domestic Product (GDP) of the UK and Australia against the level of foreign direct investment in real estate in Queensland shows that there was consistent growth in concert with GDP growth until around 2005 when investment increased rapidly until a correction occurred as a result of the GFC in mid 2007. The resultant precipitous decline led to the lowest levels of UK investment since mid 2001. This suggest that there is a relationship between GDP and UK foreign direct investment in Queensland real estate.

The interpretation is that GDP is an influencing factor in foreign investment as supported by prior research (Rodriguez & Bustillo, 2010).
Comparison of national savings for the two countries is consistent with the pattern of change which occurred in the GDP data. This is further evidence of the importance of economic well being within the host country as a driver of direct foreign real estate investment. Again the adjustment occurs at or around the same time frame as that of the GDP. The inference that may be drawn from this is that National Savings in both the donor and host countries will also impact on the levels of direct foreign real estate investment. The details of the National Savings for the two countries are presented in Figure 3.

The rates of inflation as depicted in Figure 4 provides an interesting example of how real estate acts as a hedge against inflation with higher levels of inflation generally being considered to act as a positive attribute for real estate investment by stimulating income and capital growth (Moigne & Viveiros, 2008; Ziobrowski & Ziobrowski, 1997).

The manner in which inflation rates mirror the foreign direct real estate investment in Queensland in the period 2006 to 2008 further supports the inclusion this variable the proposed model.

**Figure 4**
Comparison of Inflation

![Comparison of Inflation](image)


The cost of capital is considered to be important in the proposed model on the basis that real estate usually presents as a geared investment and is therefore significantly reliant upon debt finance.

The data indicates that the cost of capital in relation to returns on real estate investment was sufficient to justify the rising costs of debt. This is particularly noticeable in the period since 2002. The data depicted in Figure 5 shows that the cost of capital is a good indicator of foreign direct real estate investment in Queensland.
Internationalisation of global capital markets has meant that yield movements are generally mirrored by the financial markets of individual sovereign nations. This is because capital has become an international commodity with flows being driven by yield across international boundaries. This is evident in the data depicted in Figure 6. The 10 year bond rates are used as yield benchmarks globally within the real estate industry (Jeon & Rhee, 2008; Hoesli, Lekander & Witkiewicz, 2004).

Figure 6
10 Year Government Bond Yields

Conclusion

A review of Queensland Foreign Ownership of Land Register data for the period 2000-2009 shows significant annual variation in both the quantum of foreign direct real estate investment and the countries from which this investment is received. The data reveals that while the USA, Canada, New Zealand, Singapore and more recently the Peoples Republic of China, have all made significant direct real estate investment in Queensland over the 10 year study period, only the United Kingdom has made that significant investment consistently, ie in each of the ten years. The model therefore deliberately focuses its attention quite narrowly on selected potential drivers or facilitators which may have, over the study period, encouraged UK investors to place substantial capital directly in Queensland’s real estate.

This restricted approach is not considered to adversely affect the validity of the proposed model in a global environment where most western style economies operate under very similar economic structures. However caution is needed when extrapolating these findings to establish the drivers of direct foreign real estate investment between other countries without first undertaking further analysis.

This paper provides a basic explanation of the interrelationship of the proposed independent variables, and the dependent variable, foreign direct real estate investment in Queensland. Future research may seek to apply this model to countries within Europe, Africa or Asia. Any such research studies would provide further evidence of the validity of the variables and may expand upon the model by identifying additional variables, such as moderating or intervening variables.
References


