Determinants of Profitability in the Real Estate Industry: A Comparative Study Between Sri Lanka and Japan

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Abstract

Real estate industry plays a vital role in economic development and paves the way to stabilize the economy through guaranteeing continuous capital flows for financing. This study is based on the determinants of profitability of the real estate industry in Sri Lanka and Japan. The study uses secondary data from the financial statements and World Bank Data Bank from 2010 to 2019. The panel regression analysis was employed to derive the impact of firm-specific and macroeconomic factors on the profitability of the real estate industry in both countries. Liquidity, leverage and efficiency were used as the firm-specific factors, while economic growth and inflation proxy for macro-economic factors. The results indicate that the current asset ratio, interest coverage ratio, asset turnover ratio, inventory days and economic growth have a positive relation with profitability. In contrast, the cash ratio, debt to equity ratio, debt to capital ratio, inventory turnover ratio, and inflation negatively affect the profitability of real estate companies in Sri Lanka. On the contrary, the results of Japanese companies revealed a positive association between the cash ratio, debt to capital ratio, interest coverage ratio, asset turnover ratio, inventory days and inflation, while the negative impact of current asset ratio, debt to equity and economic growth on profitability. These conflicting results can be attributed to the fact that the Sri Lankan real estate industry follows an equity-based capital structure while Japan follows a debt-oriented capital structure.

Keywords: *real estate industry, firm-specific factors, macroeconomic factors, capital structure*

1. Background of the Study

The real estate business can be identified as a profitable segment in developing and developed nations because it led the countries to enhance the inbound infrastructure by pumping foreign direct investments into the economy. When considering the benefits of investing in the real estate sector, investors can gain predictable cash flows, higher returns, tax advantages, hedge inflation, and diversify the risk of their portfolios. Generally, in the Asia-Pacific real estate

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industry, companies mainly operate in their domestic markets because real estate firms are vulnerable to domestic political and economic shocks. Thus, investors in this region seek to expand their portfolios by broadening their investment horizons into neighborhood countries. Moreover, it paved the way to accelerate the market growth in this industry by establishing enormous public listed companies. Accordingly, international investors tend to invest in the real estate industry in the Asian region to gain diversified benefits by experiencing the favorable institutional framework that relates to lower trade barriers, open markets, and legislation (Schindler, 2009).

Sri Lankan real estate industry occupied significant attention over the last few years because improved economic activates across the urban areas paved the way for major market players to gain vast opportunities. Recent statistics on the real estate sector illustrated that increasing population growth, fast urbanization, increasing housing requirements, and tourism sector growth significantly contribute to the demand shift of the real estate sector in Sri Lanka (KPMG Sri Lanka, 2020). According to the Central Bank of Sri Lanka Annual Report-2020, 21.2 percent of market growth in 2012 gradually decreased to 9.9 percent in 2014 due to the lower foreign direct investment. Thereafter, the growth rate was gradually increased to 11.6 percent in 2017.

Unlike the Sri Lankan real estate industry, the Japanese real estate market is highly transparent and highly regulated through international standards because, since 2012, the real estate price index was publicly available to parties on a transaction basis. Over the past few years, there has been a rapid development due to the high yield of rentals, the stable business environment, foreign property ownership, and lower geopolitical risk. Fa-bin (2013) commented that, after World War II, the Japanese economy experienced rapid development, and it led the nation to vast urbanization and paved the way to promote the real estate sector to the public. Meanwhile, recent studies elaborated that Japan's low-interest-rate on borrowings led the firms to expand their wings. On the contrary, banks encourage citizens to move towards home mortgage loans with lifetime fixed loan rates and cashback incentives for home buyers. That led to the increase in domestic demand for real estate projects.

When investors seek to invest in the real estate industry in Japan or Sri Lanka, they may need to evaluate the investment proposal based on the profitability, leverage, liquidity and efficiency of existing companies. However, the firms' profitability in these two countries is diverse due to firm-specific and macroeconomic factors. Apart from that, there is a lack of studies relating to assessing the cross-country relationships between Sri Lanka and Japan. Hence, this study investigates the impact of those factors on the profitability of the real estate industry in Sri Lanka and Japan. In addition, the appropriate mixture of the capital structure needs to be identified in this business requiring enormous funds on financing. Thus, whether it is equity-financed or debt-financed remains a valid question to be answered.

2. Literature Review

Real estate companies' financial performances vary due to regional-, country- and sector-specific factors because real estate companies operate locally. For example, the development of the banking sector has a significant impact on real estate profitability. Furthermore, the "widespread appearance of negative housing equity could have a catastrophic impact on large numbers of households" (Renaud, 1997). Edelstein, Qian, and Tsang (2011) point out that the real estate industry fluctuates due to country-specific factors such as corporate governance, accounting standards, and legal system.

Wild, Subramanyam, and Halsey (2004) argued that financial analysis examines the financial condition, position and future performance. Meantime, Feroz, Kim, and Raab (2003) commented that ratio analysis could authenticate the entity's performance, which provides consistent and reliable information of the future. Doan (2020) analyzed the Vietnam real-estate industry by using data between 2010 and 2018 by employing systematic GMM, fixed-effect and random-effect model approaches and found that profitability of the Vietnamese real-estate industry is affected by leverage, age of the entity, current ratio and inflation while firm growth is affected negatively.

When considering the profitability of the real estate industry, research conducted by Doan (2020), Nguyen, Nguyen, and Dang (2017), and Tongkong (2012) considered the effect of firm-specific factors such as working capital, liquidity, capital structure and efficiency on the profitability particular to the specific countries. The strategies used by the management on controlling the firm's specific factors were different according to the countries' macroeconomic characteristics, such as income growth, inflation and interest rate (Cyril & Singla, 2020). Hence, this study focuses more on filling the literature gap by comparing the sensitivity of the firm-specific and macro-economic factors towards the profitability of both counties.

3. Methodology

All the data related to the firm-specific factors were gathered from the financial statements, covering 2011 to 2019, while the macroeconomic data were acquired from World Bank Data Bank. The sample covers seven companies listed in Colombo Stock Exchange's Main Board and employed seven companies listed in the Tokyo

Stock Exchange using the random sampling method.

The study measured profitability, the dependent variable, using ROA. At the same time, the current asset ratio and cash ratio were used to measure liquidity. Leverage was measured using the debt to capital ratio, debt to equity ratio, and interest coverage ratio. Further, efficiency was quantified using ratios of asset turnover, inventory turnover and inventory days. Finally, economic growth was assessed using the per capita GDP growth ratio, and the consumer price index measures inflation. The study employed fixed-effect and random-effect models for identifying the significance of the selected variables. The Hausman test was applied to identify the most appropriate model for this study.

4. Results and Findings

According to Table 1, Japan has a positive correlation between liquidity and profitability of the real estate industry because it retains an appropriate combination of the current asset base to meet the short-term obligations. In contrast, results show a negative correlation in Sri Lankan real estate industry. That kind of relation can be anticipated because, compared to Japan, Sri Lankan real estate firms keep higher liquid assets within the firm, leading to reduced profits due to the higher opportunity cost of excess liquidity.

In both countries debt to capital and debt to equity are negatively correlated with profitability. Further, the interest coverage ratio of both countries shows a positive relation with profitability. Finally, there is a negative correlation between leverage, measured using debt to capital ratio and debt to equity, and profitability of Japan and Sri Lankan real estate industries. A positive relation exists between the asset turnover ratio and profitability in Japan, while it is negative in Sri Lankan real estate industry. The inventory turnover ratio shows a positive correlation with profitability in Japan while a negative correlation in the Sri Lankan real estate industry. This emphasizes that the contribution of assets and inventory for sales in Japan enhances profitability compared to the Sri Lankan real estate industry. However, the day's inventory outstanding negatively correlates with profitability in Japan while it positively correlates with the profitability in Sri Lankan real estate industry. The correlation between economic growth and profitability of the real estate industry was positive in both Japan and Sri Lanka. This type of correlation can be expected because the escalation of consumer income will increase the demand for real estate, which ultimately leads to increased profitability. Meanwhile, inflation shows a positive correlation within the profitability of Japan, and it is negative in Sri Lanka. This can be because higher fluctuations in inflation inversely affect the profitability of the Sri Lankan companies. In contrast, low fluctuations in Japan enhance the profitability of real estate companies.

Table 1: Correlation and Regression Results

Variable	Correlation (with ROA)		Japan (FE)		Sri Lanka (RE)	
	Japan	Sri Lanka	B	Sig.	B	Sig.
Constant			-0.068	.032	0.105	.000
CA	.022	-.009	-0.009	.192	0.002	.340
CR	.389**	-.080	0.014	.013	-0.006	.192
DTC	-.236*	-.552**	0.205	.022	-0.123	.041
DTE	-.227	-.589**	-0.201	.025	-0.023	.001
IC	.759**	.180	0.002	.000	0.000	.638
AT	.736**	-.012	0.238	.000	0.183	.020
IT	.853**	-.330**	0.001	.000	-0.001	.131
ID	-.561**	.171	0.002	.203	0.000	.615
PCGDPG	.039	.073	-0.118	.739	0.094	.803
INF	.010	-.044	0.123	.785	-0.535	.268

Notes: ROA denotes Return on Assets; FE and RE stands for fixed effect and random effect respectively. B stands for regression coefficients. * and ** indicates statistical significance at 5 percent and 10 percent respectively.

According to Table 1, the current asset ratio (CA) and debt to equity (DTE) negatively impact profitability. While the cash ratio (CR), debt to capital ratio (DTC), interest coverage (IC) and asset turnover ratio (AT) have a significant positive impact on profitability. However, inventory days (ID) and inflation (INF) positively, and economic growth (PCGDPG) negatively impact profitability, but it is insignificant. Meanwhile, the current asset ratio (CA), interest coverage ratio (IC), asset turnover ratio (AT), inventory days (ID) and economic growth (PCGDPG) have a positive relation with the profitability of real estate companies in Sri Lanka. The cash ratio (CR), debt to equity ratio (DTE), debt to capital ratio (DTC), inventory turnover ratio (IT) and inflation (INF) have a negative relation with profitability. However, only the asset turnover ratio (AT), debt to equity (DTE) and debt to capital (DTC) show a significant relation with the profitability under this model.

5. Conclusion

There is a negative impact of liquidity in the Sri Lankan context. However, it is positive in the Japanese real estate industry. The impact of leverage on profitability was negative in the Sri Lankan real estate industry because the escalation of leverage illustrates an increase in interest payment and ultimately reduced profitability. However, in this case, Japanese real estate companies have to have a lower interest payment on their debts when comparing to the Sri Lankan real estate companies. Efficiency has a positive impact on the Japanese real estate industry due to management efficiency of Japanese real estate firms. Nevertheless, the Sri Lankan real estate companies have a lower asset and inventory turnover rates, which show an inverse relation between profitability. When considering the nexus between real estate profitability and economic growth, it positively relates to Sri Lanka and Japan. However, in Sri Lanka, there is an increasing trend of per capita GDP. Thus, investors are seeking to invest in this kind of developing nation. As the world's 3rd ranked economy, Japanese citizens have higher purchasing power. The deflation situation within the Japanese economy attracts new investments to the industry and ensures a stable return for investors. Therefore, real estate companies have a higher possibility of increasing their revenue, which ultimately leads to increased profitability. On the other hand, increasing inflation in Sri Lanka harms profitability because higher inflation increases production costs. In conclusion, the Japanese real estate industry is debt-oriented, and the Sri Lankan real-estate industry is equity-oriented.

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