IS REAL ESTATE INDUSTRY SQUEEZING OUT MANUFACTURING INDUSTRY?-THE CHINA EXPERIENCE

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ABSTRACT

This research used 2002-2013 Chinese data to analyze the Chinese real estate and manufacturing industry health. , we find no evidence that the real estate industry is negatively affecting the manufacturing industry. The real estate industry does have a slightly higher rate of return. However, the two industries' returns are highly correlated and have similar patterns. The biggest difference between the two industries is the debt to asset ratio. The real estate industry has a much higher leverage (close to two thirds) compared to the manufacturing industry's less than 50%. We are more concerned with the health of the real estate industry. In an economic downturn, with such high leverage, the real estate industry's ability to adjust is questionable.

INTRODUCTION

China overtook the U.S. as the world's largest manufacturing nation in 2010. The United Nations reported in 2011 that China has the largest manufacturing industry in the world by an increasing margin. Despite the encouraging news, there are many outcries in China about how the overheating real estate industry has halted the manufacturing industry. Industry leaders expressed their concerns in the "China Enterprise Competitiveness Annual Meeting" in 2012. A comment by Simcere Pharmaceutical Group founder and Chairman Ren Jinsheng that, "we can pick up business innovation only if the real estate economy cools down" represented the manufacturing industry leaders' thought. The consensus is that the real estate economy has sucked innovative resources from the manufacturing industry.

So is China's manufacturing industry booming? Or is it suffering?

According to the World Bank, China's manufacturing value added as a percent of GDP was above 32% from 2004-2009. It dropped to 29.62% in 2010. It was last measured at 30.57 in 2011.

China's global account surplus surged after 2004. It rose from 2.8% of GDP in 2003 to 10.8% in 2007. Many economists and countries argue that the RMB needs to appreciate to rebalance China's trade. Since 2003, the Chinese government has been trying to narrow external surpluses through measures such as allowing modest appreciation of the currency. RMB has slowly appreciated against the US dollar from 8.2770 in 2003 to around 6.23 in May, 2014. In 2013, China's surplus dropped to 2% of GDP. On the surface, it seems that currency appreciation did help to balance the trade surplus. However, empirical evidence on the effects of an RMB appreciation on China's exports has been mixed for the largest category of exports, processed exports [2] [9] [10]. While we acknowledge that exchange policy might have contributed to China's decreasing trade surplus, we suspect that the difficulty of the manufacturing industry to compete with the real estate industry for capital also has contributed to the decreasing trade surplus.

Based on manufacturing value added as a percent of GDP and China's global account surplus, China's manufacturing industry might not be as strong as United Nations has described.

This research is the first to investigate the effect of the rising real estate industry on China's manufacturing industry. We look at the effect both in terms of, stock returns and the financial health of both industries. First we investigate the monthly stock returns for the two industries. We then look at various financial ratios and the growth rate of the two industries. If the real estate industry has negatively affected the manufacturing industry, we should detect evidence in both areas.

LITERATURE REVIEW

Previous research does not investigate the real estate and manufacturing industry relationship directly. Previous research has focused on land supply and how it affects development. The current land supply model causes inter-regional tension and constrains development [11] [13]. Administrative allocation of land to state-owned enterprises will continue [4]. Will state-owned enterprises' allocated land put private enterprises at a systematic disadvantage? This paper does not address this issue. We will do a follow up study on this issue.

Real Estate and General Stock Market

We do find abundant research regarding real estate and the general stock market. Manufacturing is the biggest sector of the Chinese stock market. 1,847 of the 2,719 listed firms are in the manufacturing sector and 201 are in the real estate sector as of the end of 2013. These studies regarding real state and the general stock market shed light on real estate and manufacturing, manufacturing being the biggest component of the Chinese general stock market.

Lin & Lin [6] find no causality relationship between the stock and real estate markets in China from March 1995 to June 2010. They gave several reasons for this and suggested to use the index of different regions or cities for further concise conclusions.

Gao, Li, & Gu [3] conclude that Chinese the direct real estate market and the stock market are integrated during the study period 1999-2009. This conflicts with Lin & Lin [6].

Hui and Ng [5] find that the correlation between residential property prices and the stock index has become weaker over time in Hong Kong between 1990 - 2006.

Liow & Newell [7] examines the change in co-movements over time for eight Asian real estate securities markets and their local stock markets during the period from 1995 – 2009. He studies developed markets in Australia, Japan, Hong Kong, and Singapore and developing markets in China, Malaysia, Taiwan and the Philippines. He finds real estate-stock correlations at the local, regional and global levels that vary over time and are asymmetric in some cases.

Tsai, Lee, & Chiang [12] investigated the long-run relationship between the housing and stock markets using quarterly data from the U.S. housing price index from 1970-2009. They find that cointegration exists between the markets, and that adjustments toward long-run equilibrium are asymmetric. That is, when stock prices rise rapidly, there will be a delayed but proportionate rise in housing prices. However, when stock prices fall, housing prices do not tend to fall proportionately or may not fall at all.

Olaleye & Ekemode [8] find that rates of return for real estate equity and non-real estate equity in Nigeria for the period 1999 – 2011 were related. Real estate equity had a slightly higher return but with more risk.

Casni and Vizek [1] state that the results suggest that the level of codependence between equity price and real estate price movement is relatively high in all examined country groups (30 developed and emerging economies). However the degree of co-dependencies varies among country groups, with the reaction of both asset prices to economic news being more synchronized in economies with a market-based financial system and developed economies. Data ranges from 1970 to 2012.

We can see that most research does conclude that there is cointegration between the real estate and the general stock market, with few exceptions.

METHODOLOGY

Data Collection

The data come from China Stock Market & Accounting Research Database (CSMAR). The data range is from 2002-2013.

Johansen Trace Test, and Granger-Causality Test

We use monthly returns from 2002-2013. We will first test whether time series data is stationery. If time series data is non stationary, the Johansen trace test will be used to test for cointegration. If time series data is stationary, cointegration test is unnecessary. Simple Pearson correlation analysis is sufficient.

Granger-causality test will be applied to identify any lead/lag relationship between the two sets of time series data. The Granger-causality test will be applied to first or higher differences if time-series data is non-stationary.

Financial Health Evaluation

We look at current ratio and debt to asset ratio to evaluate each industry's solvency and flexibility. We look at sales, net income, and return on equity to evaluate each industry's profitability.

To investigate industry growth, we look at income and capital growth. For income growth, we use sales and net income growth rates. For capital growth, we look at total liability and equity growth rates.

CONCLUSION

Overall, we find no evidence that the real estate industry is negatively affecting the manufacturing industry. The real estate industry does have a slightly higher rate of return. However, the two industries' returns are highly correlated (93%) and have similar patterns. If the real estate industry was negatively affecting the manufacturing industry, we should observe different instead of similar patterns. Both industries have excellent returns on equity (>7%). Both industries' sales and liability growth rates are in double digits. Rates for the manufacturing industry are slightly higher than rates for the real estate

industry. The differences are not statistically significant. The biggest difference between the two industries is in the debt to asset ratio. The real estate industry has a much higher leverage (close to two thirds) compared to the manufacturing industry's less than 50%. We are more concerned with the health of the real estate industry. In an economic downturn, with such high leverage, the real estate industry's ability to adjust is questionable.

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