

The Effect of Domestic Investment, Economic Growth and Human Development on Foreign Direct Investment into China

Michael Paolino¹

Abstract

This paper examines the relationship between foreign direct investment, domestic investment, human development, and economic growth, and uses the ordinary least squared technique, and a time series analysis using data for the period 1977-2007. The analysis seeks to answer the fundamental question of what impact Chinese domestic investment, economic growth, and human development has on foreign direct investment into the country. Research regarding foreign direct investment and its fundamental correlation with economic growth and domestic investment has produced varied results. This paper examines those variables, with the addition of human development variables, where research is partial. This paper seeks to expand on current research by examining the effects domestic investment, economic growth, and human development factors have on foreign direct investment into China. The results of the study indicate that when domestic investment and economic growth in China are increasing, foreign direct investment is attracted to the country. The human development variable that had the greatest impact on the amount of foreign direct investment into China was the literacy rate.

JEL Classification: P33 E24 O10 O11 O15

Keywords: Foreign Direct Investment, FDI, Economic Growth, Human Development, China

¹ Bachelor of Science in Business Administration: Economics, Bryant University, 1150 Douglas Pike, Smithfield, RI 02917. Phone: (401) 226-3748.
Email: mpaolino@bryant.edu.

1.0 INTRODUCTION

China is one of the world's fastest growing economies, and has attracted a large amount of foreign direct investment (FDI) over the last 20 years, leading developing countries as the largest recipient of FDI (Tang et al. 2008). Several factors of the Chinese economy and lifestyle can help to explain the substantial levels of FDI China has been experiencing. This paper examines the effects of economic growth and domestic investment on the amount of FDI China has received. In addition, this article also examines several human development variables that also seek to explain the high levels of FDI China has experienced over the last several decades.

The goal of this paper is to enhance understanding of the effects the Chinese economy and its people have on levels of FDI into the country. Various studies have examined the effects of FDI and economic growth. However, this paper observes not only economic factors regarding levels of FDI, but human development issues as well, where research is limited. China was chosen for this research since it has been one of the world's fastest growing economies, and as a result received considerable levels of FDI. Therefore, the effects of domestic investment, economic growth and human development should be significant and help in understanding the correlation between these variables and FDI.

From a policy perspective, it is crucial to understand the effect domestic activity, both economic and social, has on FDI. Since China has received considerable levels of FDI, examining domestic economic activity and human development in China should yield interesting results. High levels of FDI can help bring technology to the host country. China's high levels of FDI could lead to domestic technological spillover, that is, foreign companies will bring new technology and train Chinese workers, improving the Chinese economy. The Solow model suggests technological growth is a fundamental factor in increasing long run economic growth. Therefore, it is clear that FDI into China will have a positive impact on the domestic economy. However, what factors attracted these high levels of FDI in the first place? This study examines the three factors that are believed to answer this question, domestic investment, economic growth and human development.

Chinese domestic investment is the first variable thought to contribute to the amount of FDI the country attracts. If Chinese banks are investing heavily in domestic economic ventures,

it is safe to assume there are many profitable businesses fulfilling Chinese demand. Domestic investment is measured by domestic credit provided by the banking sector, and domestic credit to the private sector. High levels of domestic investment indicate that individuals are opening new businesses and investing in their businesses. A high-quality domestic business environment should have an impact on the amount of FDI that flows into the country. Also, economic growth is examined when attempting to explain what brings FDI into China. Economic growth is measured by GDP per capita growth. When foreign businesses look to invest in China, they undeniably inspect how economic growth is in the country. Economic growth indicates that businesses in the country are doing well, and is a place businessmen may invest or start a business.

In addition to understanding the correlation between FDI, domestic investment and economic growth, it is imperative, from a policy point of view, to be aware of the impact human development variables have on FDI into China. Investigating human development factors and their correlation to FDI is where this research paper differs from similar studies. Numerous studies have examined, with varying results, the impact of economic growth and FDI. Previous research has also found the relationship between domestic investment and FDI. However, this study looks at these factors, as well as human development variables and their relation to FDI into China. Human development in this study is measured by three key variables, infant mortality rate, life expectancy, and education (measured using literacy rate). Therefore, this paper seeks to answer several fundamental questions that differ from previous studies. The first is to conclude whether economic growth in China has an impact on FDI into the country. Second, what has been the effect of high levels of domestic investment on the amount of FDI into the country? Lastly, this study seeks to investigate whether human development factors in China affect the amount of FDI that flows into the country.

The remainder of this article is organized as follows. Section 2 investigates trends in Chinese FDI, as well as historical economic growth, domestic investment, and human development. Section 3 is a literature review, and summarizes previous studies in this area of research. Section 4 discusses the empirical methodology and data used in this study. Section 5 reviews the empirical results of the paper, and section 6 contains a conclusion, and offers insight into potential policy implications based on the results of this study.

2.0 TRENDS

Attracting FDI has been a key pillar of China's 'opening up' policies and economic reforms (Tang et al. 2008). Figures 1 and 2 show FDI in China and domestic investment and GDP for the years 1978-2003, respectively. At China's initial 'opening up' period, inflows of FDI were low. FDI varied from .05 billion Chinese yuan in 1983 to 1.3 billion Chinese yuan in 1984. From 1984 until the early 1990s, FDI increased at an average rate of approximately 30 percent each year. However, the total amount of FDI was still small and remained as low as 40 billion Chinese yuan until 1992. In 1992 Chinese leader Deng Xiaoping made his famous 'southern tour,' where he promoted his economic reforms, including developments that led to FDI liberalization. During the 1997 Asian financial crisis, the Chinese government further liberalized their FDI policy. For example, the Chinese government eliminated the FDI project approval requirement. China joined the World Trade Organization (WTO) in 2001, and this marked a new era of FDI liberalization. As figure 1 demonstrates, China's FDI inflows increased dramatically from the year 2000 to 2001, moving from 337 billion Chinese yuan to 388 billion Chinese yuan. This catapulted China into becoming the largest FDI host country in the world, attracting 437 billion Chinese yuan of FDI in subsequent years (Tang et al. 2008).

Domestic investment and GDP in China, shown in figure 2, display similar trends to that of FDI for the same time period. Economic growth in China has increased exponentially since the major reforms of 1978, growing at an average annual rate of 9 percent (Tang et al. 2008). Compared to the rest of the world, China has shown considerable economic growth. The parallel growth of GDP and FDI can not be ignored. China's international trade increased considerably from 36 billion Chinese yuan in 1978, to 5,138 billion Chinese yuan in 2002. These trends suggest that such a substantial increase in international trade is associated with large inflows of FDI. Similar to the rapid growth in GDP and FDI, China's domestic investment shows a significant increase, growing at an average rate of 20 percent from 1978 to 2003 (Tang et al. 2008).

Figure 1

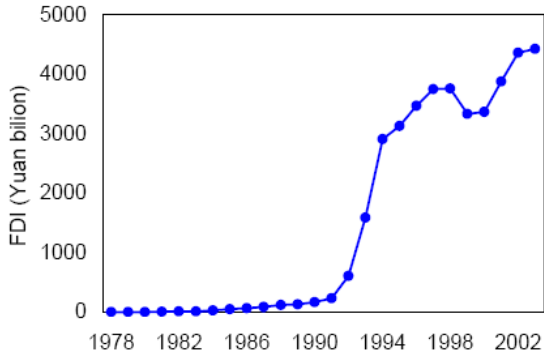
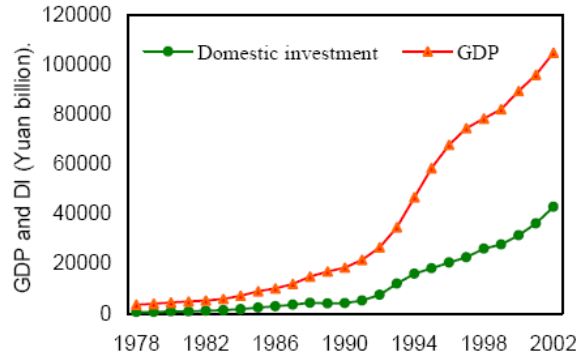


Figure 2

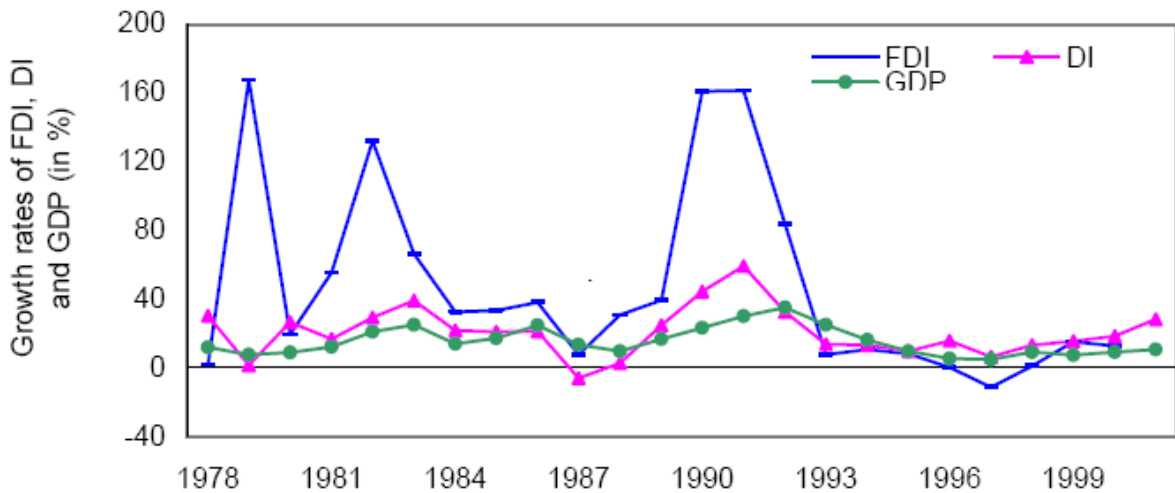


Source: *China Statistical Yearbook*

Figure 3 graphs the growth rates of FDI, domestic investment and GDP in China during 1978-2003. FDI growth reached several peaks. In 1980, FDI growth reached 168 percent, in 1983 it reached 132 percent and in 1991 and 1992, Chinas FDI growth rate reached 161 percent. The growth rate of domestic investment peaked in the same or subsequent years as FDI, however, well below the FDI growth rate. GDP showed a similar growth trend to FDI and domestic investment, reaching its peaks in 1984, 1987 and 1993.

Figure 3

Growth rates of FDI, DI and GDP, 1978-2003



Source: *China Statistical Yearbook*

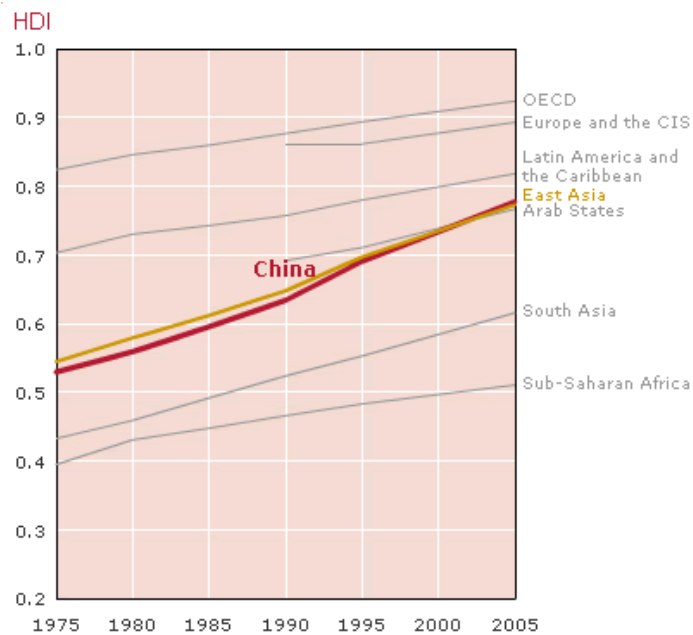
Generally, the three figures presented demonstrate that both FDI and domestic investment display an upward trend, matching the economic growth trend of GDP during the period 1978 to 2003 (Tang et al. 2008). Although trends in China's FDI, GDP and domestic investment show a strong positive relationship, this paper seeks to verify empirically that there is a strong underlying relationship connecting these variables.

In addition to the FDI and economic trends in China over the last several decades, this paper will also observe trends in human development. The three human development factors that this paper examines are life expectancy, infant mortality rate, and literacy rate, a proxy for education.

The Human Development Report publishes the human development index (HDI) which looks beyond GDP to a broader definition of well-being. According to their website, the index "...is not in any sense a comprehensive measure of human development. It does not, for example, include important indicators such as gender or income inequality and more difficult to measure indicators like respect for human rights and political freedoms. What it does provide is a broadened prism for viewing human progress and the complex relationship between income and well-being" (2007/2008 Human Development Report).

This broad look at human development is sufficient to investigate the trends in human development in China over the period being examined. Figure 4 shows China's HDI since 1975. As can be seen, China was consistent with other Eastern Asian countries until 2002 where it passed the average East Asian countries HDI. Although China's HDI recently surpassed other Eastern Asian countries, it still lags significantly behind the trends of European and OECD countries. Chinese growth rate of HDI, however, seems to be greater than most other countries examined. Understanding trends in HDI over the last several decades is important because this paper is investigating the impact of human development factors on FDI into China. Overall, China is middle of the road in terms of human development measured by the HDI when compared to other countries around the world. Among richer European and OECD countries, however, China is still lagging behind, although it is growing at a faster rate than most other countries.

Figure 4: China's Human Development Index



Source: Indicator Table 2 - HDR 2007/2008

In addition to the Human Development Index, the trends in the variables used in this paper are examined in the charts below. Figure 5 is a graph of China's literacy rate since 1977. The data shows that the literacy rate (a proxy for education) has increased from 70 percent of the population being literate in the 1970's, to over 90 percent literacy rate in the late 1990's and 2000's. This indicates that the population, in general, is becoming more educated. Figure 6 shows the life expectancy at birth of Chinese citizens. Life expectancy was as low as 65 years in 1977. The graph shows that life expectancy has increased over the last several decades, and has reached 72 years old, slightly below the United States average, as of 2007. Finally, figure 7 shows the infant mortality rate in China since 1977. In 1977, as many as 45 infants per 1,000 live births were dying. As of 2007, that number was as low as 21 infant deaths per 1,000 live births. This significant decrease in the infant mortality rate indicates China's medical advancements and improvements in child care. Understanding the trends in these three variables is important to appreciate the results of this study. Since the late 1970's China has made significant advancements that have increased their life expectancy, increased education in the country, and decreased the infant mortality rate. These are factors that investors interested in starting a business in China may look at before doing so. These investors will see noteworthy

advancement in Chinese human development factors over the last several decades. However, have these improvements in Chinese standards of living, as well as increases in economic growth and domestic investment lead to more FDI into the country? Whether these three factor influence the level of FDI into China is the fundamental question this paper seeks to answer, therefore, it is crucial to understand the trends in these variables over the time being studied.

Figure 5: Literacy rate, adult total (% of people ages 15 and above)

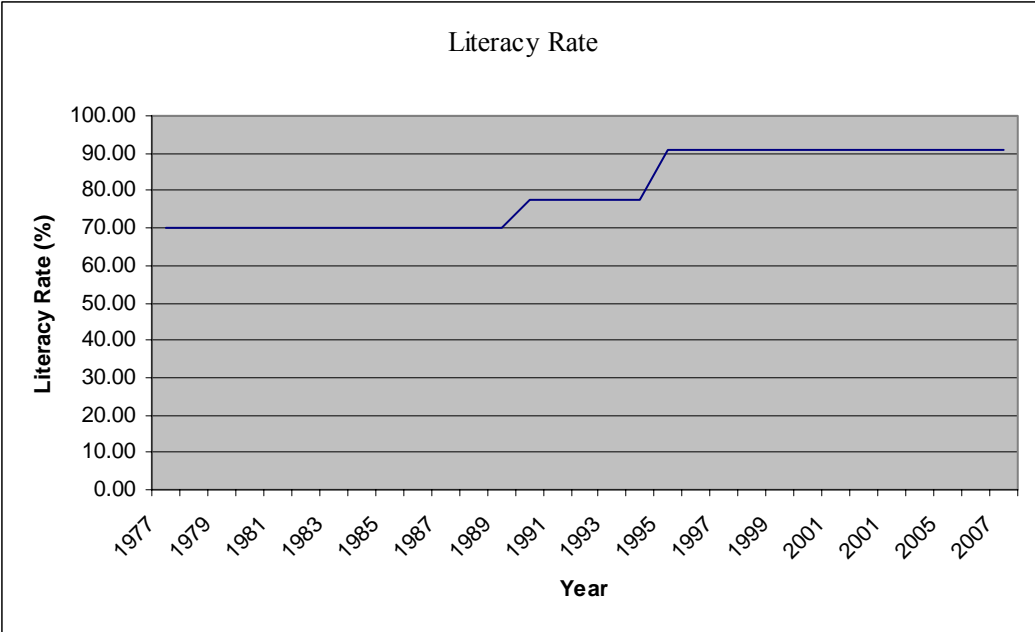


Figure 6: Life expectancy at birth, total (years)

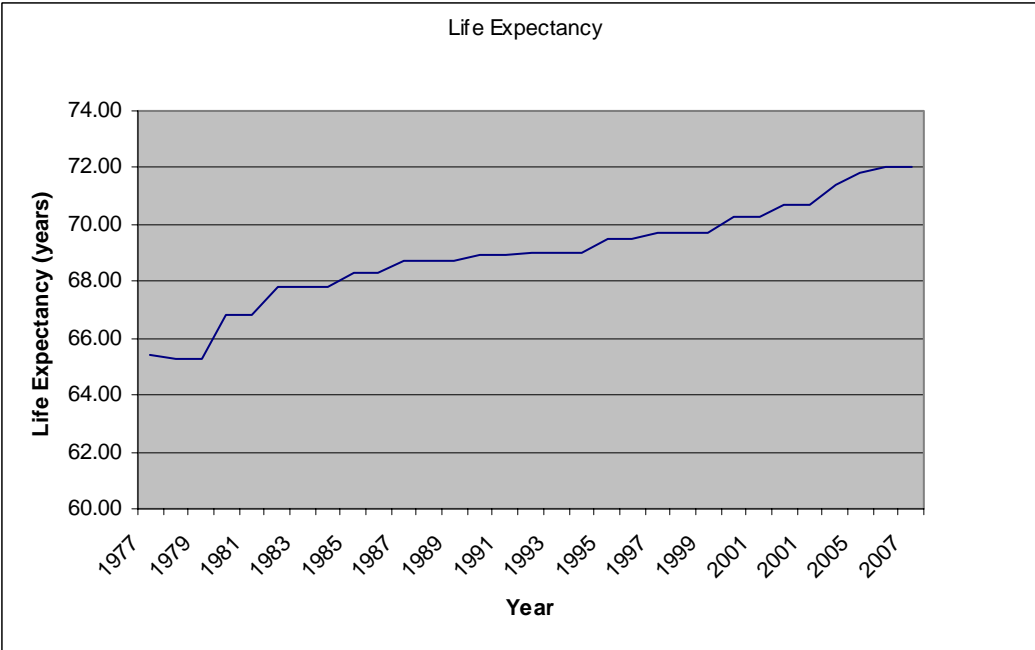
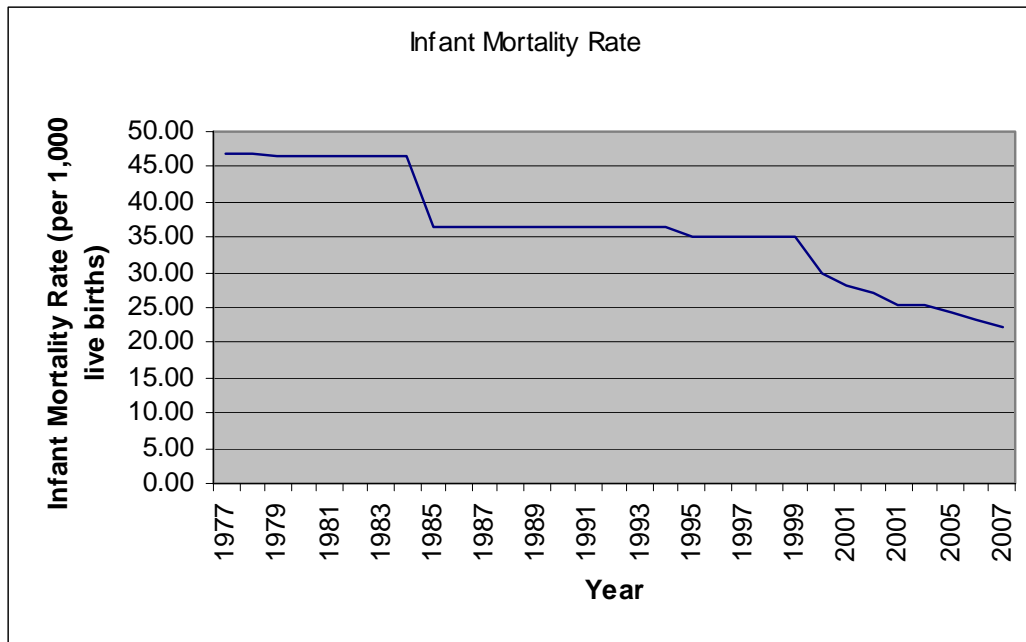


Figure 7: Mortality rate, infant (per 1,000 live births)



Source: Authors compilation using World Development Indicators data

3.0 LITERATURE REVIEW

There has been much research done with the goal of examining the effects foreign direct investment has on a host country. This paper, however, seeks to explain the factors that contribute to foreign direct investment initially. That is, what are the main factors that cause international businesses to invest in a foreign country? Research in this area is limited, which is why this paper seeks to expand on current text. There are, however, several key papers that make significant contributions to the research topic discussed in this paper.

First, Fedderke and Romm (2006) have conducted similar research to what is examined in this study, except they observed South Africa as opposed to China. They used data from 1956-2003, and find that, “Reducing political risk, ensuring property rights, most importantly bolstering growth in the market size, as well as wage moderation, lowering corporate tax rates, and ensuring full integration of the South African economy into the world economy all follow as policy prescriptions from our empirical findings.” They find that growths in market size as well as integration into the world economy are both important factors for determining levels of FDI

into South Africa. Since they are examining South Africa, their determinants vary slightly from this study. China is clearly a globalized nation, therefore, this factor may be less important in China, yet may be crucially important when establishing determinants of FDI in South Africa. Shah'abadie and Mahmudie (2006), find that domestic investment and economic growth, as well as human capital, are key factors in determining FDI. They state that, "The results of the studies approved that FDI depends on...domestic investment...economic growth...and human capital," and these factors "...have a direct and positive impact on FDI in Iran." Their study focuses on Iran, using data from 1959-2003.

Uppenberg and Riess (2004), present a dilemma regarding FDI and domestic economic growth, which they refer to as the growth-FDI nexus. They state that "...while a strong positive correlation between inward FDI and economic growth exists...it is not clear whether the causality runs from FDI to growth or vice versa...and growth-enhancing policies in general are more promising than specific support for FDI." They are able to conclude that economic growth in general is a more important determinant of FDI than specific policy strategies attempting to boost FDI. While their study examines Europe, their findings regarding the growth-FDI nexus are vital. Uppenberg and Riess are able to confirm empirically that domestic economic growth is a key variable in determining factors influencing FDI inflows into a country.

Herrmann and Gast (2008), find a complementary relationship between investment and trade. However, since they use relatively recent data, and also observe OECD countries, it is difficult to make the parallel between their findings and the finding of this paper. However, their contribution is important because the research in this paper did not include trade factors, which Herrmann and Gast have shown are important factors for FDI inflows, at least for OECD countries from 1991-2001. Rodriguez and Pallas (2008), find that human capital plays an important role in determining FDI. They examine Spain, using data from 1993-2002, and are able to conclude that "...the evolution of human capital...play[s] a very important role in attracting flows of FDI." Rodriguez and Pallas's contribution is important because they confirm that human capital factors play an important role in attracting FDI in Spain.

Hong (2008) finds interesting and perhaps contradictory results regarding FDI determinants in China. Hong uses an 11-year panel dataset on FDI and urban characteristics across Chinese cities in his paper, and he finds that "Cheap labor plays an increasingly important

role [in attracting FDI], but labor quality...lose[s] [its] significance.” In other words, cheap labor is more important than quality of labor. This is interesting because the findings in this paper, discussed later, are contradictory to Hong’s conclusions that quality of labor is not as important as the price of labor.

Ang (2008) finds that real GDP is found to have a significant positive impact on FDI inflows, and there is evidence that growth rate of GDP exerts a small positive impact on inward FDI. Ang’s findings are significant because this paper uses GDP per capita growth as a variable for determining if domestic economic growth has an effect on FDI inflows into China. Although Ang is using data from 1960-2005, and also examining Malaysia, his findings that real GDP has a greater effect on FDI inflows than the growth rate of GDP does, are noteworthy. Perhaps the results of the research in this paper could be strengthened if real GDP was used as opposed to the growth rate of GDP. Although, since Ang is studying Malaysia, it is possible GDP growth is in fact a better choice of variable. Either way, Ang’s findings and variable choice is worth mentioning. In addition, he offers several policy implications regarding FDI inflows, which are discussed in section 6.0.

Additional research on this topic done by Naude and Krugell (2007) suggests that geography does not play a significant role in determining levels of FDI. In their paper, they find that geography does not seem to have a direct influence on FDI flows to Africa. Since a variable for geography was not included in this paper, it is important to justify this by pointing to other papers that have concluded geography as not a significant determinant of FDI inflows. Overall, recent research in the area of investigating determinants of FDI inflows matches the method and findings of this paper closely. With a concrete understanding of past literature on the topic, the conclusions and contributions of this paper will become more evident.

4.0 DATA AND EMPIRICAL METHODOLOGY

4.1 Definition of Variables

This paper uses annual data from 1977 to 2007 provided by world development indicators online. Each variable consists of thirty-one observations. Summary statistics are

provided in table 1. For variable description and data source, refer to appendix A, and for expected signs refer to appendix B. The model for this paper is based on a simplified version used by Fedderke and Romm, with the omission and addition of variables thought to be specific to China, namely human development variables, where research is limited.

Table 1: Summary Statistics

Variable	Observations	Mean	Standard Deviation	Minimum	Maximum
FDI	31	2.23	1.92	0.10	6.20
GDP	31	8.58	2.79	2.30	13.70
LE	31	68.96	1.81	65.30	72.00
MR	31	36.07	7.78	22.12	47.00
LR	31	80.02	9.78	70.00	90.90
DCP	31	112.42	145.95	51.00	888.00
DCB	31	101.97	71.90	38.00	452.00

$$FDI = \beta_0 + \beta_1GDP + \beta_2LE + \beta_3MR + \beta_4LR + \beta_5DCP + \beta_6DCB + E$$

Where:

FDI = Foreign direct investment, net inflows (% of GDP)

GDP = GDP per capita growth (annual %)

LE = Life expectancy at birth, total (years)

MR = Mortality rate, infant (per 1,000 live births)

LR = Literacy rate, adult total (% of people ages 15 and above)

DCP = Domestic credit to private sector (% of GDP)

DCB = Domestic credit provided by banking sector (% of GDP)

Foreign direct investment, this papers dependent variable, is measured in terms of net inflows, as a percent of gross domestic product. Foreign direct investment is the net inflows of investment to acquire a lasting management interest in an enterprise operating in an economy

other than that of the investor. It is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital as shown in the balance of payments. The FDI figures used in this study are net inflows in the reporting economy, divided by GDP.

This study incorporates six independent variables, GDP per capita, life expectancy at birth, infant mortality rate, literacy rate, domestic credit provided by banking sector, and domestic credit to the private sector. GDP per capita growth is measured as an annual percentage, and is based on constant local currency. GDP per capita is gross domestic product divided by midyear population. GDP at purchaser's prices is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources.

Life expectancy at birth is defined as the number of years a newborn infant would live if prevailing patterns of mortality at the time of its birth were to stay the same throughout its life. The infant mortality rate is defined as the number of infants dying before reaching one year of age, per 1,000 live births in a given year. The literacy rate is defined as the percentage of people ages 15 and above who can, with understanding, read and write a short, simple statement on their everyday life. Domestic credit provided by banking sector is measured as a percentage of GDP and is defined as all credit to various sectors on a gross basis, with the exception of credit to the central government, which is net. The banking sector includes monetary authorities and deposit money banks, as well as other banking institutions where data are available (including institutions that do not accept transferable deposits but do incur such liabilities as time and savings deposits). Examples of other banking institutions are savings and mortgage loan institutions and building and loan associations. The final independent variable, domestic credit to the private sector, is also measured as a percentage of GDP, and is defined as financial resources provided to the private sector through loans, purchases of nonequity securities, and trade credits and other accounts receivable, that establish a claim for repayment.²

² Variable definitions according to World Development Indicators Online

5.0 EMPIRICAL RESULTS

The empirical results of this study offer interesting insights into the effects domestic investment, economic growth and human development variables have on Chinese FDI. Table 2 contains the regression results for FDI. Of the six independent variables, four were found to be statistically significant. Domestic credit to the private sector was found to be significant at the 1% level. Domestic credit provided by banking sector was found to be significant at the 5% level. Both GDP per capita growth and the literacy rate were found to be significant at the 10% level. Additionally, life expectancy at birth and the infant mortality rate were found to not be statistically significant.

Table 2: Regressions Results for Variables Impacting Foreign Direct Investment in China

Variable	Coefficient	T Score
Constant	-44.3481 (27.766)	-1.5972
GDP	0.1358* (0.0778)	1.7462
LE	0.4144 (0.3915)	1.0586
MR	0.1141 (0.0923)	1.2370
LR	0.0951* (0.0470)	2.0264
DCP	0.1919*** (0.0642)	2.9910
DCB	-0.1249** (0.0496)	2.5165
R Square	0.7348	
F Statistic	11.0821	

Note: ***, **, and * denotes significance at the 1%, 5%, and 10% respectively. Standard errors in parenthesis.

The first independent variable, GDP per capita growth, was found to have a positive coefficient that is significant at the 10 percent level. GDP was expected to have a positive coefficient before the regression was run. A positive coefficient was projected because the better the Chinese economy is doing, the higher its growth rate of GDP will be. Consequently, higher GDP growth indicates a strong economy, where foreign investors would like to invest. Therefore, increases in FDI should be observed with increases in GDP growth in China. The regression proved the expected sign correct, and a positive sign for GDP indicates FDI into China in fact depends on GDP per capita growth in the country. However, at a 10 percent level of significance, this variable was not as strongly linked to FDI as some of the other variables in the regression. Previous literature, such as that done by Fedderke and Romm (2006) show similar results to those found in this study. Fedderke and Romm conclude that growth in market size is a key determinant of levels of FDI in a country. This is consistent with the findings of this paper, which concludes economic growth (and consequently increase in market sizes) is a significant determinant of levels of FDI inflows into China.

Ang (2008) finds that there is a difference between real GDP and the growth rate of GDP per capita, when investigating levels of FDI inflow. This is significant because this paper uses GDP per capita growth as a variable for determining if domestic economic growth has an effect on FDI inflows into China. Although Ang is using data from 1960-2005, and also examining Malaysia, his findings that real GDP has a greater effect on FDI inflows than the growth rate of GDP does, are noteworthy. Perhaps the results of the research in this paper could be strengthened if real GDP was used as opposed to the growth rate of GDP. Although, since Ang is studying Malaysia, it is possible GDP growth is in fact a better choice of variable. Either way, Ang's findings and variable choice is worth mentioning.

The results of the next three independent variables, life expectancy at birth, infant mortality rate, and literacy rate, can be examined closely. These variables were added to contribute to current literature regarding determinants of FDI into China. These three variables offer insight into the effects human development variables have on the amount of FDI inflows into China. First, life expectancy was found to have a positive sign, as predicted before the regression was run. However, this variable was not statistically significant. Similarly, the infant

mortality rate, whose expected sign was negative, was also found not to be statistically significant. Lastly, the literacy rate was found to be significant at the 10 percent level.

Of the three human development variables examined in this paper, only one, the literacy rate, was found to be statistically significant. Both life expectancy and the infant mortality rate were not found to be significant. This outcome suggests that businessmen interested in investing in China are not concerned with life expectancy or the infant mortality rate in China. Because these variables were added to the model to expand on current literature, this paper will offer possible explanations as to why these two variables were not significant, as well as why the literacy rate was found to be significant.

Shah'abadie and Mahmudie (2006) offer a possible explanation to the outcome of this paper's regression. In their paper, Shah'abadie and Mahmudie state that human capital has a direct and positive impact on the amount of FDI into Iran. Although their study focuses on Iran, the regression results of this paper suggest that the same fact regarding human capital is true in China. That is, human capital has a direct and positive impact on FDI inflows into China. Human capital is defined as the stock of skills and knowledge embodied in the ability to perform labor. According to this definition, literacy would be considered a human capital variable, while life expectancy and the infant mortality rate would not. This is a possible explanation as to why these two variables, life expectancy and the infant mortality rate, were found not to be significant, and the literacy rate was found to be significant. Because literacy is an aspect of human capital, as Shah'abadie and Mahmudie have concluded for the case of Iran, it will have a positive and significant effect on levels of FDI into China. Because literacy rate is a proxy for education, the higher the literacy rate is, the more educated the population is. Consequently, the more educated the population, specifically the workforce, the more productive the workers will be. Having educated and more productive workers is obviously something investors interested in starting a business in China will look at. Therefore, this explains why out of the three human development variables included in the model, only the literacy rate was found to be significant. In addition, Rodriguez and Pallas (2008) find that human capital factors play an important role in attracting FDI in Spain. Therefore, this paper concludes that human capital, specifically literacy, is a key factor in attracting FDI into China. This innovation matches the findings of previous studies examining other countries.

It is also worth noting that the conclusions of Hong (2008) are that cheap labor is more important than quality of labor. As opposed to Hong's findings, this paper concludes that literacy rate (a proxy for education) is in fact a significant determinant of FDI inflows into China. Hong finds that labor quality is not as important as cheap labor. Therefore, an educated workforce is not as important to investors as a cheap workforce. Perhaps Hong's findings regarding the importance of a literate and therefore educated workforce explain why the literacy rate variable was found to be significant only at the 10 percent level, and not at 5 or 1 percent. The incongruity between Hong's study of China and this study can perhaps be explained by the time periods being examined. Possibly, labor quality plays a more significant role today than it did in previous years, which is why it was found to be significant in this paper's regression results, and not Hong's. In either case, it is important to consider Hong's findings when interpreting the findings of this paper.

The last two independent variables, domestic credit to the private sector and domestic credit provided by the banking sector, which both measure levels of domestic investment, were found to have the greatest level of significance. Domestic credit to the private sector was found to have a positive coefficient, as expected, and was significant at the 1 percent level. Domestic credit provided by the banking sector also had a positive coefficient, and was significant at the 5 percent level. Domestic investment can be seen as a key determinant of the amount of FDI into China because if domestic investments are being made, this suggests the economy is strong and there are many business opportunities open. Shah'abadie and Mahmudie (2006) find that domestic investment is a key factor in determining FDI. They conclude domestic investment has a direct and positive impact on FDI. Although their study focuses on Iran, using data from 1959-2003, their conclusions are similar to this study's findings concerning China. Therefore, this study concludes that similar to Shah'abadie and Mahmudie's findings regarding Iran, domestic investment in China also has a direct and positive impact on FDI.

As mentioned earlier, domestic credit to the private sector and domestic credit provided by the banking sector, which both measure domestic investment, were the most significant variables in this paper's regression. More specifically, credit to the private sector was found to be significant at the 1 percent level. This high level of significance can be explained by the fact that credit to the private sector directly indicates how well businesses are doing, and if they are

expanding. Credit provided by the banking sector also indicates how domestic Chinese businesses are doing. If Chinese businesses are taking out loans on credit to expand, this indicates that there are in fact new business opportunities in the market. Foreign investors may see this, and realizing the market is strong, want to invest in China to fulfill market demand.

The overall fit of the regression, or how well future outcomes are likely to be predicted by the model, is measured by the R square number. The R square of this paper's regression was 0.7348, suggesting that the variables in the model explain about 73 percent of the factors influencing levels of FDI into China. The T statistic is the estimated coefficient divided by its own standard error and it measures how many standard deviations from zero the estimated coefficient is. It is used to test the hypothesis that the true value of the coefficient is non-zero, in order to confirm that the independent variable really belongs in the model. All the statistically significant variables in the regression had a T statistic of greater than 1.7. The literacy rate, along with domestic credit to the private sector and domestic credit provided by the banking sector all had T statistics of greater than two.

6.0 CONCLUSION AND POLICY IMPLICATION

The goal of this paper was to answer three fundamental questions: whether economic growth in China has an impact on FDI into the country, what effect high levels of domestic investment have on the amount of FDI into the country, and whether human development factors affect the amount of FDI that flows into China. The results of this paper verify that the economic performance of China's economy does in fact impact how much FDI flows into the country. Additionally, it has been demonstrated empirically that domestic investment in China has a considerable direct and positive impact on FDI.

Finally, human development factors were examined to differentiate this study from others. The findings here were interesting. Human development factors are not as important as human capita. In other words, variables such as life expectancy or infant mortality were found not to be significant determinants of levels of FDI into China. However, the literacy rate, which measures the education level of the population and workforce, was found to be significant. Therefore, human development factors in general do not explain levels of FDI into China, but

human capital factors, such as the literacy rate, do. In summary, the literacy rate, and other human capital factors are variables that help explain levels of FDI into China.

From a policy point of view, as suggested by Ang (2008), increases in the level of financial development, infrastructure development, and trade openness promote FDI. Alternatively, higher corporate tax rate and appreciation of the real exchange rate appear to discourage FDI inflows. In addition, higher macroeconomic uncertainty induces more FDI inflows. Therefore, if the goal is to increase FDI inflows into China, the country should promote financial development and develop its infrastructure. The results of this paper also conclude that the country should promote human development. Increased education will lead to increases in FDI inflows into the country. If China is looking to decrease levels of FDI, it should increase the corporate tax rate.

Appendix A: Variable Description and Data Source

Acronym	Description	Data Source
FDI	Foreign direct investment, net inflows (% of GDP)	WDI
GDP	GDP per capita growth (annual %)	WDI
LE	Life expectancy at birth, total (years)	WDI
MR	Mortality rate, infant (per 1,000 live births)	WDI
LR	Literacy rate, adult total (% of people ages 15 and above)	WDI
DCP	Domestic credit to private sector (% of GDP)	WDI
DCB	Domestic credit provided by banking sector (% of GDP)	WDI

Appendix B: Variables and Expected Signs

Acronym	Variable Description	Expected Sign
FDI	Foreign Direct Investment	
GDP	Gross Domestic Product	+
LE	Life Expectancy	+
MR	Infant Mortality Rate	-
LR	Literacy Rate	+
DCP	Domestic Credit to Private Sector	+
DCB	Domestic Credit Provided by Banking Sector	+

BIBLIOGRAPHY

Ang, James B. "Determinants of Foreign Direct Investment in Malaysia." *Journal of Policy Modeling* 30, no. 1 (January 2008): 185-189. *EconLit*, EBSCOhost (accessed April 13, 2009).

Fedderke, J. W., and A. T. Romm. "Growth Impact and Determinants of Foreign Direct Investment into South Africa, 1956-2003." *Economic Modelling* 23, no. 5 (September 2006): 738-760. *EconLit*, EBSCOhost (accessed April 13, 2009).

Gast, Michael, and Roland Herrmann. "Determinants of Foreign Direct Investment of OECD Countries 1991-2001." *International Economic Journal* 22, no. 4 (December 2008): 509-524. *EconLit*, EBSCOhost (accessed April 13, 2009).

Hong, Junjie. "WTO Accession and Foreign Direct Investment in China." *Journal of Chinese Economic and Foreign Trade Studies* 1, no. 2 (2008): 136-147. *EconLit*, EBSCOhost (accessed April 13, 2009).

Human Development Report, 2007/2008

Naude, W. A., and W. F. Krugell. "Investigating Geography and Institutions as Determinants of Foreign Direct Investment in Africa Using Panel Data." *Applied Economics* 39, no. 10-12 (June 2007): 1223-1233. *EconLit*, EBSCOhost (accessed April 13, 2009).

Rodriguez, Xose A., and Julio Pallas. "Determinants of Foreign Direct Investment in Spain." *Applied Economics* 40, no. 19-21 (October 2008): 2443-2450. *EconLit*, EBSCOhost (accessed April 13, 2009).

Shah'abadie, A., and A. Mahmudie. "Determinants of Foreign Direct Investment (A Case Study for Iran). (In Farsi. With English summary)." *Biquarterly Journal of Economic Essays* 3, no. 5 (2006): 89-125. *EconLit*, EBSCOhost (accessed April 13, 2009).

Tang, Sumei, Selvanathan, E. A. and Selvanathan, S., "Foreign Direct Investment, Domestic Investment and Economic Growth in China: A Time Series Analysis". *World Economy*, Vol. 31, Issue 10, pp. 1292-1309, October 2008. Available at SSRN: <http://ssrn.com/abstract=1276772> or DOI: 10.1111/j.1467-9701.2008.01129.x

Uppenberg, Kristian, and Armin Riess. "Determinants and Growth Effects of Foreign Direct Investment." *EIB Papers* 9, no. 1 (2004): 52-84. *EconLit*, EBSCOhost (accessed April 13, 2009).

World Development Indicators Online