

Study of Trends in FDI and FII in Thailand Pre and Post Asian Currency Crisis

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Abstract:

The Asian currency crisis of 1997 had a contagious effect on several Asian economies. The economies badly hit by the crisis were Thailand, Malaysia, Philippines, South Korea and Indonesia. The studies conducted so far on this topic have found weak fundamentals, speculation, spillover effect, etc as the main causes of the crisis. The crisis started with the devaluation of Baht (currency of Thailand) on 2nd July 1997. This paper seeks to study the trends in FDI and FII in Thailand before the crisis and after the crisis. The effort is to analyze the trends pre and post crisis because the crisis were caused mainly due to investor panic and the inflow of FII was more than FDI in the crisis affected economies. Statistical tools like correlation and regression are used for the time series data. Outcomes of the investigation are presented in the paper.

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Introduction :

Foreign capital has a significant role for every national economy, regardless of its level of development. Foreign capital is useful to developed countries to support sustainable development, for developing countries, to increase accumulation and rate of investments to create conditions for more intensive economic growth and for the countries which are in the mode of transition, it is useful to carry out the necessary reforms to emerge as an open economy and create conditions for stable and continuous growth and initiate the process of integration with the world economy. Foreign capital adds to the flow of resources which can help in accelerated broadening, widening and deepening the industrial structure of any economy.

The history of economic development of the developed countries like the US and UK bare eloquent testimony to the fact that even in the eighteenth and nineteenth centuries foreign capital has had a significant contribution to make in the development process of the countries receiving foreign capital. Thus capital from Europe and even Russia poured into the US to sustain and support the economic development of the US. The evolution of USA as a bastion of private capitalism and super economic power is definitely obliged to foreign capital pro tanto. Similarly, the UK owes its development to the capital which came into Great Britain from its colonies in rather large amounts. The South Asian economies are no exception to this historic fact.

International Equity Flows :

International equity flows are the main feature of the recent globalization of capital markets both in developing and developed economies. These flows take two major forms : Foreign Direct Investments (FDI) and Foreign Institutional Investments (FII). An empirical regularity is that the share of FDI in total foreign equity flows is larger for developing than for developed countries.¹ It is known that the volatility of FDI net inflows is, in general, much smaller than that of FII net inflows.² Moreover, empirical analysis has established that the differences in volatility between FII and FDI flows are much smaller for developed than for developing economies.³ Despite the empirical interest in foreign equity flows, very little work has been done on jointly explaining FDI and FII in a rigorous theoretical framework.

What is FDI?

The IMF definition of FDI includes as many as twelve different elements - equity capital, reinvested earnings of foreign companies, inter-company debt transactions, short-term and long-term loans, financial leasing, trade credits, grants, bonds, non-cash acquisition of equity, investment made

by foreign venture capital investors, earnings data of indirectly-held FDI enterprises, control premium and non-competition fee.

Foreign direct investment (FDI) is defined as investment that is made to acquire a lasting management interest (usually 10 percent of voting stock) in an enterprise operating in a country other than that of the investor (defined according to residency), the investor's purpose being an effective voice in the management of the enterprise. 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. (Source - The World Bank Group, Global Development Finance, 1998 retrieved from <http://www.rrojasdatabank.org/v1sourc2.htm> on 27th June 2008)

Foreign direct investment (FDI) in its classic definition, is defined as a company from one country making a physical investment into building a factory in another country. Its definition can be extended to include investments made to acquire lasting interest in enterprises operating outside of the economy of the investor. (**Source** - *Foreign Direct Investment*, United Nations Conference on Trade and Development, www.unctad.org)

FDI emerged as one of the most important aspects of cross-border economic activity over the 1990s. Governments of developed and developing countries alike competed among themselves to attract more FDI inflows through policy liberalizations and incentives. Foreign Direct Investment (FDI) plays an important role in the long-term economic development of a country not only as a source of capital but also for enhancing competitiveness of the domestic economy through transfer of technology, strengthening infrastructure, raising productivity, generating new employment opportunities and last but not the least, the sharpening and honing the managerial skills and organizational ability. FDI also has an important role in enhancing exports.

FDI inflows are expected to be less volatile and non-debt creating. They are also expected to be accompanied by a number of other assets that are invaluable for development, such as technology, market access, and as mentioned above, organization.

FDI improves the image of the country in which money is invested. eg. Destination Southeast Asian Economies in 1990s, ala 'Asian Tigers' and Destination China and India today – 'Chindia' combination of awakening dragon and the dancing elephant.

Since FDIs invariably get attracted to new destinations because of the interest rate differentials between the foreign investors' home countries, and the countries in which investments are made, the expectation of the foreign investor is adequately met. The returns on investments tend to be above the minimum expectations. The profit motivation of the foreign investor is hopefully, duly met. In the same vein, if the profit motivation of the investor is not adequately sustainable on a medium and long

term basis, (or even on a short term basis) exodus of capital- flight and/or fright of capital could be the order of that situation. Hence the use of foreign capital for economic development, has to be viewed with caution if not abundant caution.

In time to come, there will be a greater inflow of foreign capital from developed countries, particularly the US and Europe. Interest rate differential is of course, to reiterate, one factor. The US has kept interest rates at just 1% for years, after the 2001 recession. With a 1% interest rate no investor will be motivated to direct funds or invest funds in such an economy. FDI and FII are ultimately directed by Return on Investment. Capital will continue to be attracted to such destinations where gap between Marginal efficiency of capital and marginal cost of capital is attractive to sustain the profit motivation of the enterprise and motivating enough. Marginal efficiency of capital is relatively higher in economies which are not fully developed. Hence there is a periodic flight of foreign capital from developed countries, which invariably experience and explore a cheap money policy, to countries which are not fully developed, where once again, invariably, a dear money policy is in place. There are other factors too. The benefits of diversifying is a great attraction to the investors in the US. To quote Houston and Brighan, “The size of the global stock market has grown steadily over the last several decades and as early as mid-1990s it passed the 15 billion dollar mark. It may be noted that US stocks account for approximately 41% of this total while Japanese and Europe an markets constitute roughly 25% and 26% respectively. The rest of the world makes up the remaining 8%.” the purpose of overseas investment is to seek diversification, primarily to reduce the risk associated with putting all the eggs in one basket. The graph below bares testimony to the portfolio risk associated with putting all the eggs in one basket as against an internationally diversified portfolio. The graph speaks for itself. Yet, a caveat is in order foreign investors fight shy of global stocks because of want of adequate information, risks associated with exchange rate variation and increased transaction cost with electronic media playing its role and the world being viewed as a global electronic village imperfections of the market place are getting rectified. (See – Kenneth Kasa, 'Measuring the Gains from International Portfolio Diversification' Federal Reserve Bank of San Francisco Reserve Bank of San Francisco Weekly Letter, Number 94-14, April 8, 1994) Nevertheless, no investor will risk the principal for the interest. Hence FDIs and FIIs will make an assessment of various kinds of risks associated with any investment. Any doubts about the security of the principal during the tenure of the foreign investment, results in exodus of capital-fright of capital. This also has its own political ramifications. If the causes for the exodus are driven by political situations, in destinations where foreign capital is invested.

Further, overseas investors would make a through scrutiny of the various risks associated with investment in foreign countries such as currency risk, country risk, transaction risk, sovereign risk, inflation, and any other input which is likely to lower the ROI or extend the gestation period of invest-

ment or increase the payback period. In addition to such an assessment investors do have access to a quantified version of country risk as shown below.

Table 1

Top Five Countries (Least Amount of Country Risk)

Rank	Country	Total Score (Maximum Possible 100)
1	Switzerland	95.6
2	Luxembourg	94.2
3	Germany	94.1
4	Netherlands	93.8
5	United Kingdom	93.7

Table 2

Bottom Five Countries (Greatest Amount of Country Risk)

Rank	Country	Total Score (M i n imum Possible 0)
1	North Korea	8.8
2	Democratic Republic of Congo	8.4
3	Sierra Leone	8.0
4	Liberia	8.0
5	Afghanistan	4.5

Source : Adapted from Harvey D. Shapiro, "Looking Up", Institutional Investor, March 2002, 165-167

To help the investors local and foreign, today, we have, right or wrong the CAAPM model in operation. With the help of the said model, analysis generate statistics relating to Beta coefficients for individual corporations. Beta is defined as a measure of a stock's volatility relative to an average stock which by definition has beta=unity. Stocks which have Beta>Unity, are riskier than stocks which have a beta less than or equal to one. An illustrative list of beta coefficients for US companies is presented below.

Table 3

Stock	Beta
Merrill Lynch	1.85
AOL Time Warner	1.65
General Electric	1.30
Microsoft Corporation	1.20
IBM	1.05
Coca-Cola	0.85
Energen Coraporation	0.75
Procter and Gamble	0.65
Heinz	0.55
FPL Group	0.45

Table 4

*Beta, R², Volatility and Returns of SENSEX scrips for one year period
(February 2007 - January 2008)*

Name	Beta Values
A.C.C.	0.97
BAJAJ AUTO	0.67
BHARTI TELEVENTURES	0.92
BHEL	1.15
CIPLA LTD.	0.62
DLF Ltd.	1.59
GRASIM IND.	0.84
GUJARAT AMBUJA CEMENT	0.52
HDFC	0.90
HDFC BANK	1.06
HINDALCO	1.12
HINDUSTAN LEVER	0.62
ICICI BANK	1.19
INFOSYS TECHNOLOGIES	0.69
ITC LTD.	0.64
LARSEN & TOUBRO	1.14
MAHINDRA & MAHINDRA	0.93
MARUTI UDYOG	0.87
NATIONAL THERMAL POWER	1.07
ONGC	1.10
RANBAXY LAB.	0.67
RELIANCE	1.14
RELIANCE COMMUNICATIONS	1.25
RELIANCE ENERGY	1.49
SATYAM COMPUTER	0.73
STATE BANK OF INDIA	1.10
TATA CONSULTANCY	0.75
TATA MOTORS	0.90
TATA STEEL	1.13
WIPRO LTD.	0.78

What is FII/portfolio investments?

Portfolio equity flows are the sum of country funds, depository receipts (American or global), and direct purchases of shares by foreign investors. (Source - The World Bank Group, Global Development Finance, 1998 retrieved from <http://www.rrojasdatabank.org/v1sourc2.htm> on 27th June 2008)

In economics, portfolio investment refers to the passive holdings of securities such as foreign stocks, bonds or other financial assets, however they do not entail active management or control of the securities' issuer by the investor. (Source : Wikipedia) The risk associated with FIIs on account of the exodus of capital mentioned above is applicable here with greater force a fortiori.

Some examples of portfolio investment are:

- purchase of shares in a foreign company.
- purchase of bonds issued by a foreign government.
- acquisition of assets in a foreign country.

Factors affecting international portfolio investment:

- tax rates on interest/ dividends/capital gains. In fact investors will normally prefer countries where the tax rates are relatively low. Ideally investors would prefer tax havens like the UAE and few other tax free zones across the global network.
- interest rates (money tends to flow to countries with high interest rates)
- exchange rates (foreign investors may be attracted if the local currency is expected to strengthen)

Portfolio investment is part of the capital account on the balance of payments statistics.

What is the difference between FDI and FII?

Sr. No.	FDI	FII
1.	FDI is expected to remain in the economy for a long term.	Portfolio investors are seen as good weather friends who would exit the country at the first sign of trouble. Also popularly known as ' <i>Hot Money</i> '
2.	FDI typically brings along with the financial investment, access to modern technologies and export markets.	FII increases the liquidity of domestic capital markets. Foreign capital by way of FII allows entrepreneurs get access to large chunks of capital but in turn requires them to improve disclosure and governance standards.
3.	The visible impact of FDI in the recipient country is far more than that of FII largely because the former would generally involve setting up a production base - factories, power plants, telecom networks, etc., that generates direct employment.	The indirect benefits to the market would include alignment of local practices to international standards in trading, risk management, new instruments and equity research, thus facilitating the markets to become more deep, liquid and efficient in feeding new information into prices resulting in a better allocation of capital to globally competitive sectors of the economy.
4.	Foreign Direct Investors are involved in the running of a company,	The aim of Foreign Institutional Investors is solely to maximize returns.
5.	FDI takes place in the primary market. The funds go into the company's coffers.	Portfolio investment happens in the secondary market that is stock exchanges. The funds obviously do not pour into a company's coffers. It is for this reason that many economists are inclined to favour FDI rather than FII.

Thai Economy:

The South-east Asian economies were known to be the most successful emerging markets due to their rapid economic growth. The regional economies of Thailand, Malaysia, Indonesia, Philippines, Singapore, and South Korea experienced GDP growth rates i.e. 8-12% in the late 1980s and early 1990s. This is popularly known as the Asian economic miracle and these economies came to be known as 'Asian Tigers'. The Thai economy was one of the most robust in Asia. In the 1960s it was a predominantly agricultural economy. The strategic location and bountiful natural resources has enabled the country to maximize trade opportunities. Thailand emerged as a diverse, modern and industrialized economy in 1980s and mid-1990s, which marked its boom years.

The economy's growth can be attributed to several factors. First, Thailand has pursued a rational approach to industrialization. Prior to its attempt at industrialization, Thailand already had a stable agricultural sector which became the springboard for industrialization. Its first attempt at industrialization in the 1960s, was characterized by the strategy of import substitution. The availability of local laborers, combined with abundant natural produce, enabled the country to increase production and shift to manufacturing or processing products for export purposes. This led to the rapid expansion of the manufacturing sector and a marked increase in exports. This approach enabled Thailand to avoid the usual path taken by newly industrialized economies (NIEs) of pursuing industrialization at the expense of the agricultural sector. The strategy was to gradually build upon existing resources in order to facilitate the development of the economy.

A second important factor was Thailand's diversification of its economy. This is a pervasive trend in the development of the economy, which is rooted in the innate flexibility of the Thai people. This is exemplified by the stages of growth of the industrial sector which began with simple agri-based manufacturing, and steadily progressed to more sophisticated industries through the use of available resources such as rich natural resources and cheap labor. Diversification was also aided by huge inflows of foreign direct investment geared towards a wide range of products, namely electronics, chemicals, property, and processed food. In the 1980s, foreign direct investment totaled US\$8 billion, with US\$2.5 billion coming from Japan and the rest from Chinese, Korean, and American investors. In fact, 50 percent of the country's industrial output and 20 percent of its industrial workforce are attributable to foreign investors who are attracted by lower manufacturing costs.

A third factor in Thailand's growth is government stability. The administration of Prime Minister Prem Tinsulanonda, which lasted from 1980 to 1988, developed a continuity in policies and programs that inspired the confidence of the private sector in both the government and the economy. This translated to a greater willingness to invest in the growing manufacturing industry and support

further expansion of export activities.

Fourth, the dynamism of the private sector propelled export production. In 1981, a landmark policy was implemented which facilitated the formation of the Joint Public-Private Consultative Committee on Economic Problems that enabled businesspersons to influence public policy through their associations. This, in turn, led to an increased participation of the private sector in the development of state enterprises. Economic development in the country was largely propelled by the private sector, which invested heavily in industrial growth; the government had a limited role in determining the direction of the economy.

These factors have contributed greatly to the growth of the country's major economic sectors, namely agriculture and fishing, manufacturing and industry, and services, particularly tourism. In 1991, 98.6 percent of all Thai business enterprises were mainly small and medium enterprises, accounting for 90.7 percent and 7.6 percent, respectively. The Ministry of Industry defines small-scale enterprises as those with a maximum of 50 employees with equity of 10 million baht, while medium-scale enterprises employ 50-200 personnel and have an equity of 10-100 million baht.

Even before the summer of 1997, there had been doubts about the sustainability of certain economic policies followed by the South East Asian countries. One such important policy that came under the scrutiny was the policy of unofficially fixing their exchange rates to the US dollar. After an intense period of speculation in foreign exchange markets, the Thai baht was devalued in July 1997. There were subsequent devaluations in Malaysia, Korea, Philippines, Indonesia, Taiwan and Singapore. The maintenance of such pegs was widespread in much of East Asia, and so too were the problems that went with such a system. The difficulty was that over the years, the residents of these countries had found it advantageous to borrow US dollars rather than their own currency. This was because the dollar interest rates were lower than those of the baht, rupiah or peso.

The country's inability to produce oil has negatively impacted its growth, particularly during periods of oil crisis such as the world oil crisis between 1970 and 1979. The country's dependence on oil has been reduced with the discovery of its first natural gas field in the Gulf of Thailand in 1981. The country also taps alternative domestic sources of energy such as hydropower, liquefied natural gas, and coal. It is also in the process of studying the use of nuclear power.

At the end of 1990, the country's long-term external debt stood at about US\$16 billion. However, annual debt service payments were only equivalent to 10 percent of the total earnings from exports, which means that the debt payments were manageable. The 1997 Asian financial crisis reversed this situation as the combination of US\$90.5 billion in debt in 1996-97 and high levels of non-

performing loans caused the near collapse of Thailand's financial sector. The troubles of the financial sector spilled over to the other sectors of the economy which were dependent on the financial sector for credit. Banks had to set aside finances to cover loans which creditors were not able to pay, so they no longer had any money to lend borrowers who were capable of paying. This forced the government to increase its allocation for foreign debt payments to take the pressure away from the financial sector. This resulted in a significant increase in public sector debt, which was only equivalent to 4 percent of GDP in 1996 but rose to 18 percent of GDP by mid-1999.

To alleviate the effects of the crisis, the International Monetary Fund (IMF) gave Thailand a US\$17.2 billion assistance package in August 1997. With the help of these funds, reforms in the financial sector were implemented along with the restructuring of the industrial and agricultural sector to increase productivity. Policy reforms to increase accountability and transparency, as well as social reforms to improve education, social services, and human resource development are also being implemented by the government with assistance from the IMF, the Asian Development Bank (ADB), the Overseas Economic Co-Operation and Development (OECD) Fund, and the World Bank.

The decade of 1990s experienced several economic crises across the globe. The South East Asian crisis that took place ten years ago, i.e. in the summer of 1997 is one such important economic crisis, which took toll of major economies of the region. It was a formative event in many ways at the end of the 20th century, which brought to the forefront some pressing problems with the international financial system.

The crisis brought into the forefront the dangers of sudden reversals of capital flows, the problem of “contagion” – a new phenomenon as the crisis spread due to herd behaviour of the investors and the pro-cyclical nature of international financial markets. The international capital flows tended to enter these economies when they were growing and even over heating and the sudden exit of the capital during the downturns, thus exacerbating the swings of business cycles.

Even before the summer of 1997, there had been doubts about the sustainability of certain economic policies followed by the South East Asian countries. One such important policy that came under the scrutiny was the policy of unofficially fixing their exchange rates to the US dollar. After an intense period of speculation in foreign exchange markets, the Thai baht was devalued in July 1997. There were subsequent devaluations in Malaysia, Korea, Philippines, Indonesia, Taiwan and Singapore. The maintenance of such pegs was widespread in much of East Asia, and so too were the problems that went with such a system. The difficulty was that over the years, the residents of these countries had found it advantageous to borrow US dollars rather than their own currency. This was because the dollar interest rates were lower than those of the baht, rupiah or peso.

By the end of 1997, the Southeast Asian economies suffered “the equivalent of a massive bank run on the region without any lender of last resort,” says economist Jan Kregel. In 1996, a net \$78 billion flowed into the region from foreign bank loans and short-term portfolio investments like stocks. In 1997, that turned into a \$38 billion outflow from the countries most hit by the crisis – Indonesia, Malaysia, South Korea, Thailand and Philippines. The biggest drop came in short-term portfolio investment, such as stocks and bank lending.

In recent years, there has been a trend wherein the countries abandon their soft-peg exchange rate regimes. Since the Asian crisis of 1997- 98, soft-pegs are no more considered viable. The de facto pegging regimes of Southeast Asia shifted to flexible exchange rate regimes in the wake of the crisis and under IMF pressure. The currencies of South East Asian countries (initially the Thai baht) had become over-valued because they were tied to a strongly appreciating dollar.

An overview of the positive factors of the Thai economy and the constraints which emerged are presented pictorially in Annexure 1.

July 1997 Drama

- Early May (1997) - Japan hints that it might raise interest rates to defend the yen. The threat never materializes, but it shifts the perceptions of global investors who begin to sell Southeast Asian currencies and sets off a tumble both in currencies and local stock markets.
- July 2, 1997 - After using \$33 billion in foreign exchange, Thailand announces a managed float of the baht. The Philippines intervenes to defend its peso.
- July 18, 1997 - IMF approves an extension of credit to the Philippines of \$1.1 billion.
- July 24, 1997 - Asian currencies fall dramatically. Malaysian Prime Minister Mahathir attacks "rogue speculators" and later points to financier George Soros.
- August 13-14, 1997 - The Indonesian rupiah comes under severe pressure. Indonesia abolishes its system of managing its exchange rate through the use of a band.
- August 20, 1997 - IMF announces \$17.2 billion support package for Thailand with \$3.9 billion from the IMF.
- August 28, 1997 - Asian stock markets plunge. Manila is down 9.3%, Jakarta 4.5%.
- September 4, 1997 - The peso, Malaysian ringgit, and rupiah continue to fall.
- September 20, 1997 - Mahathir tells delegates to the IMF/World Bank annual conference in Hong Kong that currency trading is immoral and should be stopped.
- September 21, 1997 - George Soros says, "Dr. Mahathir is a menace to his own country."
- October 8, 1997 - Rupiah hits a low; Indonesia says it will seek IMF assistance.

- October 14, 1997 - Thailand announces a package to strengthen its financial sector.
- October 20-23, 1997 - The Hong Kong dollar comes under speculative attack; Hong Kong aggressively defends its currency. The Hong Kong stock market drops, while Wall Street and other stock markets also take severe hits.
- October 28, 1997 - The value of the Korean won drops as investors sell Korean stocks.
- November 5, 1997 - The IMF announces a stabilization package of about \$40 billion for Indonesia. The United States pledges a standby credit of \$3 billion.
- November 3-24, 1997 - Japanese brokerage firm (Sanyo Securities), largest securities firm (Yamaichi Securities), and 10* largest bank (Hokkaido Takushoku) collapse.
- November 21, 1997 - South Korea announces that it will seek IMF support.
- November 25, 1997 - At the APEC Summit, leaders of the 18 Asia Pacific economies endorse a framework to cope with financial crises.
- December 5, 1997 - Malaysia imposes tough reforms to reduce its balance of payments deficit.
- December 3, 1997 - Korea and IMF agree on \$57 billion support package.
- December 18, 1997 - Koreans elect opposition leader Kim, Dae-jung as new President.
- December 25, 1997 - IMF and others provide \$10 billion in loans to South Korea.
- January 6, 1998 - Indonesia unveils new budget that does not appear to meet IMF austerity conditions. Value of rupiah drops.
- January 8, 1998 - IMF and S. Korea agree to a 90-day rollover of short-term debt.
- January 12, 1998 - Peregrine Investments Holdings of Hong Kong collapses. Japan discloses that its banks carry about \$580 billion in bad or questionable loans.
- January 15, 1998 - IMF and Indonesia sign an agreement strengthening economic reforms.
- January 29, 1998 - South Korea and 13 international banks agree to convert \$24 billion in short-term debt, due in March 1998, into government-backed loans.
- January 31, 1998 - South Korea orders 10 of 14 ailing merchant banks to close.
- February 2, 1998 - The sense of crisis in Asia ebbs. Stock markets continue recovery.

Table 5

Weak Fundamentals	Financial Panic	Moral Hazard	Contagion	External Sector Problems
Currency Mismanagement	Investor Panic	Industrial Policy	Self-fulfilling Prophecy	Current Account Imbalances (WF)
Poor Risk Management	Speculation*	Cronyism**		Real Exchange Rate Appreciation (WF)
Poor Supervision Over Financial Sector	Arbitrary shifts in market expectations and confidence	Deposit Insurance		Foreign Exchange Reserves
Excessive Financing of Risky and Low-Profitability Projects	Second Generation Models			
Lending boom				
Accumulation of Bad Loans				
Loans financed by Foreign Liabilities				
Over Investment				
Foreign Debt Accumulation				
First Generation Models				
Output Growth				
Inflation				
High Saving Rates				
Weak Banking System				
Loans Financed by Foreign Liabilities				

*International Capital markets intrinsically unstable and vulnerable to erratic speculative

movements – Measures of capital controls to help the governments to defend their currencies

**Cronyism - favoritism shown to friends and associates (as by appointing them to positions without regard for their qualifications) as *Oxford Dictionary*

Note : It would be the purpose of my study, viz. My doctoral work, to ascertain the following:

1. Given FDI as the dependent variable (LHS) the nature, extend and degree of relationship between FDI on the one hand and weak fundamentals, financial panic, moral hazard, contagion, external sector problems, FII, any other factor not captured through the equation
2. Given FII as the dependent variable (LHS) the nature, extend and degree of relationship between FII on the one hand and weak fundamentals, financial panic, moral hazard, contagion, external sector problems, FDI, any other factor not captured through the equation
3. Ascertain the specific role played by any one of the several groups listed above in influencing FDI and FII as the case may be
4. Ascertain the specific role played by one or more of the factors within each group influencing FDI or FII as the case may be

The outcomes of the above study, should help in generating advanced warning signals through telling signs and panics of various sorts. This will help to evolve economic policies to develop pre-emptive measures to the extent possible to ride at the crest of telling signs or panics as the case may be. Further, in a recent book by Stephen Vines – *Market Panic* – John Wiley and Sons, Asia PTE Limited, (2005), the author has presented a long list of telling signs viz. High level of corporate debt, high interest rates, sharp rises in bank lending, heady price-earnings ratios, sharp increases in merger and acquisition activity. In the same book the author has also presented the types of panics which include phoney panics, self-induced or end-of-cycle panics, contagious panics

*Caveat – Though researchers may try to study the role of FDIs or FIIs in the proactive or perverted motives of investments, yet accordingly the World Banks figures for the Southeast Asian countries, it has been shown that during the Asian crisis period in question, “Domestically generated fund outflows played a far bigger role in bringing down Asian currencies and decimating Asian markets than the activities of foreign players. (See Stephen Vines – *The Years of Living Dangerously: Asia from Financial Crisis to the New Millennium*, Texere, London and New York, 2000, pg- 11, 13, 239). Further this is true for the Mexican crisis also where the biggest flight of capital came from within Mexico itself. (See IMF, *International Capital Market Report*, IMF, Washington DC,, 1999)*

Statistical Analysis

List of Variables Used

Portfolio flows (FII)	FDI (gross)	Exports	Imports, cif	Current account	Exchange rate	Gross domestic investment (GDI)	International reserves (excl. gold)	Short term debt	Money supply
USD bn	USD bn	USD bn	USD bn	USD bn	USD eop	% GDP	USD bn eop	USD bn	% GDP

bn- billion

eop- end of the period

A regression analysis was also conducted based on the multiple regression equation shown below 'r'

$$Y = a + b_1 * X_1 + b_2 * X_2 + \dots + b_n * X_n$$

where,

Y= dependent variable

a= constant

b₁... b_n = regression coefficients

X₁ ... X_n = variables

Results of the regression analysis are as follows:

Table 6

FDI and FII – Two dependent variables

<i>'r'-FDI with independent variables-descending order</i>		<i>'r'-FII with independent variables-descending order</i>	
<i>Independent Variables</i>	<i>'r'-FDI</i>	<i>Independent Variables</i>	<i>'r'-FII</i>
<i>Money Supply</i>	0.55	<i>Imports</i>	0.62
<i>Current Account</i>	0.47	<i>Gross Domestic Investment</i>	0.59
<i>Exchange Rate</i>	0.29	<i>Exports</i>	0.53
<i>Exports</i>	0.16	<i>International Reserves</i>	0.45
<i>FDI</i>	0.12	<i>Exchange Rate</i>	0.25
<i>International Reserves</i>	0.11	<i>FII</i>	0.12
<i>Short Term Debt</i>	0.04	<i>Short Debt</i>	0.11
<i>Imports</i>	0.01	<i>Money Supply</i>	-0.08
<i>Gross Domestic Investment</i>	-0.01	<i>Current Account</i>	-0.22

'r' = Karl Pearson's Correlation Coefficients and lies between -1 and 1

Table 7*A Table for Regression Co-efficients**

Regression Co-efficient refers to the change occurred in dependent variable on account of one unit change in the independent variable.

<i>'r'-FDI</i>	<i>Independent Variable</i>	<i>FDI</i>	<i>Independent Variable</i>	<i>FII</i>	<i>'r'-FII</i>
0.47	Current Account	0.89	FDI	0.43	0.12
0.01	Imports	0.88	Exports	0.29	0.53
0.12	FII	0.54	Exchange Rate	0.23	0.25
0.55	Money Supply	0.16	International Reserves	0.06	0.45
0.04	Short Term Debt	0.08	Short Term Debt	0.05	0.11
-0.01	Gross Domestic Investment	-0.04	Gross Domestic Investment	0.02	0.59
0.29	Exchange Rate	-0.29	Money Supply	-0.13	-0.08
0.11	International Reserves	-0.33	Imports	-0.32	0.62
0.16	Exports	-0.66	Current Account	-0.33	-0.22

Data Analysis

FDI as dependent variable:

The correlation analysis based on Karl Pearson's correlation of coefficient (r) between FDI as a dependent variable and the 9 independent variables shown in table 6 reveals the following:

1. The range of the relationship between FDI and the said independent variables is 0.55 (FDI and Money Supply) and -0.01 (FDI and Gross Domestic Investment);
2. The rank order of the correlation presented in descending order in table 6, shows that the correlation between FDI and other independent variables is 0.47 and 0.29 for current account and exchange rate respectively;
3. All other independent variables show a rather low correlation -with 0.16 for exports and 0.01 for imports
4. There is a negative correlation between FDI and the independent variable Gross Domestic Investment (-0.01)

FII as dependent variable:

Similarly the correlation analysis, once again based on correlation of coefficient (r) between FII dependent variable and the 9 independent variables, the 9 independent variables shown in table 6 reveals the following:

- 1 The range of the relationship between FDI and the independent variables is 0.62 (FII and imports) and -0.22 (FDI and Current Account);
- 2 The rank order of the correlation presented in descending order in table 6, shows that the correlation between FII and other independent variables is 0.59 for Gross Domestic Investment and 0.53, 0.45 and 0.25 for the three independent variables exports and international reserves and exchange rates respectively;
- 3 All other independent variables show a rather low correlation – 0.12 for FDI and 0.11 , -0.08 and -0.22 for short term debt, Money Supply and Current Account respectively;
- 4 There is a negative correlation between FDI and the independent variable Gross Domestic Investment (-0.01)

FDI as dependent variable

1. A one unit change in the independent variable current account, imports and FII has an impact on the flow of FDI to the tune of 0.89, 0.88 and 0.54 respectively
2. A unit change in the other independent variables seems to have a weak link with FDI – Money Supply (0.16, short term debt (0,08)
3. The link between the next 4 independent variables and FDI is not only weak but negative – Gross Domestic Investment (-0.04) Exchange Rate (-0.29), International Reserves -0.33 and Exports -0.66
4. It is interesting to observe that the correlation coefficient and the regression analysis do corroborate in the case of Current Account ($r=0.47$ – FDI with Current Account) in all other cases it is rather mixed. However, there is corroboration of negative relationship indicated between the independent and dependent variable and the correlation analysis. The correlation figures (r) shown in table 3, show a rather low link for the four factors Short Term Debt, Gross Domestic Investment exchange rate, International Reserves and Exports.
5. The corroboration between the correlation and regression analysis in the FDI/Current Account relationship inter se is interesting. A unit change in current ac causes a 0.89 change in FDI and the correlation r stands at 0.47. However, the positive correlation $r=0.55$ between FDI and Money Supply merits a comment. The entry of FDI into an economy has a proactive impact on the Money Supply. The aggregate monetary resources in the economic system increases. This has to be viewed with caution. If increase in monetary resources is not supported by a pari passu increase in output, immediately or after due time lag prices will tend to rise. Hence it is very important that FDIs are channeled into productive ventures, short gestation periods and an effective contribution to the output of the economy, so that FDI doesn't become a toll on the recipient country.

FII as dependent variable

1. The relationship between a unit change in Imports has the highest impact on FII compared to all other independent variables. The imports FII coefficient at 0.62 is revealing. Thus the inflow of FIIs into the South Asian economies in general and Thailand in particular needs to be commented upon. It encouraged the entrepreneurs in Thailand to go in for various kinds of imports. Added to this the FII/Gross Domestic Investment coefficient at 0.59 shows that entrepreneurs were investing huge amounts in local projects. Though these two factors may not be the only pointers of causes of the crisis of 1997, yet the logic of this relationship and its impact needs to be understood. Thus with the fixed exchange rate there was a perverse incentive for banks and finance companies. They could borrow in dollars abroad at low interest

rates and re-lend the money locally at high interest rates. As Swaminomics put it 'was money for jam' (quote the date) according to Swaminomics “ in theory there was a currency risk-devaluation could greatly increase the cost of servicing the dollar debt. But the fixed exchange rate created the illusion of zero currency risk. And so Thailand and Malaysia both used dollars to finance a domestic lending boom, which took bank credit to more than 150% of GDP”

2. Since money was available in abundance at relatively low interest rates from abroad, albeit on a short term basis, funds were channeled into real estate resulting in “ property boom and gross overbuilding” this asset bubble had to burst. Thus short term funding of long term uses was the order of the day. The coefficients bare testimony to this relationship and the impact of these relationships are reflected in the events leading to the crisis.

Thai Recovery:

The recovery of the Thai economy can be attributed to the following:

1. international attention to the crisis
2. international rescue package (IMF)
3. recasting of domestic economic policies
4. rejuvenation of Thai foreign exchange policy
5. sustained recovery and economic development in different parts of Asia
6. focus on the strong features of the Thai economy to recoup from Balance of Payments imbalances
7. avoiding the repetition of mistakes of the past like giving dent to speculative motives in foreign exchange dealings
8. better governance in financial institutions particularly in terms of loan appraisals
9. avoiding projects with long gestation periods
10. avoiding short term funding of long term uses

- On 11th August, 1997 IMF unveiled rescue package of 16 billion dollars
- On 20th August, 1997 additional 3.9 billion dollars
- In November 2006 Baht reached 36.5 to USD

Rankings:

On 14th April, 2004 UNCTAD (United Nations Conference on Trade and Development) and the British magazine Corporate Location released the key findings of a worldwide survey of 87 international location experts in FDI. The report ranks Thailand as one of the four “top Hot spots for FDI” in the world in the next four years, preceded only by China, India and United States.

Table 4

<i>Global Ranking</i>	
Top 1	China
Top 2	India
Top 3	USA
Top 4	Thailand
Top 5	Poland, Czech Republic
Top 6	
Top 7	Mexico, Malaysia
Top 8	
Top 9	UK, Singapore, South Korea

Table 5

The most attractive countries for FDI flows

	<i>Africa</i>	<i>Asia</i>	<i>Latin America</i>	<i>Developing Economies</i>	<i>Central & Eastern Europe</i>	<i>Developed Economies</i>
Top 1	South-Africa	China	Mexico	China	Czech Republic	USA
Top 2	Angola, Tanzania	India	Brazil, Chile	India		UK
Top 3		Thailand		Thailand	Romania, Russia	Canada, France

Source : UNCTAD-DITE, GLOBAL, Investments Prospects Assessment (GIPA) 2004

Conclusion :

Late in 1997, Stanley Fischer, Economic Director of IMF, confessed at a regional meeting in Hong Kong that : “Markets are not always right. Sometimes inflows are excessive and sometimes they may be sustained too long. Markets tend to react late; by then they tend to overreact.” This is compounded by the fact that decision making at micro and macro levels are not always on a pre-emptive basis inspite of advanced warning signals and telling signs referred to earlier in this paper, delayed decision making is at times order of the day.

In fact, the crisis affected economies were the victims of their own success. The proposal most favoured in the region to limit capital mobility is a transaction tax on all cross-border flows of capital, designed by Nobel Prize winning economist James Tobin. Although on its own it could not cool out a speculative fever or capital panic, the Tobin tax would discourage speculation.⁴ I may conclude by saying that some of the fundamental assumptions in economics need to be questioned and examined. market as an arbiter of economic activity need not necessarily be the most efficient method of resource allocation. Market has its own imperfections and possibly biases.⁵ Markets could also be weird and sustain expectations which are prima facie absurd and difficult or even

impossible to realize. High price earnings ratio of dotcom companies is a case in point. To quote Stephen Viens “Dotcom madness ... at one time allowed a price earning ratio of around 500 for yahoo inc and still remained high on broker's buy list.⁶ Similarly the Harshad Mehta crisis in the BSE in 1991 showed high price earnings ratio for even greenfield projects. When we assume that markets behave rationally, we are also saying that the participants in the markets behave rationally. However the assumption of rational economic man itself needs to be questioned. Irrational participants exist. They move market prices and cannot be eliminated. If irrational behaviour of market participants has to be accepted as a fait accompli and decisions are guided by factors contrary to fundamentals, no amount of research guided and informed economic decision making can contribute to sanity in the market place or in the economy. As John Maynard Keynes said with reference to the stock markets that “in the stock market, the heart knows reasons, which reason does not know.” Muttatis Mutandis this applies to all other markets viz. Factor market, output market and money market

Footnotes:

¹ For a summary, based on World Bank data, see Albuquerque (2003).

² Net inflows account for net investments made by foreign investors (that is, new investments by foreign investors minus withdrawals of old investments by foreign investors). Using World Bank data on 111 countries, Albuquerque (2003) shows that 89% of the countries in his sample have lower coefficient of variation of net FDI inflows than that of other net inflows. A related set of evidence suggests that FDI has proven to be much more resilient during financial crises, and thus contributes to the stability of the host country. (See: Chuhan, Perez-Quiros and Popper, 1996; Frankel and Rose, 1996; Lipsey, 2001; and Sarno and Taylor, 1999).

³ Lipsey (1999) shows that the ratio of FDI's volatility to other long-term flows' volatility is 0.59 in Latin America, 0.74 in South East Asia, 0.86 in Europe, and 0.88 in the US. Thus, the differences in volatilities between net FDI inflows and other types of net inflows are smaller in developed economies.

⁴ Corsetti, G., P. Pesenti and N. Roubini (1999). *What Caused the Asian Currency and Financial Crisis?* Part I: Macroeconomic Overview, Japan and The World Economy, 11, pp.305-373.

⁵ See Stephen Viens – Marekt Panic, Chapter 8, 'Is the Market always right pp.223

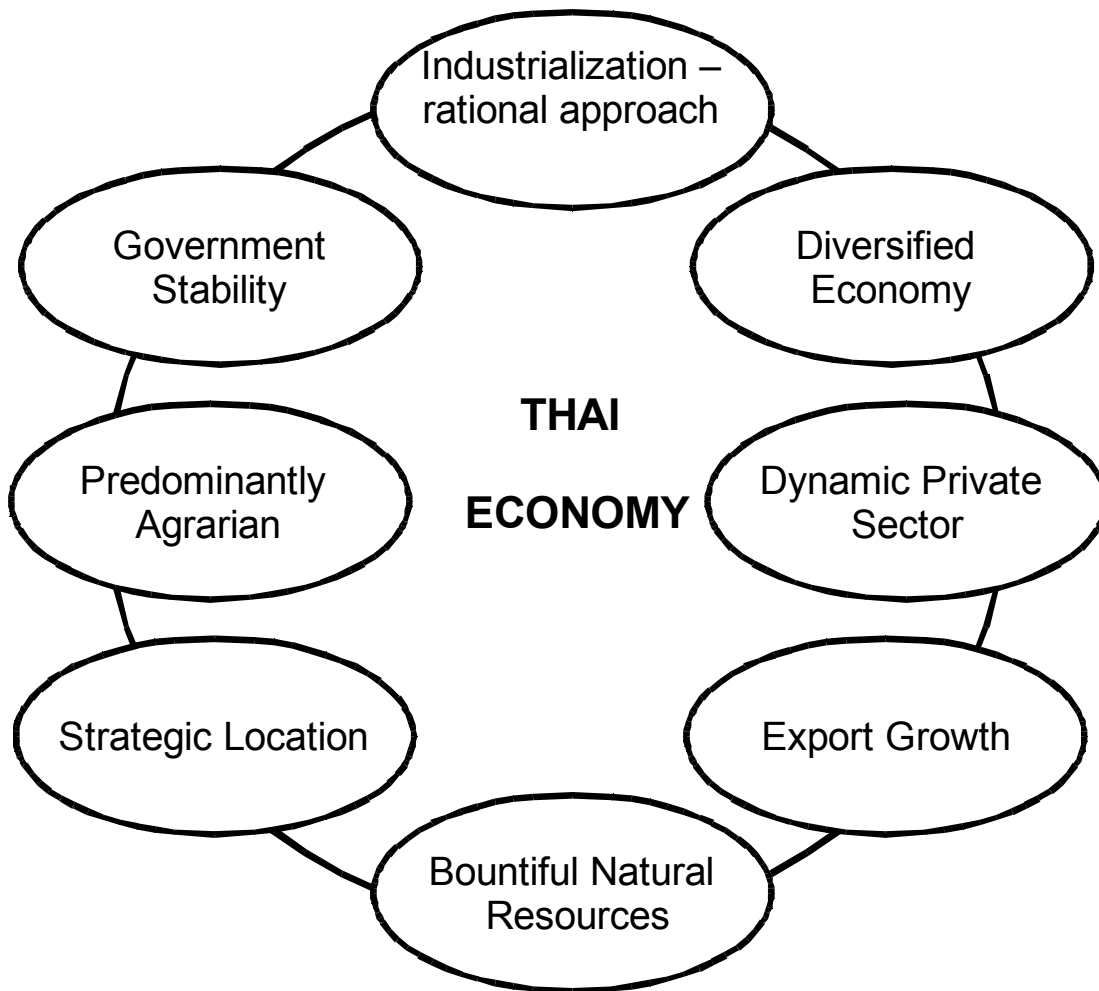
⁶ See Stephen Viens – Marekt Panic, Chapter 8, 'Is the Market always right pp.200

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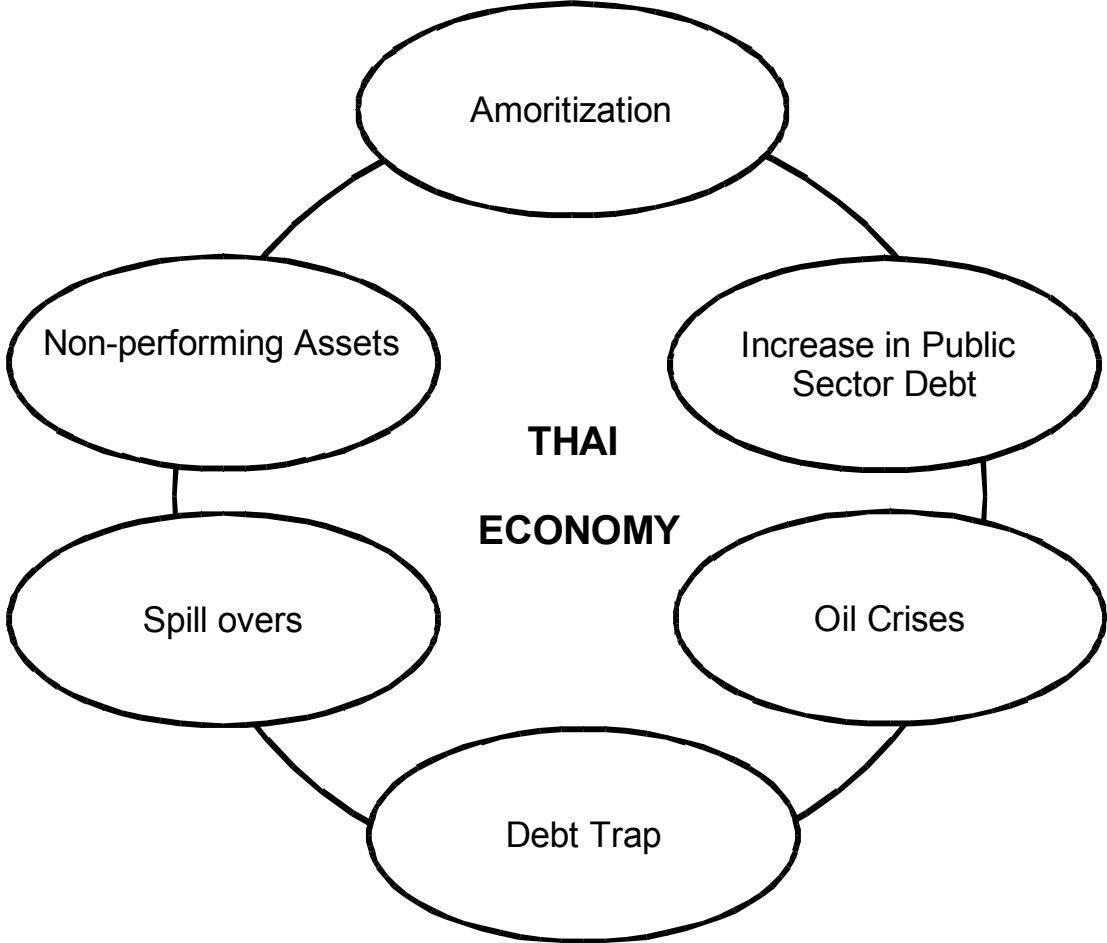
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Annexure 1

**THE THAI ECONOMY
POSITIVE FACTORS**



**THE THAI ECONOMY
CONSTRAINTS**



Annexure 2

Regression Analysis – FDI as dependent variable

SUMMARY OUTPUT						
<i>Regression Statistics</i>						
Multiple R	0.889634					
R Square	0.791449					
Adjusted R Square	0.478623					
Standard Error	1.318007					
Observations	16					
<i>ANOVA</i>						
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>	
Regression	9	39.55465	4.394961	2.529996	0.135473	
Residual	6	10.42285	1.737142			
Total	15	49.9775				
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	2.01975	5.158732	0.391521	0.708939	-10.6032	14.64272
FII	0.541468	0.399486	1.355409	0.224085	-0.43604	1.518976
Exports	-0.65759	0.401121	-1.63939	0.152244	-1.6391	0.323916
Imports	0.884321	0.439177	2.013587	0.090703	-0.19031	1.958949
Current Account	0.887148	0.394783	2.24718	0.065695	-0.07885	1.853147
Exchange Rate	-0.29045	0.139363	-2.0841	0.082267	-0.63146	0.050563
GDI	-0.03925	0.077822	-0.50441	0.631959	-0.22968	0.151169
Int. Res.	-0.33382	0.21999	-1.51742	0.179954	-0.87211	0.204479
Sh. Term Debt	0.077513	0.104359	0.742759	0.48568	-0.17784	0.33287
Money Supply	0.155756	0.083952	1.855302	0.112957	-0.04967	0.36118
<i>RESIDUAL OUTPUT</i>						
<i>Observation</i>	<i>Predicted Y</i>	<i>Residuals</i>				
1	1.516709	0.483291				
2	1.425091	0.674909				
3	2.774029	-0.97403				
4	2.056461	-0.65646				
5	3.085688	-0.98569				
6	2.066942	1.033058				
7	3.796248	0.203752				
8	6.539452	0.860548				
9	5.562797	0.637203				
10	5.217014	-1.81701				
11	2.951923	0.948077				
12	1.52346	-0.62346				
13	2.407646	-0.40765				
14	1.486061	-0.08606				
15	2.507704	0.592296				
16	4.882775	0.117225				

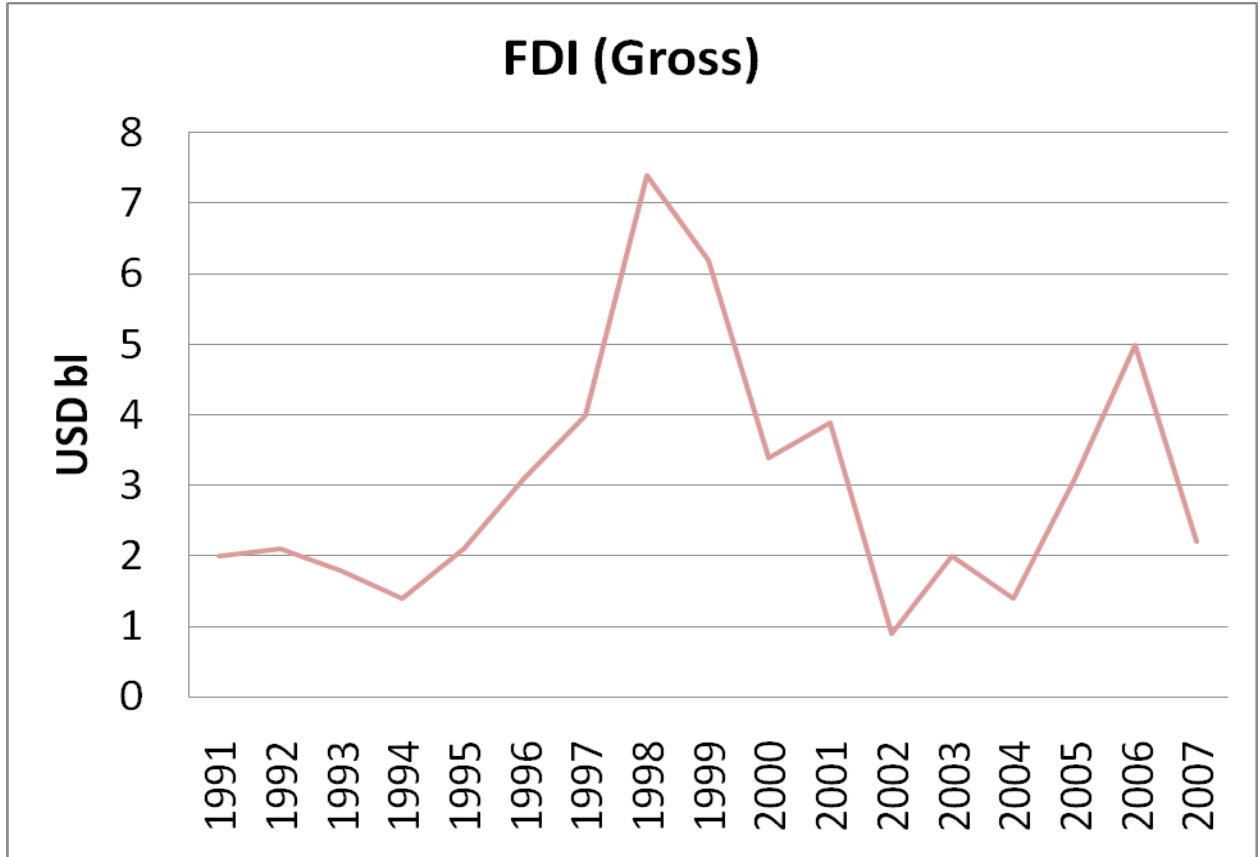
Regression Results – FII as the dependent variable

SUMMARY OUTPUT						
<i>Regression Statistics</i>						
Multiple R	0.887084672					
R Square	0.786919215					
Adjusted R Square	0.467298038					
Standard Error	1.178519999					
Observations	16					
ANOVA						
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>	
Regression	9	30.77591867	3.419547	2.462037	0.142543	
Residual	6	8.333456325	1.388909			
Total	15	39.109375				
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	-0.496065653	4.666935373	-0.10629	0.918814	-11.9157	10.92352
FDI	0.432923488	0.319404252	1.355409	0.224085	-0.34863	1.214478
Exports	0.287237708	0.415351957	0.691553	0.515072	-0.72909	1.303568
Imports	-0.317780646	0.491518663	-0.64653	0.541863	-1.52048	0.884923
Current Account	-0.325412483	0.460259292	-0.70702	0.506072	-1.45163	0.800802
Exchange Rate	0.232432219	0.133289362	1.743817	0.131813	-0.09372	0.55858
GDI	0.017343076	0.070692133	0.245332	0.814375	-0.15563	0.190321
Int. Res.	0.062644456	0.229976441	0.272395	0.79445	-0.50009	0.625377
Sh. Term Debt	0.050279686	0.095324909	0.527456	0.616803	-0.18297	0.283532
Money Supply	-0.13483463	0.076405794	-1.76472	0.128057	-0.32179	0.052124
RESIDUAL OUTPUT						
<i>Observation</i>	<i>Predicted Y</i>	<i>Residuals</i>				
1	0.641138677	-0.641138677				
2	0.933472715	-0.433472715				
3	1.141699867	1.558300133				
4	-0.286370089	-0.113629911				
5	1.91269155	0.18730845				
6	1.682957326	-0.482957326				
7	4.168018637	-0.168018637				
8	0.88624577	-0.58624577				
9	0.060442959	0.839557041				
10	0.201477584	0.698522416				
11	1.22583819	-0.82583819				
12	0.411627542	0.088372458				
13	1.238470482	0.561529518				
14	1.772558839	-1.372558839				
15	4.546843083	0.753156917				
16	3.562886868	-0.062886868				

Correlation Results

	<i>FDI</i>	<i>FII</i>	<i>Exports</i>	<i>Imports</i>	<i>Current Account</i>	<i>Ex- change Rate</i>	<i>GDI</i>	<i>Int. Re- serves</i>	<i>Short Term Debt</i>	<i>M o n e y S u p p l y</i>
FDI	1									
FII	0.122793	1								
Exports	0.534683	0.158899	1							
Imports	0.620532	0.011069	0.949274	1						
Current Account	-0.21902	0.473953	0.282367	-0.03055	1					
Ex- change Rate	0.250313	0.294873	0.523598	0.298479	0.72645	1				
GDI	0.586013	-0.00533	0.724694	0.857631	-0.3353	-0.00589	1			
Int. Res.	0.454459	0.112588	0.957631	0.945933	0.165411	0.338599	0.819372	1		
Short Term Debt	0.108565	0.042781	-0.36818	-0.18976	-0.64702	-0.52314	0.306139	-0.22549	1	
Money Supply	-0.08067	0.549731	0.233596	0.033494	0.58218	0.613935	0.088282	0.219478	0.081 913	1

Annexure 3



Portfolio Flows (FII)

