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An Empirical Analysis Of Private Equity (PE) Flows In India

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Abstract:-*Globalization of financial market & increasing risk bearing capacity among Global investors has given a birth to any new generation of financial intermediaries like the Private equity (PE), with the subsequent regulatory changes & financial innovations motivated the growth of alternative asset class like PE. Many countries including India, limited the free flow of foreign money till the early 1990s. The foreign money flows since 1990s can be attributed to greater amalgamation among international financial markets, expansion in information technology and the rising interest in EMEs among FIIs in the form of private equity funds (PE) and hedge funds. As PE flows are a source of non-debt creating capital in the economy, many Economy of Emerging Markets (EMEs) has been challenging with each other to get such Fund flows by diluting investment regulations or by providing economical benefits. The present study examines the effects of PE net flows in Indian Economy considering variable like GDP on factor Cost(CGF), IIP, WPI, weighted average call money interest rates (CMR), foreign exchange reserves (FER), average USD/ INR exchange rate (ERU) , weighted average return of 10 years Central Gsec bond (GSR) , key Bank rates (KBR) and BSE top 100 share by index BSE-100 (BSE-100) with respect to data for the period April 2007– September 2013, i.e., a time span of 6 years, covering the time before, during and after the global financial crisis by the statistical correlation test and t-statistical test by two tailed significance level test method.*

Keywords:Private Equity, GDP, BSE-100, Bank Rate, Gsec Bond, Exchange Rate, WPI, IIP.

SECTION 1: INTRODUCTION

Globalization of financial market & increasing risk bearing capacity among Global investors has given a birth to any new generation of financial intermediaries like the Private equity (PE), with the subsequent regulatory changes & financial innovations motivated the growth of alternative asset class like PE. Many countries, including India, limited the free flow of foreign money till the early 1990s. Later, these developing countries allowed foreign investment by easing capital controls with a view to attract more foreign capital to boost domestic growth and output. Since then, the Capital has flowed from foreign institutional investors (FII) have been used as the biggest source of capital for Economy of Emerging Markets (EMEs) such as India and China. The foreign money flows since 1990s can be attributed to greater amalgamation among international financial markets, expansion in information technology and the rising interest in EMEs among FIIs in the form of private equity funds (PE) and hedge funds. Globalization and risk appetite in global investors has given birth to a new kind of financial intermediaries such as the private equity (PE). A regular growth in the savings rate, rich liquidity influenced by petrodollars, hedge funds as well as sovereign wealth funds and a helpful monetary policy that enabled low interest rate surroundings accelerated this process.

As PE flows are a source of non-debt creating capital in the economy, many EMEs has been challenging with each other to get such Fund flows by diluting investment regulations or by providing economical benefits. Further, PEs has been assured respectable returns on their investments, enabling constant investment flows.

However, the rapid growth of the private equity flow has raised concerns relating to the regulation and its impact on the country's economy. The mysterious nature of private equity companies' movement, research limitation and shortage of regulatory control of the industry has raised a number of questions about the class of the capital flowing in. History of PE in India has been started from mid 80's with launch of funds from ICICI and IFCI, which is followed by a Fund of CANARA Bank Ltd. However the foreign footprint can be traced between 1995-2000 by the entry of Baring PE partners, CDC Capital, Draper International and HSBC Private Equity

Global private equity investment showed a slowdown in 2012. North America was standing on top in the performing market, while Asia fell around 20% over 2011. The total Indian PE deal fell to $10.2 billion in 2012 with respect to $14.8 billion in the previous year. However, the number of deals increased to 551 in year 2012 from 531 in year 2011, this indicate a fall in average deal size. All this has been determined by the reality that 2012 was an indecisive year in India economically. As per the findings of Preqin, UK research firm, Indian firms have received only $3.5 billion out of the $320 billion global fund raised globally in 2012.

Many previous researches have been conducted to establish the statistical relationship between PE flow and stock exchange performance. Very few researches have focused on analysis of impact of PE flow on the country's economy, which can be shown through the statistical inference on economical indicators during a time span of 6 years , April 2007– September 2013.

The study is divided into eight sections. First section includes the Introduction. The second section deals with identification of problem and research objective .Section three is dedicated to the conceptual background of PE and flows. Section four is marked to a review of past literature. The fifth section gives an idea of the research methodology of the study. Section six indicates the trends and progress of the PE flow into India. An empirical analysis of PE flows in India is consolidated in the seventh section. The eighth and final section states the findings and conclusion.

SECTION 2: IDENTIFICATION OF THE PROBLEM:

Many research studies have been conducted in respect of PE flows in India, most of them have been restricted to assessing the effect of such flows on stock exchanges. Very few researches have focused on the impact of PE flows of the Indian Economy as a whole considering variable like, indices of the stock exchange, the money market, the foreign exchange indicators and other macro-economic indicator, such as inflation index, the supply of money and Index of Industrial Production (IIP). In the given background, it is the entire extra significant to undertake a study of PE and its Economical Impact. PE flows in India, by taking into account various macro-economic indicators, such as IIP, interest rates, inflation, exchange rates, apart from the Stock indices. The present study examines the effects of PE net flows into Indian Economy with respect of data for the period April 2007–September 2013, i.e., a time span of 6 years, covering the time before, during and after the global financial crisis.

OBJECTIVES OF THE STUDY:

The objectives of the research study are:

1. To study the PE structure and fund investment process
2. To analysis the relation of PE flow and different Major economic indicators.
3. To study the impact of PE flow of the overall economy.

SECTION3: THE CONCEPT OF PRIVATE EQUITY:

Private Equity is one of the most favorable ways of investment by FII in Indian market. Private Equity has been defined in by PE association & academician the PE organization as partnerships specializing in leveraged buyouts (LBOs), venture capital Investment, mezzanine Capital, buildups, troubled debt and other associated investments.

Fenn, Liang and Prowse have explained PE as 'financial sponsors' taking large possession stakes and involve actively in portfolio management.

Ljungqvist and Richardson explain PE as a less liquid investment since there is no lively secondary market for such investments; investors have little control over how capital is invested and for a longer perspective.

The European Venture Capital Association defines private equity as the condition of equity capital for the medium or long-term to non-listed companies with high growth capability. It is also termed 'patient capital' as it brings value from long term capital gains.

The International Financial Services, London define PE as any type of equity investment where the equity is not freely tradable on a stock exchange as private equity. Private equities are generally less liquid than exchange traded stocks and are made for a long- term investment.

There is lots of uncertainty around the concepts of PE and other alternative investment channels like venture capital and hedge funds. Venture capital is a division of PE which investments in equity made for the launch, premature development, or extension of a business. It has a particular emphasis on premature undertakings instead of mature businesses. Hedge Funds differ from PE in terms of their holding periods, leverage, liquidity, and planned direction of investments mainly in their exit strategy, level of risk tolerance and expected rate of return.

Practically, private equity firms are ordered as limited partnerships where the PE firm or fund manager serves as General partners (GP) and a HNWI investor or a big Institutional investor providing the bulk of the capital serve as limited partners (LP). Figure 1 shows a typical PE fund investment process.

Private equity can be categorized on the basis of the stages of corporate life cycle, where PE financing is called for.

1. Seed Financing: Funds provide a small amount of capital, which is required to develop a Potential business idea.
2. Start-up financing: Funds provide sum of capital required for product or service development and start up marketing activities.
3. Growth stage: Funds have been invested on the expansion stage of companies.
4. Bridge financing: This method of financing used before the IPO, to obtain the necessary cash for the maintenance of operations.

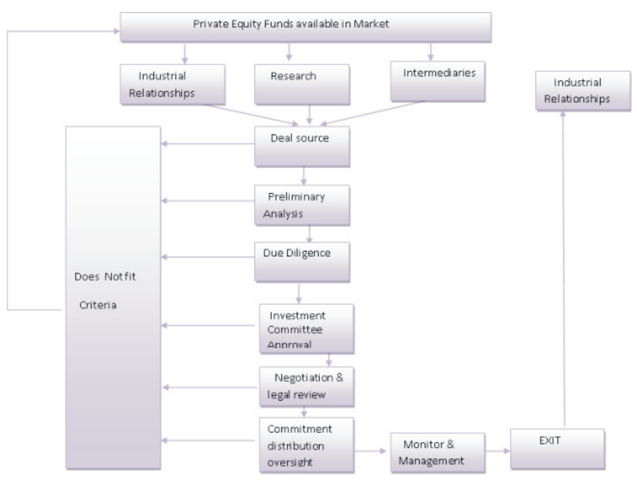


Fig 1: Private Equity Fund Investment Process

6. Leveraged Buyout (LBO): Funds acquired a company by

use of borrowed money especially from a small group of investors, especially buyout specialists.
7. Management Buyout (MBO): when the key management body performs an important role in the LBO transactions. The management body purchase shares from existing majority shareholders for a controlling interest.
5. PIPE deals :(private investment in public equity) Funds have been invested in publicly traded common stocks or any form of preferred share or convertible security.

SECTION 4: REVIEW OF PAST LITERATURE:

By dint of PE as growing sector, academic interest and analyses in the field of PE has been relatively less. The secretive nature of PE has been considered as the main reason for this. The available literature on PE has covered a some of issues including risk-return , the length of the industry, process on economies of scale, the nature of demand-supply for a PE firm, profit from PE and dogmatic aspects of this industry.

Geert Bakaert and Campbell R. Harvey (2000) –"Capital Flow and Behavior of Emerging Market Equity Return"- study a constructive relationship between portfolio flows and the growth rate of an economy. The cost of capital shows a fall after capital markets are liberalized, varying between 5 and 75 basis points. They show a little rise in the volatility of stock returns due to the liberalization of capital markets.

Kenneth A Froot , Paul G J O'connell and Mark S. Seasholes (2001) –" The Portfolio flows of International Investor"- study that the flow of international capital "predict" price changes on the securities market . They found a numerical relation that a 1 basis point change to an international portfolio flows leads to a 40 basis point change in stock price.

Rajesh Chakrabarti (2001) -" FII flows to India: Nature and Causes"- He concluded that FII investment was more an effect of stock market return in India, on the basis of the pairwise Granger Causality tests on FII inflows and the index of BSE.

Renu. Kohali (2003) - "Capital Flows and Domestic Financial Sector in India."- examined how foreign capital flows affected macro-economic variables during the period 1986–2001. She found that foreign capital inflows have a significant impact on domestic money supply , stock market growth, liquidity and volatility.

Alexandra Ljungqvist and Matthew P Richardson (2003) -"The cash flow, Return and Risk Charasteristics of Private Equity"- They concluded by measuring the time and magnitude of investment decisions as overall performance of private equity. A general PE funds take over three to six years for an investment of 56.9 per cent and 90.5 per cent of the total committed capital, and over eight to ten years for IRRof investments to turn positive, eventually exceed general equity returns. A PE funds generate excess returns in tune of 5 to 8 per cent per annum with relate to the aggregated return from open equity market.

Tom Weidig and Pierre yvas Mathonet (2004): "The Risk Profiles of Private Equity"- They estimated the risk profiles and return characteristics of different vehicles of PE investment. The risk is calculated as the volatility of a time series of price in different PE investment vehicles , which is hampered by short of public and capable market to price the product. There is a clear risk diversification benefit for investment in a fund-of-funds, portfolio of funds and direct investments.

D Cumming and U Walz (2007): "Private Equity Returns and Disclosure Around the World"- examined institutional investors are tending to invest in PE in stable and legally friendly economies. PE fund managers have an encouragement to overvalue unrealized reserves in order to attract more investments from other institutional investors to collect follow-up funds. Less experienced PE fund managers and those concerned with early stage investments are more liable to overvalue, less strict accounting rules and feeble legal systems aid over valuation.

Chokshi (2007): "Challenges in Executing Leveraged Buyouts in India, The Evolution of the Growth Buyout"- He found the chief factors hindering the expansion of leveraged buyouts in India such as the restrictive regulation on foreign investments , limitation of professional management, immature corporate debt market and limitations on bank lending.

S Katz (2008): "Earnings Quality and Ownership Structure"- He analyzed the opportunistic performance of PE-backed firms attached to their tighter monitoring and goodwill considerations influence income management, and post-IPO performance as compared to non-PE-backed firms controlled by their administrative teams.. The better PE sponsor is positively linked with both better long term financial and stock price , when a firm goes public.

Robert S. Harris, Tim Jenkinson and Steven N. Kaplan (2013): "Private Equity Performance: What Do We Know?"- They found the return of PE funds consistently outperformed to public markets, S&P 500 as base indices and 1400 U.S based venture and Buyout funds.

SECTION 5: RESEARCH METHODOLOGY :

The study makes an attempt to establish relation between PE flow and Economic indicator in India during the period of 2007 to September 2013 , PE industries in India have been witnessed high levels of volatility from pick of $14.5 billion in 2007 to $4.5 billion in 2009 during the chosen period.

The quarterly data on PE flows are collected from the websites of the well reputed firms like venture intelligence , KPMG, Deloitte , Prequin and E&Y . Timely data of other macro-economic variables consider in this study Like the GDP on factor Cost(CGF), IIP, WPI, weighted average call money interest rates (CMR), foreign exchange reserves (FER), average USD/ INR exchange rate (ERU) , weighted average return of 10 years Central Gsec bond (GSR) , key Bank rates (KBR) and BSE top 100 share by index BSE-100 (BSE-100) has been sourced from the RBI and other official websites.

The paper attempted to study the relationship of PE flow on stock indices and other Economy indicator through the statistical correlation test and t-statistical test by method Two tailed significance level test. The tests have been conducted between PE flows and time series data of macro-economic indicators with a Null Hypothesis .

H0 = PE flow is proportionate to macroeconomic indicators.
Ha= PE flow is not in proportionate to macroeconomic Indicators.

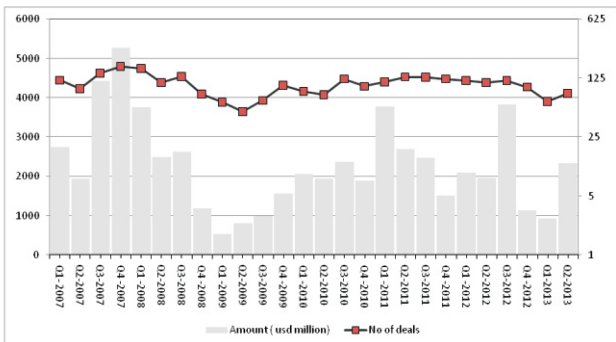
Correlation measures the degree of association between two variables, Karl Pearson's Coefficient of Correlation is calculated to show a quantitative measure of the degree of relationship between two variables X & Y.

The coefficient of correlation (r) lays in between +1 and -1, measures the extent of the relationship between two variables. Where -1 and +1 are the two extreme ends of the scale show strong negative correlation and a strong positive correlation respectively. The sign of 'r ' the direction and absolute value indicates the strength of the relationship .

A 't-test' is a test of Hypothesis in which the test statistic work according to a Student's t distribution in the case of the null hypothesis is accepted. It is used to decide if two sets of data are considerably different from each other. A Two tailed significance level ,statistical test in which the significant area of a distribution is both sided and tests whether a sample variable is either larger than or less than a fixed range of values. The t-test uses the t-distribution, degrees of freedom and t-statistic to find out a p value . The p value should be less than α (alpha) to prove the significance of Ho.

SECTION 6: TREND & PROGRESS IN PE FLOW :

India's foreign investment regulation has been liberalized over the years with a calibrated approach, so as to attract long-term , non-debt creating capital flows in the economy. FIIs have been allowed to invest in Indian capital markets since September 1992 based on the report of the High-Level commission on Balance of Payments under supervision of Dr. C. Rangarajan .A relaxation for FII flows has been also suggested by the commission on Capital Account Convertibility (CAC) headed by Mr. S. S. Tarapore. The investment regulation and norms for FIIs in India have been relaxed over a period of time.



Sources: Venture intelligence, PWC, Preqin

Chart 1: Quarterly PE flow & Number of deals

History of PE in India has been started from mid 80's with launch of funds from ICICI and IFCI, which is followed by a Fund of CANARA Bank Ltd. However the foreign footprint can be traced between 1995-2000 by the entry of Baring PE partners, CDC Capital, Draper International and HSBC Private Equity. The PE industry has been absorbed massive ups and downs due to global and domestic financial crisis during last 6 years . The details of investment flow from PEs and number of deals in India during research period in shown in chart -1 above. The 1st quarter of 2013 also started with a weak performance for the PE industry. The collective PE investments fell below a billion USD in the 1st quarter, for the first time since last 4 years. At 929 million USD, PE deal values were 56% lower with compared to Q1 of last year 12, and 18% lower than previous quarter Q4 '12.

SECTION 7: IMPACT OF PE FLOW : AN EMPIRICAL ANALYSIS:

The 26 quarterly data from 1st Quarter-2007 till 2nd Quarter-2013 of Flow of Private Equity in India in INR billion (FPE) , GDP on factor Cost in INR billion (CGF), Foreign Exchange Reserve in INR billion (FER), BSE top 100 share by index BSE-100 (BSE-100),weighted average return of 10 year Central Gsec bond (GSR), weighted average call money interest rates (CMR), Whole Sale Price Index with base year 2004-05(WPI), Index of Industrial Production of Capital Goods with base year 2004-05 (IIP), Bank rates (KBR) and average USD/ INR exchange rate (ERU) has been calculated.

Descriptive Statistics			
	Mean	Std. Deviation	No of observation
FPE	1103.30	614.528	26
CGF	11766.11	1648.104	26
FER	13740.3150	2094.98303	26
BSE100	16710.6535	2801.90524	26
GSR	7.7615	.38431	26
CMR	6.6435	2.22516	26
WPI	143.4538	20.07544	26
IIP	274.1115	45.63957	26
KBR	6.8654	1.48194	26
ERU	48.3234	6.03834	26

Table 1: Descriptive Statics

The table 1 reveals Mean and Standard Deviation (σ) of 26 quarterly collected data of the variables. Correlation co-efficient (r) were calculated by Karl Pearson method to find the relationship between FPE .The correlation Matrix is presented in Table 2.

This is clearly observed that the value of the coefficient of the Pearson Correlation (r) for all variables is in the range of -1 to +1.

Correlations Table											
	Pearson Correlation	PE	CGF	GSR	CMR	WPI	IIP	FER	KBR	BSE100	ERU
PE	R	1	-.317	-.608	.261	-.293	.074	-.275	-.305	.011	-.524
CGF	R	**-.317**	1	.263	.422	.950	.248	.872	.751	.498	.762
GSR	R	**-.608**	.263	1	-.146	.286	-.140	.400	.407*	.040	.577
CMR	R	**.261**	.422	-.146	1	.554	.196	.580	.465	.299	.392
WPI	R	**-.293**	.950	.286	.554	1	.194	.917	.794	.559	.831
IIP	R	**.074**	.248	-.140	.196	.194	1	.161	-.149	.312	-.166
FER	R	**-.275**	.872	.400	.580	.917	.161	1	.726	.372	.867
KBR	R	**-.305**	.751	.407	.465	.794	-.149	.726	1	.392	.789
BSE100	R	**.011**	.498	.040	.299	.559	.312	.372	.392	1	.157
ERU	R	**-.524**	.762	.577	.392	.831	-.166	.867	.789	.157	1

Table 2: Correlations Table

It was found that net PE inflows and the average USD/ INR exchange rate (ERU) showed a significant negative correlation. A weighted average return of 10 years Central Gsec bond (GSR) is negatively correlated with quantum of PE flow. Weighted average call money interest rates (CMR), the Index of Industrial Production of Capital Goods with base year 2004-05 (IIP) and BSE 100 Index are the three selected variables which have a positive correlation with PE.

A very strong positive correlation has been observed between GDP and WPI, FER, KBR and ERU. While GDP is negatively correlated with FPE, this shows the flow of PE is made with a long term approach and has very few impacts of change in economic conditions of the country in the short run.

The Negative correlation of GSR is showing the shift of Investment choice from G-Sec bond (the risk free) to PE. The rate of G-Sec return governs the flow of alternate risky investment.

Average USD/ INR exchange rate (ERU) is the most important governing factor of the cross border flow of PE. The strong negative correlation between these variable approaches the perposanate relation between them.

A significance level of the t-statistic test based on correlation	
	Significance level with FPE
CGF	.115
GSR	.001
CMR	.198
WPI	.146
IIP	.720
FER	.174
KBR	.130
BSE100	.956
ERU	.006

Table 3: Significance level

Table 3 shows the value of significance level base out on Correlation of two variable X and Y. The significance level t-statistic test of correlation has been conducted to proof the null Hypothesis (Ho) at 0.05 significant levels. This is observed that the weighted average return of 10 year Central Gsec bond (GSR) and average USD/ INR exchange rate (ERU) are significant at 0.05 levels. Hence these two variables directly impact the Flow of PE in India and show a proportionate relation.

SECTION 8: FINDINGS AND CONCLUSION:

The study for the period April 2007 to September 2013 revealed ,a bi-directional correlation between net PE inflows and the BSE 100. Interest rates in India attract cross border PEs to invest to get the advantage of the positive interest rate degree of difference. Same time this make PE as non-preferred investment avenue for domestic investors. Growth in the IIP enhanced market response and amplified net PE flows in India and had an affirmative correlation and linear dependency on the average USD/ INR exchange rate, while GDP, senior IIP and interest rates are catalysts for PE flows in India for a long run but doesn't show a significant result in a short time span.

Looking for the current financial year and beyond, there is a lot that can be done to inspire private equity investment and encourage economic growth in India. Our country requires extensive capital investment across multiple sectors to inspire economy growth . Policymakers should understand the advantage of PE funding—involved and accessible capital to shared risk. They should also identify the value that private equity investment can bring to the Indian organization in terms of skill and guidance. Stakeholders and entrepreneur across the industry need to work jointly with transparency and trust to produce a healthy environment for Investment.

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