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Determinants of Foreign Institutional Investment in Indian Debt Market

VANITA TRIPATHI AND SHILPA MAGGO

The study uses monthly data of FII flows and financial as well as macro economic variables such as exchange rate, IIP, WPI, bond yield, stock return and risk for the period Apr 2000 to Sep 2012. Correlation analysis, multivariate regression analysis and principal component analysis are applied to identify major determinants of FII in Indian debt market. The impact of global financial crisis has also been examined using dummy variable regression model. The results show that IIP and exchange rate are major determinants of FII flows to debt market in India. Global financial crisis has been found to have positively affected FII in Indian debt market although not significantly.

Introduction

Since the last decade, FIIs have been increasing their investment in the Indian capital market. There is a lot of interest of FIIs in Indian debt market because of high interest and yields. While these flows are expected to benefit the recipient economy, there have been some flaws related to FII investments. On the positive side, FII inflows help to reduce the gap between domestic saving-investment, augment foreign exchange reserves, increase the stock price which reduces the required rate of return for equity, increase the efficiency of financial market and raise the level of economic development. On the negative side, foreign institutional investments lead to problems of inflation and possibility of sudden withdrawal which can weaken the currency and worsen the situation in an economy. Thus, the phenomenal expansion of FII in debt market over the last few years has created a new source of vulnerability for the rupee.

As the FIIs are quite volatile, it is necessary to understand the major determinants of FII investment in Indian debt market as these flows affect the market as well as economy. There has been much research done to analyse the factors affecting FII investment in Equity market or Stock market (Mukherjee et al 2000; Chakrabarti, 2001; Gordon and Gupta, 2003; Rai and Bhanumurthy, 2004; Bhupender, 2006: Saraogi, 2008; Prasanna, 2008;

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Kaur and Dhillon, 2010; Anuradha and Rajendran, 2012) but there is hardly any research done to find out the variables affecting FII flows in debt market in India.

Research Methodology

The research is based on the secondary data regarding FII flows in Indian debt market and a number of probable factors influencing it. Monthly data has been used for the period April 2000 to September 2012. Three types of flows relating to FII viz. Fiidebtpur, Fiidebtsale and Fiinetpur referring to FII purchases, FII sales and FII net purchases in Indian debt market respectively have been used. Details of the various variables and their sources are given below.

Data Series and Sources

Fiidebtpur   Monthly FII purchases (in Rs. cr.) in the Indian debt market. Source: website of Money Control (www.moneycontrol.com)

Fiidebtsale   Monthly FII sales (in Rs. cr.) in the Indian debt market. Source: website of Money Control (www.moneycontrol.com)

Fiidebtnet   Monthly FII net purchases (in Rs. cr.) in the Indian debt market, this is the difference between the purchases and sales of FII in debt market in India. Source: website of Money Control (www.moneycontrol.com)

Above variables are considered as dependent variables and following as independent variables:

A) Macroeconomic Variables :

1) Exchange rate   Monthly data of exchange rate; Source: Handbook of Statistics on Indian Economy, website of RBI (www.rbi.org.in)

2) IIP   Monthly data of Index of Industrial Production; Source: Monthly review of Indian economy, CMIE (Centre for Monitoring Indian Economy).

3) WPI   Monthly data of Wholesale Price Index; Source: Handbook of Statistics on Indian Economy, website of RBI (www.rbi.org.in).

B) Capital Market Variables:

4) Diffreturn   Difference between return on S&P CNX Nifty Index [Source: Handbook of Statistics on Indian Securities Market, website of SEBI (www.sebi.gov.in)]and return on MSCI Emerging Market Index [Source: website of Morgan Stanley Capital International (www.msci.com)].

5) Risk   Monthly data of risk or volatility in S&P CNX Nifty Index; Source: Handbook of Statistics on Indian Securities Market, website of SEBI (www.sebi.gov.in).

6) Bond Yields- Following measures of bond yields are used:

(i) GY1   Yield on government bond which has a maturity period of less than one year; Source: Indian Securities Market Review (ISMR), website of National Stock Exchange (www.nseindia.com).

(ii) GY10   Yield on government bond which has a maturity period of
               more than ten years; Source: Indian Securities Market Review
               (ISMR), website of National Stock Exchange
               (www.nseindia.com).

(iii) CY1   Yield on corporate bond which has a maturity period of less
               than one year; Source: Indian Securities Market Review (ISMR),
               website of National Stock Exchange (www.nseindia.com).

(iv) CY10   Yield on corporate bond which has a maturity period of more
               than ten years; Source: Indian Securities Market Review (ISMR),
               website of National Stock Exchange (www.nseindia.com).

7) Diffinterest   Difference between Weighted Average Call Money Rates
                  [Source: Handbook of Statistics on Indian Economy, website
                  of RBI (www.rbi.org.in)] and London Inter-bank offer rate
                  [Source: website of fedprimerate (www.fedprimerate.com)].

8) D   Dummy variable for global financial crisis; value of 1 for a
               period from Aug 2008 till Sep 2012 and 0 for the period April
               2000 till July 2008.

Expected Theoretical Relationshp Between FII Flows in Indian Debt Market and Various Variables

Exchange Rate: When the rupee falls, foreign investors stand to lose from their current Indian holdings, leading to a possible pullout from the market due to the fear of further decline. Simultaneously, the decline in rupee will attract the prospective investors in the Indian debt market because a strong dollar will help FIIs buy more securities in rupee terms. Thus, we can expect a positive relationship of FII purchases as well as sales in the debt market with exchange rate.

Index of Industrial Production: IIP is taken as the proxy for the measure of economic growth. When the economy is growing, then the foreign investors will get attracted towards the economy and would like to invest in the hope of good returns. Therefore in general, we can expect the Foreign Institutional Investments to increase due to which FII inflows in the debt market will also increase. But when IIP is high, the equity investment will be more rewarding. Hence, FIIs can switch over from debt to equity market. Thus, we can expect a positive relationship of FII purchases and sales in the debt market with IIP.

Wholesale Price Index (Inflation): This is included in the model as a proxy for measuring inflation in the Indian economy. If the inflation increases in the Indian economy, the purchasing power of funds invested declines, hence the investors will withdraw from the Indian market. Thus, we expect that FII purchases/sales in debt market should be a negative/positive function of inflation.

Differential Return on Equity: NIFTY has been used as a proxy to measure the return on Indian equities whereas MSCI Emerging Market Index has been used as a proxy for measuring the returns available in emerging countries. It is expected that when the NIFTY/MSCI will go up (down), it

signals an upward (downward) trend in the equity market and will lead to a decrease (increase) in FII investments in debt market as foreign investors will find it more fruitful to invest in equity market. In the paper, these two variables have been used to form another variable which is differential equity return i.e. the difference between Nifty return and MSCI return. Thus, we can expect a negative/positive relationship between the FII purchases/sales in the debt market and Differential Equity Return.

Risk in Domestic Equity Market: Volatility is calculated as the standard deviation of the natural log of returns in NIFTY which has been used as a proxy to measure the risk in equity market of India. If the riskiness of equity investment rises, FIIs will switch to debt market. So, there should be a positive/negative relationship between the risk in equity investment and FII purchases/sales in Indian debt market.

Bond Yields: FIIs have been aggressive buyers of Indian bonds because of the higher government and corporate yields offered. As yield is inversely related to bond prices, higher yield will lead to lower bond prices, making the investments in the bond market profitable for the investors. Thus, FII purchases/sales in the debt market can be expected to be positively/ negatively related to yield. Here we have used the four measures of bond yields i.e. GY1, GY10, CY1 and CY10 representing both short term and long term bond yields.

Differential Interest Rate: CMR has been taken as the proxy for short term interest rate in the Indian economy and LIBOR as a measure of short term global interest rate. In the paper, we have used Differential Interest rate which is the difference between CMR and LIBOR. If the Indian interest rate is higher than the interest rate in the international market, then foreign investors will find Indian debt market more lucrative which will lead to increase in the FII inflows. Thus, we can expect the differential interest rate to be positively related to FII purchases and negatively related to FII sales.

Global Financial Crisis, 2008: In order to examine the impact of Global Financial Crisis of 2008 on the FII investment in Indian Debt Market, we have incorporated dummy variable in our analysis. We expect that the recent financial crisis has worked against equity market but in favor of debt market especially in India. Therefore we expect a positive sign of the slope coefficient of this dummy variable.

Methodology

Initially we performed the correlation analysis to see the direction of relationship between various variables. Then we used Multiple Regression Analysis to identify significant determinants of FII investment in Indian debt market.

The general form of function is:

FII = f (Exchange rate, IIP, WPI, Diffreturn, Risk, GY1, GY10, CY1, CY10, Diffinterest)

Multiple regression results revealed the presence of problem of multicollinearity and therefore we performed Principal Component Analysis which aims to identify number of factors explaining maximum variance in the data and have major influence on the dependent variables. The method involves the use of varimax rotation where explanatory variables are assumed to be uncorrelated and independent of each other. The varimax rotation technique helps in determination of a single factor from a set of factors. With the use of Rotated component matrix, the principal variables are found out on which the Multivariate Regression analysis is then performed. Since time-series data is used in the analysis; therefore firstly the stationarity of the time series is checked by applying Augmented Dickey-Fuller test.

Research Hypothesis

H_0 There is no significant relationship among the FII flows in Indian Debt Market and various macroeconomic and capital market variables.

Results

Table 1 shows the results for the correlation analysis among the variables. Results reveal that:

1) There is a significant and positive correlation of exchange rate with FII purchases and sales which is in agreement with our expectations. With an increase in exchange rate, both FII purchases and sales will increase.

2) IIP is found to be positively and highly correlated with FII purchases and FII sales in the debt market which is as per the expectations. Results also revealed that IIP is positively related to FII net purchases.

3) WPI is positively correlated with FII sales and the strength of correlation is very strong which is in favor of our prior expectation. It is also found that WPI is positively and highly related to FII purchase in debt market which is against our prior expectations as we expected FII purchases to fall with an increase in Inflation. The positive relation between the WPI and FII purchases can be justified on the ground that as the debt investment are safer investments, therefore FIIs can invest in the debt market even in the scenario of high inflation. WPI is found to be positively correlated with FII net purchases.

4) Short term and long term corporate bond yields are found to be positively associated with FII purchases as per the prior hypothesis. The results also revealed that CY1 and CY10 are found to be positively related with FII sale which is against the prior expectations. It can be due to the reason that return in the debt market is quite low as compared to the equity market, thus even corporate yield being high, FIIs can quit from the market to shift over to more lucrative investments. Government yield is not significantly correlated with FII flows.

5) Differential interest rate is positively related to FII purchases, FII sales and FII net purchases. However no significant relationship of FII could be detected with differential return and risk in the equity market.

Further we observe high correlation among a number of explanatory variables, showing the problem of multicollinearity (Table 1).

Table 1: Correlation analysis

Variables	Fiidebtpur	Fiidebtsale	Fiidebtnet
Exchange rate	.330**	.361**	.110
IIP	.839**	.854**	.387**
WPI	.840**	.871**	.356**
Diffreturn	−.040	−.026	−.059
Risk	−.110	−.087	−.097
GY1	.065	.070	.030
GY10	.084	.080	.052
CY1	.204*	.236**	.032
CY10	.172*	.169*	095
Diffinterest	.547**	.550**	.267**

*Correlation is significant at the 0.05 level (2-tailed).

**Correlation is significant at the 0.01 level (2-tailed).

Unit Root Test

ADF Unit root test result shows that differential return, Risk, CY1, CY10, differential Interest rate and FII net purchases are stationary at level while the rest of the variables are non-stationary at level. Therefore for the rest of the variables, Unit Root test is again performed at their first level difference at which they are found to be stationary and thus fit for the further analysis.

Table 2: Results of unit root test

Variables	ADF Test (at level)		ADF Test (at first difference)	
	t-statistic	Probability	t-statistic	Probability
Exchange rate	−2.181832	0.2139	−10.06570	0.0000*
IIP	−0.356034	0.9121	−7.532426	0.0000*
WPI	2.311451	1.0000	−7.200163	0.0000*
Diffreturn	−15.76764	0.0000*	−	−
Risk	−7.221223	0.0000*	−	−
GY1	−1.853013	0.3538	−10.68661	0.0000*
GY10	−2.147854	0.2265	−9.829041	0.0000*
CY1	−5.432195	0.0000*	−	−
CY10	−3.303709	0.0166*	−	−
Diffinterest	−3.654434	0.0058*	−	−
Fiidebtpur	−0.835698	0.8056	−10.59627	0.0000*
Fiidebtsale	−0.655319	0.8533	−15.02678	0.0000*
Fiidebtnet	−4.886734	0.0001*	−	−

*indicates significant at five percent level of significance

Results of Multivariate Regression Analysis

After performing the unit root test, Multivariate regression analysis is performed. Table 3 shows the results of multiple regression analysis and provides that although R^2 is very high but only a few variables are significantly affecting FII flows. Therefore, we used PCA to extract principal variables.

Table 3: Multiple regression analysis

| Independent variables | Dependent variables | | | | | |
| | Fiidebtpur | | Fiidebtsale | | Fiidebtnet | |
	Coefficients	p-values	Coefficients	p-values	Coefficients	p-values
Constant	−30762.732	.004	−25890.266	.001	−7407.500	.364
Exchange rate	307.541	.046*	249.640	.023*	88.497	.458
IIP	112.553	.000*	68.247	.000*	44.421	.025*
WPI	−39.634	.319	3.612	.898	−44.422	.154
Diffreturn	−1807.681	.773	502.745	.910	−3432.424	.483
Risk	−456.711	.412	−97.894	.804	−258.836	.552
GY1	1013.736	.146	1019.005	.040*	123.458	.820
GY10	1075.530	.161	842.812	.122	155.891	.794
CY1	−183.477	.459	91.803	.602	−304.557	.117
CY10	−516.523	.433	−565.159	.227	68.339	.894
Diffinterest	1674.197	.000*	1328.813	.000*	306.783	.206
R^2	0.81		0.852		0.204	
Adjusted R^2	0.791		0.837		0.124	
Prob.(F-statistics)	0.000		0.000		0.005	

* indicates significant at 5% level

Principal Component Analysis

In order to remove the problem of multicollinearity from the data, Principal Component Analysis is performed to get the principal variables. To test the applicability of the Factor analysis, two measures i.e. Kasier-Meyer-Olkin (KMO) and Bartlett's test are used. Kasier-Meyer-Olkin (KMO) index value was .526 which indicates that the factor analysis is just appropriate to determine principal components from the data set. Bartlett's test value of 221.915 being statistically significant at 5% level rejects the null hypothesis that all variables are uncorrelated. It detects the existence of correlations between the variables that happens to be appropriate for the factor analysis and helps in making further predictions. It is observed that all these components together explain 74.08% of the total variance in the data set.

Thus the results indicate that PCA can be applied to a set of independent variables. Then, the Rotated Component Matrix is used to select the principal variables affecting FII flows. The variable with the highest value in each of the component is taken as a principal variable and used as an independent

variable in the final regression. Table 4 shows the Rotated Component Matrix in which five variables has been identified namely DExchange rate, DIIP, Risk, DGY10 and CY1 for regression analysis. The selection of variable exchange rate is on the theoretical basis.

Table 4: Rotated component matrix

	Component				
	1	2	3	4	5
DExchangerate	.230	.110	.779	.070	.226
DIIP	.014	.040	−.044	.901	−.006
DWPI	.095	.599	−.093	−.470	−.145
Diffreturn	−.150	−.145	.831	−.088	−.149
Risk	.076	−.041	.036	.023	.932
DGY1	−.021	.799	−.005	.319	−.192
DGY10	−.152	.841	.005	−.093	.164
CY1	.865	−.093	−.047	−.038	.130
CY10	.740	−.144	.044	−.058	.175
Diffinterest	.778	.129	.061	.090	−.215

Multiple Regression Analysis on Principle Variables

After selecting the principal variables through PCA, each dependent variable is regressed on these extracted principal variables. The regression results are depicted in Table 5.

Table 5: Multiple regression analysis on principal variables

	Dependent variables					
	Dfiidebtpur		Dfiidebtsale		Fiidebtnet	
Independent variables	Coefficients	p-values	Coefficients	p-values	Coefficients	p-values
Constant	610.603	.656	306.649	.728	796.164	.448
DExchangerate	672.265	.05*	398.079	.074	−521.149	.05*
DIIP	71.912	.001*	50.367	.000*	12.480	459
Risk	−338.275	.473	135.766	.654	−351.765	.330
DGY10	−1165.847	.337	−275.108	.724	−1530.652	.101
CY1	−20.659	.895	−63.813	.528	93.876	.436
R^2	.104		.111		.065	
Adjusted R^2	.071		.078		.031	
Prob.	.010*		.006*		.099	

*indicates significant at 5% level

FII Purchase as the Dependent Variable

Table 5 reveals that R^2 is 10.4 per cent. Thus, 10.4 percent variation in FII purchases is explained by the selected principal variables.

- The coefficient of exchange rate is significant and positive i.e. high exchange rate positively affects FII inflows in the debt market. As per the result, one unit change in the exchange rate will lead to 672.265 unit change in the FII inflows in the same direction. This is as per the prior hypothesis that with the decline in the value of Indian rupee, prospective foreign institutional investors will increase their investment in the Indian debt market because of availability of more rupees with lesser dollar. Thus, the null hypothesis that there is no significant relationship between exchange rate and FII purchases in Indian debt market stands rejected.

- The coefficient of IIP is positive and significant in explaining the variation in FII inflows. One unit change in IIP will result into 71.912 unit change in FII inflows in the same direction. The result indicates that foreign institutional investors look at the growth rate of an economy before investing i.e. they follow top-down approach. Thus, with the better economic performance the FIIs increase their investment as their confidence builds up regarding the economy. Therefore, the null hypothesis that there is no significant relationship between IIP and FII purchases in the Indian debt market is rejected.

- Risk in the domestic equity market, long term government yield and short term corporate yield have negative impact on FII purchases in the Indian Debt market which are against the prior expectations but these are statistically insignificant.

- Thus, principal variables determining FII purchases in the Indian debt market are Exchange rate and IIP.

FII Sale as the Dependent Variable

Coefficient of determination explains that the principal factors accounts for 11.1% of the variation in the FII sales in India. Results reveal that independent variables viz. Exchange Rate, Risk in the domestic equity market, long term government yield and short term corporate yield have statistically insignificant influence on the FII sale in Indian debt market whereas Index of Industrial Production has statistically significant influence on it.

- The coefficient of IIP is significantly and positively associated with FII sales in the Indian debt market which is in favor of the prior expectation i.e. with higher IIP; FIIs will switch over from debt market to equity market due to which FII sales in debt market will increase. One unit change in IIP will lead to 50.367 unit change in the FII sales in the same direction.

- The association of Exchange rate is positive but insignificant with FII sale in Indian debt market. It is in accordance with the prior anticipation that the decline in value of INR against USD will lead to negative impact on the value of dollar return on rupee denominated bonds and thus will result into increase in sale by FIIs from debt market but significant relation could not be detected regarding it.

- Risk in domestic equity market is found to be positively affecting FII sale in Indian debt market but not statistically significant. This association is against our prior expectation that with the increase in risk in domestic equity market, the foreign institutional investors will rebalance their portfolio in favor of debt market by exiting from the equity market. The reason behind this positive association can be that foreign institutional investors might relate the riskiness of equity market with the riskiness in investment environment of an economy and thus with the rise, they exit even from the debt market.

- Long term government yield and short term corporate yield have negative but statistically insignificant relationship with FII sales in Indian Debt market which is as per the earlier expectation.

- The only principal variable explaining FII sales in the debt market is IIP.

FII Net Purchases as the Dependent Variable

The principal variables explain 6.5% percent variation in FII net purchases but it is statistically insignificant.

- The coefficient of exchange rate is depicting negative and significant relation with FII net purchases in debt market. As per the result, one unit change in the exchange rate will lead to 521.149 unit change in the FII net purchases in India in an opposite direction. Thus weakness in the Indian currency has been instrumental in foreign investors exiting debt markets as the expanding cost of hedging a volatile rupee hurts the yield differential the FIIs work with.

- IIP and short term corporate yield have positive but insignificant influence on the FII net purchases. Risk in domestic equity market and long term government yield have negative but insignificant influence on the FII net investment in the debt market.

- The principal variable determining the FII net purchases is exchange rate.

Impact of Global Financial Crisis

Table 6 shows the result of multiple regression including a dummy variable for assessing the impact of global financial crisis. We find that FII debt purchases as well as sales were positively but insignificantly hit by the crisis whereas the crisis leads to significant increase in the FII net purchases in the Indian debt market.

Table 6: Multiple regression incorporating dummy variable for global financial crisis

Independent variables	Dfiidebtpur		Dfiidebtsale		Fiidebtnet	
	Coefficients	p-values	Coefficients	p-values	Coefficients	p-values
Constant	606.751	.660	286.255	.746	551.428	.576
DExchangerate	670.974	.05**	391.248	.080	−603.127	.016*
DIIP	71.912	001*	50.366	.001*	12.470	.430
Risk	−338.531	.474	134.410	.658	−368.039	.277
DGY10	−1163.809	340	−264.323	.735	−1401.227	.109
CY1	−21.789	.891	−69.799	.496	22.038	.847
D	37.853	.960	200.369	.678	2404.576	.000*
R^2	.104		.112		.185	
Adjusted R^2	.064		.073		.149	
Prob. (F-statistics)	.019		.012		.000	

*indicates significant at 5% level

Conclusions

The results revealed that IIP, WPI, exchange rate, short as well as long term corporate bond yield and differential interest rate are significantly correlated to FII flows to debt market in India. The major determinants of FII purchases in Indian debt market are Index of industrial production and exchange rate and for FII sale in the debt market only one significant determinant could be detected which is Index of industrial production. FII net purchases in the debt market have exchange rate as a significant determinant. Thus, it is found that IIP and exchange rate are the major factors influencing FII flows in the Indian debt market. Positive relation of IIP with FII sales is an indication of preference of riskier investment options in a scenario of high economic growth. High exchange rate increases FII inflows in the debt market as strong dollar helps FIIs buy more in rupee terms but the net inflows in the debt market gets reduced as rupee depreciation affects the value of the rupee bond holding of the FIIs. So in the case of debt market more than returns, it is the level of economic growth and exchange rate that matters to FIIs.

Regarding global financial crisis, research shows that it positively and significantly impacted the FII net purchases in Indian debt market but there is no significant impact on the FII purchases and sales in debt market. Though FIIs became net sellers in the equity market during crisis, but they were net buyers in debt market. Even after the crisis their investment in debt market in India continues to increase indicating their risk averse behavior as well as their inclination towards safer and higher yields investment.

The results have important implications for policy makers, regulators and investors at large. Given the relative dormant status of Indian debt market,

the policy makers and regulators need to understand that FII flows can bring in the much needed depth and liquidity in Indian debt market. Since IIP and exchange rate are found to be significantly affecting these flows, it is essential to have stable growth and foreign exchange market. The investors can also exploit the high yields offered by Indian debt market, especially when equity market is highly volatile.

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Initial Public Offerings (IPOs) in India — Nature of Return and Performance

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Indian corporate made more number of IPOs during the ten years period from 2001 to 2010. The study has been undertaken to analyse the IPO performance of Indian companies during 2001 to 2010 on the basis of its nature of return on the first day of trading. The study used an event study methodology, for which an event window was constructed with 75 days and Average abnormal returns (AAR) and Cumulative average abnormal return (CAAR) were calculated to analyse the performance of IPOs. To calculate market adjusted return, the broad based index BSE-500 was considered as the benck mark. The study found that Indian IPOs underperformed irrespective of its nature of return on the first day of trading. It was also evidenced that the set of companies which had negative return on the first day of trading severely underperformed than the set of companies which had positive return on the first day of trading.

Introduction

Issue of equity shares is a major and popular source of finance for long term requirements. Corporate prefer this type of finance because it does not have any fixed payout, such as dividend and it does not have any maturity period to pay back the capital. When a corporate issues equity shares to public for the first time; it is called as Initial Public Offerings (IPOs) and this has been made through primary market. They may also raise such finance by other ways such as, follow-on public offerings (further issues) or right issues or private placement. Rights issue is offered to the existing shareholders of the company. Private placement is offered to the promoters of the company and some specified institutions like financial institutions. Private placement envisages private sale of shares. In this case shares are subscribed by promoters themselves or they may request their friends or relatives to associate with them. Generally the amount of capital raised through equity issues is large under public offerings than the other types of issues. In case of public offerings as a follow on issue, private placements and rights issues do not involve any risk relating to pricing efficiency since the track record

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forms the basis for price fixation. In the case of initial public offerings this track record especially with regard to market prices are not available which makes pricing efficiency predominant. Price fixation of shares at the time of issue is of great importance since it is considered to have a long term impact on the market value determination of these shares. There are a number of instances where high prices are fixed for IPOs and later when market prices prevail on realistic basis which some time is far below the issue price, thereby leading to heavy losses for initial investors.

Companies make public offerings under either fixed price method or book building method or a combination of both. Under fixed price method, the offer price for the securities is fixed and intimated to the investors in advance. Under book building process the issue price is not fixed in advance. Companies offer shares at a range of price which is referred to as a price band and within the price band the investors are allowed to bid. The final price of the security is determined only after the closure of the bidding. Book building is more or less similar to auction. There are two types of book building process (i) 75 per cent book building process and (ii) 100 per cent book building process. Under 75 per cent book building process method, 25 per cent of shares are offered at a fixed price and 75 per cent through book building process. Under the second method the entire share issue is offered through book building process. Under book building process of public offerings, 35 per cent of the offerings are reserved for retail investors, 50 per cent are reserved for Qualified Institutional Buyers (QIBs) and remaining 15 per cent offerings are reserved for non-institutional investors they are popularly known as high networth individuals.

Literature Review

McDonald and Fisher (1972) found large significant returns for the initial subscribers in the first week of 142 common stocks in US during 1969-1970. John and Gary (1987) found negative returns over a four to six weeks period following the listing of 2482 listings on the New York Stock Exchange during the period 1926 to 1982. Glenn (1990) stated that the events which do not have data prior to the event, the market adjusted returns is calculated because there is no estimation period for such event. Hence the market adjusted return is calculated by subtracting market return from the actual return of a particular share in the model developed by him. Jay (1991) documented that overpricing of US IPOs appeared to be a short-run phenomenon and a substantial variation in the underperformance were found year to year and industry to industry. Mario (1993) found 14.3 per cent positive return on the first day of trading and underperformance of IPOs in UK in a number of benchmarks in 36 full months of public listing following their first day trading. Madhusoodanam and Thiripalraju (1997) found underpricing of IPOs in India in short-run and it was higher than the results of other countries. Alan et al (2000) found that small issuing firms with low book-to-market ratios had underperformance and the stock return after equity issuances, reflected highly in the existing return pattern in the publicly traded companies.

Samy and Hatem (2001) found substantial positive abnormal return on the first day of listing of IPOs listed in Tunis Stock Exchange, but there was poor performance during the subsequent period from listing. Arwah (2003) found significant excess return of Indian IPOs on first day of trading. Ting Tse (2003) documented 123.59 per cent of average initial return of Chinese companies. Michael et al (2007) found a positive influence of innovation outputs (patents) on underpricing of IPOs and firm information was interpreted differently by IPO market, depending on the firms' competitive context. Shikha and Balwinder (2007) found that there was negative buy and hold abnormal return of Indian companies between 18 and 40 months of holding but such underperformance disappeared after 40 months. Muhammad and Mohamed (2007) found 35.66 per cent average under pricing of Pakistani firms. They documented that the level of underpricing was determined by uncertainty, offer size, market capitalization and oversubscription.

Walid and Ahmad (2008) found that the CAAR had significant negative abnormal returns of Jordanian IPOs, where as the calendar-time approach evidenced that the long-term performance were not different than that of the overall market. Dorsaf el al (2009) found that the over optimistic of market expectations observed in prices in the first year following the announcement of seasoned equity offerings in Tunisian stock exchange. Rohini (2009) documented the existence of under pricing in National Stock Exchange of India and it was severe in short-run. Aysa (2010) found using an equally weighted buy and hold abnormal Return that the IPOs had significantly underperformed in long-run in Turkey, but under cumulative abnormal return over performance was found. Ganesamoorthy and Shankar(2012) found under performance of Indian IPOs made during 2001 to 2010. Rajagopalan (2012) found that the buy-back offerings by Indian listed companies generated both positive and negative returns in event day but both categories generated positive returns in the post event period by taking the buy-back information as good news. Ganesamoorthy and Shankar (2013) found that performance of large-size IPOs was better than that of small and medium-size IPOs. The results further revealed that small-size IPOs were overpriced than medium and large-size IPOs.

Statement of Problem

Corporate list their shares immediately after making IPOs in recognised stock exchanges and latter the value of such equity is determined by the market. The movement of price on the event of IPO is determined by the perception of the investors. Initial return i.e. return on the first day of IPO plays vital role in perceiving future value of such equities. Sentimentally shares which have given positive return on the first day may give successive positive returns and shares which have negative return on the first day on trading may give more negative return than positive. In the view of verifying this aspect the study has made an attempt to know IPO performance on the basis of nature of return on the first day of trading.

Objectives

The study has been done with the following specific objectives.

1. To study the price impact of IPOs of the companies on the basis of nature of return on the first day of trading and

2. To study the persistence of price impact of IPOs of the companies on the basis of nature of return on the first day of trading .

Data and Methodology

The study considered 219 initial public offerings made by Indian companies during the study period of ten years between 2001 and 2010. The list of companies which made IPOs during the study period was collected from PROWESS data base maintained by Centre for Monitoring Indian Economy (CMIE). The study required daily share price of sample companies and daily index data of BSE-500. These data were collected from official website of Bombay Stock Exchange (BSE). Total number of sample companies was divided into two groups on the basis of their return on the first day of trading. The companies which earned positive return were grouped under first group which numbered 110 and remaining 109 companies earned negative return on the first day of trading and they were grouped under second group and analysis were made accordingly.

Event Study Methodology

For the purpose of this analysis an event study methodology was adopted as identified by (Glenn, 1990). Event day is considered as the day in which a major event happened in a particular company. An event window is to be framed, which consists of certain number of days before the event day and the same number of days after the event day. Studying price movements during the event window would help assessing the impact. In order to study the IPO performance, the change in the market value of the shares subsequent to IPO has to be assessed. The change in market prices may occur due to change in general economic conditions and industry related conditions, which is referred to as general market factors which affect the prices of all the shares in the market. Another set of factors is specific company related, which is due to change in company related information. In order to assess the impact of the specific event identified for the study and its price impact, of the total change in price the change due to market related factors affecting the price need to be eliminated. The resulting change is referred to market adjusted return. In other words, market adjusted return would reflect the change in the value of shares exclusively due to company related factors.

The study considered BSE-500 as to reflect the changes in general market factors. The difference between the actual return and market return during the event window which is the market adjusted return is considered as abnormal return (AR). Average abnormal return (AARs) is the average of all share returns for each day of the event window. In framing the event window

and price changes, as market adjusted or holding period return cannot be calculated data prior to the event date will not be available since in case of initial public offerings, since shares will be traded only from the date of its listing in a stock exchange and data related to share prices will be available only from the trading day. For the study a 75 days event window was determined. Average abnormal returns (AARs) were calculated for each day of the event window. Market adjusted return (AARs) were calculated by subtracting market returns from the actual returns of respective stock.

In order to calculate abnormal return, actual return of respective stock and return on market index were calculated as:

$$R_m = \frac{M_t - M_{t-1}}{M_t} \times 100$$

where, M_t = market return at day 't'

$$R_j = \frac{R_{jt} - R_{jt-1}}{R_{jt}} \times 100$$

where, R_{jt} = actual return of security 'j' at day 't'

Abnormal return was calculated as

$AR_{jt} = R_{jt} - R_{mjt}$

where, AR_{jt} = actual return of security 'j' at day 't'

R_{mjt} = market return at day 't'

The Average Abnormal Returns (AARs) of shares on a particular day 't' is calculated as

$$AAR_t = \frac{1}{2} \sum_{j-t}^{N} AR_{jt} = \frac{AR_{j^1} + AR_{j^2} + AR_{j^3} + ... AR_{jN}}{N}$$

where, N denotes number of securities considered for day 't'

Cumulative average abnormal returns (CAARs) were also calculated for anlysing the persistent effect in the price. Cumulative Average Abnormal Returns (CAARs) are the sums of daily average abnormal returns (AARs) during the event window.

$$CAAR_t = \sum_{t-k}^{+k} AAR_t$$

't' test for Abnormal Return

The average abnormal return (AAR) and cumulative average abnormal return (CAAR) were calculated for Indian IPOs for the study period. In order to check the efficiency of market, student 't' test has been applied (two tailed) to know the significance of the abnormal return.

An estimator of σ can be constructed from the cross sectional variance of the abnormal returns in period t and is denoted by:

$$S_t = \sqrt{\frac{1}{N-1} \sum_{i=1}^{N} \left(AR_{jt} - AAR_t \right)^2}$$

Where, N is the number of share companies considered

AR_{it} = Abnormal return of company j at time 't'

AAR_t = Average abnormal return of particular day 't'

The above yields the following test statistic for the AARs

$$t = \sqrt{N} \frac{AAR_t}{S_t} \sim t_{N-1}$$

The test statistic follows student 't' distribution with N-1 degrees of freedom and approximately follows a standard normal distribution. This is a result of the central limit theorem, which states that under these assumptions, $\sqrt{N}$ times the average divided by the standard deviation converges to a standard normal random variable. Therefore,

$$t = \sqrt{N} \frac{AAR_t}{S_t} \approx N(0.1)$$

't' test for Cumulative Abnormal Returns

In order to analyse the adjustments of prices it is needed to test the significance of abnormal returns in a event window around t = 0. Cumulative average abnormal returns over the event window are tested for its significance.

The standard deviation is calculated as:

$$S_t = \sqrt{\frac{1}{N-1} \sum_{j=1}^{N} \left(CAR_{jt} - CAAR_t \right)^2}$$

where, N is the number of companies considered for the study

CAR_{jt} = Cumulative Abnormal Return of Share j at time 't'

$CAAR_t$ = Cumulative Average Abnormal Return of a day 't'

The test statistics is

$$t = \sqrt{N} \frac{CAAR_t}{S_t} \approx N(0.1)$$

Analysis and Discussion

In the sample IPOs, some provided positive returns and some gave negative returns on the first day of trading. In order to know how the initial reaction was and whether this reaction was sustained or broken during the

subsequent period, the analysis categorizes the selected companies based on the nature of return namely positive or negative on the day immediately after listing. The results of the analysis are presented in the following tables.

Table 1: AAR and CAAR of Initial Public Offerings of positive return companies

Day	AAR %	t value	C A A R %	t value	Day	AAR %	t value	C A A R %	t value
1	6.9331	12.9195[a]	6.9331	12.9195[a]	39	−0.6403	−1.8692[c]	−1.2709	−0.3627
2	−0.0539	−0.0839	6.8792	7.5786[a]	40	−0.6077	−2.0994[b]	−1.8787	−0.5370
3	−1.4738	−3.0746[a]	5.4054	5.3774[a]	41	−0.6769	−2.0986[b]	−2.5556	−0.7289
4	−0.1578	−0.2742	5.2475	4.2722[a]	42	−0.1164	−0.3751	−2.6720	−0.7505
5	−0.7325	−1.5738	4.5151	3.3209[a]	43	0.3413	0.9104	−2.3307	−0.6598
6	−0.2776	−0.5802	4.2375	2.8005[a]	44	0.3135	0.7506	−2.0172	−0.5704
7	−0.6752	−1.5162	3.5623	2.2161[b]	45	0.8460	2.0237[b]	−1.1712	−0.3299
8	−0.8041	−1.7676[c]	2.7582	1.6126	46	−0.2464	−0.6409	−1.4177	−0.3987
9	−0.4201	−0.9178	2.3381	1.2984	47	−0.0708	−0.2157	−1.4885	−0.4157
10	0.6474	1.4350	2.9855	1.5486	48	−0.1077	−0.3353	−1.5962	−0.4338
11	−0.6579	−1.5097	2.3275	1.2068	49	−0.4221	−1.3574	−2.0183	−0.5348
12	0.1962	0.4721	2.5237	1.2713	50	0.1209	0.3515	−1.8974	−0.4940
13	0.1202	0.2712	2.6439	1.2828	51	0.0535	0.1796	−1.8439	−0.4802
14	−0.2104	−0.4320	2.4335	1.0808	52	−0.5120	−1.8589[c]	−2.3559	−0.6045
15	−0.5669	−1.7566[c]	1.8665	0.8239	53	−0.3351	−1.0460	−2.6910	−0.6892
16	−0.4256	−1.0366	1.4409	0.6312	54	−0.3678	−0.8560	−3.0588	−0.7697
17	−0.3916	−0.9834	1.0493	0.4399	55	−0.2779	−0.7390	−3.3367	−0.8340
18	0.4033	0.9563	1.4526	0.5835	56	−0.3223	−1.1106	−3.6590	−0.9205
19	−0.1839	−0.3986	1.2687	0.4978	57	−0.3988	−1.3458	−4.0578	−1.0060
20	−0.2601	−0.6788	1.0086	0.3719	58	−0.3386	−0.8957	−4.3964	−1.0784
21	0.5183	1.3725	1.5269	0.5511	59	−0.1168	−0.3537	−4.5133	−1.0987
22	−0.2168	−0.6286	1.3101	0.4680	60	−0.2526	−0.6900	−4.7658	−1.1637
23	−0.7450	−2.1788[b]	0.5651	0.2016	61	0.7744	2.0464[b]	−3.9914	−0.9679
24	−0.5243	−1.3000	0.0408	0.0142	62	−0.0945	−0.2762	−4.0859	−0.9881
25	0.4250	1.1754	0.4658	0.1599	63	−0.1030	−0.3348	−4.1890	−1.0048
26	−0.0507	−0.1250	0.4151	0.1397	64	−0.0402	−0.1346	−4.2292	−1.0037
27	−0.1455	−0.4378	0.2696	0.0881	65	−0.0002	−0.0005	−4.2294	−0.9819
28	−0.2323	−0.6632	0.0372	0.0120	66	0.2246	0.6537	−4.0048	−0.9165
29	−0.1260	−0.3911	−0.0888	−0.0283	67	−0.0370	−0.1032	−4.0417	−0.9153
30	−0.2925	−0.9841	−0.3813	−0.1203	68	0.0756	0.2327	−3.9661	−0.8910
31	−0.1203	−0.2836	−0.5017	−0.1548	69	0.2948	0.8187	−3.6713	−0.8144
32	−0.0320	−0.0783	−0.5337	−0.1628	70	0.1578	0.5257	−3.5135	−0.7845
33	0.0786	0.1853	−0.4551	−0.1358	71	−0.2793	−0.7510	−3.7928	−0.8425

34	-0.0825	-0.2481	-0.5376	-0.1598	72	0.0780	0.2013	-3.7149	-0.8341
35	-0.1344	-0.4202	-0.6719	-0.2002	73	0.2505	0.9005	-3.4643	-0.7738
36	-0.0258	-0.0767	-0.6977	-0.2072	74	-0.0884	-0.2489	-3.5527	-0.7927
37	-0.0465	-0.1307	-0.7442	-0.2171	75	0.2866	0.7222	-3.2661	-0.7214
38	0.1135	0.2896	-0.6307	-0.1821					

a – Significant at 1% level, b – Significant at 5% level, c – Significant at 10% levelFigures in blocks indicate significance of t statistics Source: Computed from data collected from bseindia.com

Table 1 shows the average abnormal return (AAR) of the group of companies which had positive returns on the first day of trading. It is seen that a high abnormal return on the first day of trading at 6.9331% occurred and it was statistically significant at 1% level. But from the second day onwards it had negative return for eight days continuously. Among them on third and eighth days, the AARs were statistically significant at 1% and 10% levels respectively.

Eventhough it had abnormal return on first day, it started to adjust itself from second day onwards. In third day of trading it had more than one per cent of negative abnormal return (-1.4738%), which was statistically significant at 1% level. AAR on 8th day stood at -0.8041% and was significant at 10% level. AAR on 23, 40 and 41st days were negative at -0.7450, -0.6077 and -0.6769% and they were statistically significant at 5% level.

AAR on 15, 39 and 52nd days also were negative (-0.5669, -0.6403 and -0.5120%) but they were significant at 10% level. It had positive abnormal return at 0.8460 and 0.7744% on 45 and 61st day respectively and they were significant at 5% level. In the event window, returns for 22 days were positive and for 53 days it was negative. Out of the positive returns on 22 days, on one day it earned more than one per cent returns, on 4 days it earned more than half a per cent positive return and on the remaining 17 days AARs were lesser than half a per cent. Of the negative returns on 53 days, only one day it was more than one per cent, on 11 days it experienced with more than half a per cent and on the remaining 41 days it was less than half a per cent. Out of 75 days event window, the AARs for 11 days only were statistically significant at different levels. Returns of remaining 64 days were not statistically significant.

Table 1 also shows the CAAR for the set of companies, which had positive return on the first day of trading. Positive significant abnormal return is found during the first seven trading days of the event window. CAAR of the first six days were statistically significant at 1% level, CAAR of seventh day stood at 3.5623%, which is statistically significant at 5% level but other CAARs for the rest of the days were not statistically significant. The decreasing trend of CAAR showed that, eventhough this set of companies had very high abnormal return on the first day of trading, it started to adjust itself from second day onwards. CAAR stood more than 6% for the first two days of trading and it went down and showed over 5% return on third and fourth day of trading. It was over 4% for two days on 5and 6th day and decreased to around 3% on seventh day. The CAAR went down further and continued

more than 2% from eighth day to fourteenth day of trading. Due to continuous negative returns, CAAR decreased further and stood at around one per cent for 8 days from 15 to 22nd day. CAAR of these set of companies went below one per cent and continued in the same trend upto 28th day of trading.

On 29th day, the CAAR became negative (-0.0888%) and the negative trend was followed till the last day of the event window. It had less than one per cent negative return for ten trading days from 29th to 38th day. From 39th day onwards, the CAAR decreased with more than one per cent negatively and remained for two days. It decreased further and went to over 2% negatively for four trading days from 41st to 44th day. Because of continuous positive returns, CAAR again improved and stood around one per cent negatively and remained for four days. There after, the CAAR was fluctuating from a negative of 2% to 4%. The CAAR on 75th day stood at 3.2661% negative. It is inferred that the IPOs of the set of companies which had positive return were underperformed.

Table 2: AAR and CAAR of initial public offerings of negative return Companies

Day	AAR %	t value	CAAR%	t value	Day	AAR %	t value	CAAR%	t value
1	-4.9764	-13.3042[a]	-4.9764	-13.3042[a]	39	-0.5287	-1.6755[c]	-13.4240	-4.7194[a]
2	0.1014	0.1747	-4.8750	-7.9465[a]	40	-0.2168	-0.7163	-13.6408	-4.8175[a]
3	-0.8838	-1.7860[c]	-5.7588	-6.9651[a]	41	-0.2212	-0.6571	-13.8619	-4.8509[a]
4	-0.6434	-1.3994	-6.4022	-6.0989[a]	42	-0.1895	-0.6236	-14.0515	-4.8723[a]
5	0.0225	0.0458	-6.3797	-5.2732[a]	43	0.2274	0.6791	-13.8241	-4.6560[a]
6	-0.2203	-0.5093	-6.6001	-4.9465[a]	44	-0.7404	-2.6450[a]	-14.5644	-4.7714[a]
7	0.3472	0.6998	-6.2529	-4.1894[a]	45	-0.1635	-0.4795	-14.7279	-4.7435[a]
8	-1.0752	-2.6269[a]	-7.3281	-4.6861[a]	46	-0.6645	-2.1784[b]	-15.3924	-4.8327[a]
9	-0.4461	-1.0923	-7.7742	-4.5997[a]	47	0.1084	0.3477	-15.2840	-4.7094[a]
10	-0.2399	-0.5962	-8.0141	-4.5489[a]	48	-0.5049	-1.7582[c]	-15.7890	-4.8339[a]
11	-0.3736	-1.2145	-8.3877	-4.6573[a]	49	-0.0255	-0.0879	-15.8144	-4.7801[a]
12	0.1180	0.2840	-8.2698	-4.5236[a]	50	0.3757	1.1323	-15.4387	-4.6260[a]
13	-0.2631	-0.9321	-8.5329	-4.5635[a]	51	-0.3222	-1.1027	-15.7609	-4.6718[a]
14	-0.0300	-0.0810	-8.5629	-4.2801[a]	52	-0.1605	-0.5080	-15.9214	-4.6922[a]
15	-0.0226	-0.0553	-8.5854	-4.2359[a]	53	0.1396	0.4483	-15.7818	-4.5985[a]
16	-0.8775	-3.1202[a]	-9.4629	-4.6039[a]	54	-0.6822	-2.4457[b]	-16.4640	-4.8195[a]
17	-0.6739	-2.1727[b]	-10.1368	-4.8092[a]	55	-0.1598	-0.4763	-16.6238	-4.8726[a]
18	-0.2776	-0.6824	-10.4144	-4.9208[a]	56	-0.1336	-0.4777	-16.7574	-4.8444[a]
19	0.5405	1.6672[c]	-9.8739	-4.6460[a]	57	0.3990	1.1067	-16.3584	-4.7681[a]
20	-0.5262	-1.8003[c]	-10.4001	-4.8250[a]	58	0.2730	0.8949	-16.0854	-4.6726[a]
21	0.2331	0.7241	-10.1671	-4.6849[a]	59	0.0999	0.4170	-15.9854	-4.6581[a]
22	-0.4284	-1.4314	-10.5955	-4.7073[a]	60	-0.1595	-0.5793	-16.1449	-4.7370[a]
23	-0.2921	-0.7826	-10.8876	-4.7622[a]	61	-0.1751	-0.7401	-16.3201	-4.8221[a]

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24-0.0664-0.1808-10.9540-4.6481ᵃ62-0.3577-1.3399-16.6778 -4.8911ᵃ

25-0.2009-0.5645-11.1549-4.7197ᵃ630.15830.4734-16.5195 -4.8189ᵃ

26-0.3225-0.9944-11.4774-4.9278ᵃ64-0.0597-0.1781-16.5792 -4.8436ᵃ

27-0.3550-1.2400-11.8324-4.9608ᵃ650.18480.6308-16.3944 -4.8130ᵃ

28-0.4212-1.3741-12.2536-5.1253ᵃ660.30160.8328-16.0928 -4.6320ᵃ

29-0.4105-1.4735-12.6641-5.2072ᵃ670.21190.6237-15.8809 -4.5564ᵃ

30-0.0861-0.2897-12.7502-5.1867ᵃ68-0.1984-0.5174-16.0793 -4.5959ᵃ

31-0.3983-1.3327-13.1485-5.2420ᵃ690.07540.2623-16.0040 -4.5581ᵃ

32-0.0877-0.3102-13.2363-5.2443ᵃ70-0.7374-2.6601ᵃ-16.7413 -4.6942ᵃ

33-0.3230-0.8807-13.5592-5.3845ᵃ71-0.0046-0.0165-16.7459 -4.6586ᵃ

34 0.3199 0.9279-13.2394-5.0730ᵃ72-0.6782-1.3557-17.4241 -4.7640ᵃ

35-0.1875-0.5889-13.4269-5.0184ᵃ73-0.5076-1.9815ᵇ-17.9318 -4.7813ᵃ

36 0.1410 0.4024-13.2859-4.8324ᵃ74-0.2177-0.7112-18.1494 -4.7333ᵃ

37 0.1589 0.4748-13.1270-4.6454ᵃ75-0.0600-0.1719-18.2094 -4.6304ᵃ

38 0.2318 0.5556-12.8952-4.6101ᵃ

a – Significant at 1% level, b – Significant at 5% level, c – Significant at 10% levelFigures in blocks indicate significance of t statistics Source: Computed from data collected from bseindia.com

Table 2 shows the average abnormal return (AAR) of the set of companies which had negative return on the first day of trading. The set of companies had high average negative return on the first day of trading at -4.9764%, which was statistically significant at 1% level. AAR on 8, 16, 44 and 70ᵗʰ days were negative at -1.0752, -0.8775, -0.7404 and -0.7374% respectively and they were statistically significant at 1% level. The negative abnormal returns on 17, 46, 54 and 74ᵗʰ days stood at -0.6739, -0.6645, -0.6822 and -0.5076% respectively, which were significant at 5% level. AAR on 3, 20, 39 and 48ᵗʰ days (-0.8838, -0.5287 and -0.5049%) were significant at 10% level.

Out of 53 negative returns in 15 days the rates of return were

more than half a per cent, but on the other hand, out of 22 days of positive returns, only one day it had more than half a per cent return (19th day). AARs for only 14 days were statistically significant and other AARs were not significant and of which, on 19th day it had positive AAR at 0.5405%, which was significant at 10% level. Other significant AARs were negative.

During the event window of 75 days AARs on 14 days only were statistically significance at different levels. Among the 75 trading days considered for the event window, in 22 days there were positive returns and on 53 days these companies experienced negative returns. On two days it had more than one per cent negative returns, but in no day it had positive return with more than one per cent. On 16 days AARs were more than half a per cent return, of which 1 was positive and 15 were negative. In remaining 57 days AARs were less than half a per cent, of which 21 were positive and 36 were negative.

The overall results of average abnormal return over the 75 days of the event window shows that the return of Indian IPOs with negative return on first day of trading, experienced a continuous negative returns on most of the days (53 days) and the percentage of negative returns also were higher compared to the return of IPOs with positive return on first day of trading.

Table 2 also reports the cumulative average abnormal return (CAAR) of companies which had negative return on the first day of trading. Overall the CAAR had been negative. All the CAARs of the event window were statistically significant. It is noted that these results were statistically strong, because all the CAAR were significant at 1% level of significance. The CAARs were above 4% negative in first two days and they went up to over 5% negative on the third day of trading (-5.7588%). The CAAR further decreased and stood over 6% negative for four trading days from 4th to 7th day of trading. Due to negative returns, it went to over 7% negative and remained at that level for two days. CAAR reached 8% negative on 10th trading day and continued with over 8% negative for six days. CAAR had an improvement on 19th day of trading (from -10.4144 to -9.8739%), because of over half a per cent positive return on that day. But immediate negative returns were followed from 20th day, to reach negative 10% again on 20th day. It reached negative 11 and 13 % on 25th and 31st days respectively. Because of positive returns it went down a little and ended at 12% negative on 38th day. There after CAAR had constantly decreased over the event window. On 41st day, it stood at -13.8241%. CAAR was more than 14% negative from 42 to 45th day. It fell further and reached 16% negative on 54th day and
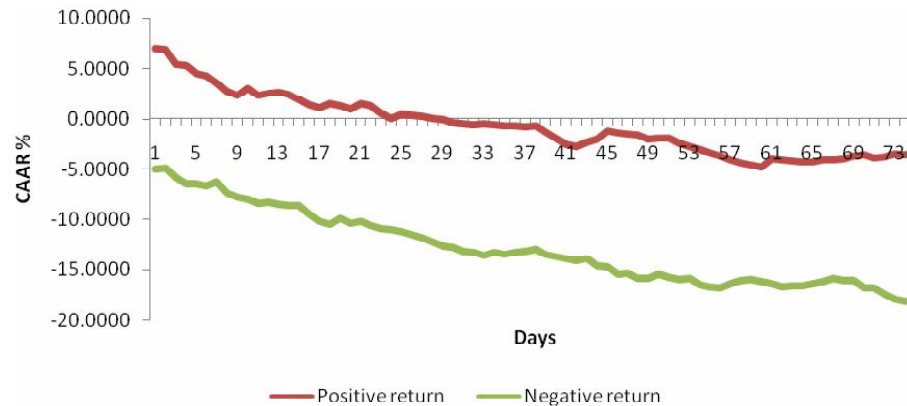
of both the set of companies with positive return and negative returns on the first day are presented in Figure 1.

The Figure captures clearly the fact that right from day 3 a declining trend in the prices existed indicating that the market perception of the initial pricing of the shares by the companies had been on the higher side. This clearly shows the continuous negative trend in the values. Overall it could be stated that underperformance of IPOs is found on all the IPOs irrespective of the nature of subsequent price prevailing in the market. The negative return on the set of companies which experienced positive return on the first day of trading was comparatively lesser than the negative return incurred by the set of companies which experienced a negative return on the first day of trading.

Figure 1: CAAR of Initial Public Offerings on the basis of nature of return

Conclusion

The study has attempted to verify IPO performance in India on the basis of nature of return on the first day of trading. This

indicates that the price fixed for the shares by the respective companies had been discounted by the market due to not being up to the perceived level of efficiency. Hence it could be stated that the reaction of the market to the price immediately after the IPO was adverse, indicating that the price of issue had been excessive and the market discounted the price heavily. But subsequently the daily price movement was at the same levels without any major variation and was mostly negative indicating a continuous fall in value. The study found that Indian IPOs during 2001 to 2010, 110 IPOs had given positive return on the first day of trading and 109 IPOs had given negative return. Their performance were analysed separately. It was found that Indian IPOs underperformed irrespective of its nature of return on the first day of trading. It was also evidenced that the set of companies which had negative return on the first day of trading severely underperformed than the set of companies which had positive return on the first day of trading.

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Performance Measurement of New Private Sector Banks in India

Naresh Malhotra and Parvesh Kumar Aspal

The present study is a descriptive research based on analytical research design and aims to analyze the financial performance of the new Indian private sector banks using CAMELS model. The study observed that there is a significant difference in ratios in CAMELS among the new private sector banks in India. The study reveals that Kotak Mahindra Bank stands first rank having excellent performance followed by Axis Bank, whereas ICICI Bank has secured last rank in terms of performance. ICICI Bank has to improve its CAR, asset quality and liquidity position. In the same line, Development Credit Bank should take necessary steps to increase the management efficiency, earning capacity; Yes Bank has to increase its CAR and asset quality.

Introduction

The phase of development of the banking sector is a good reflection of the development of the economy. Examination of financial performance of the banking sector is an efficient measure and indicator to judge the soundness of economic activities of an economy. The banking sector's performance is perceived as the replica of economic activities of the economy. Sound financial health of a bank is very significant not only to its depositors but is equally significant for the investors, employees and economy as a whole. Therefore, efforts have been made at regular interval, to analyze the financial position of the bank and manage it effectively.

Sundararajan et al. (2002) argued that the financial system, the bank in particular, is exposed to a variety of risks that are growing more complex nowadays. Furthermore, the economic downturn of 2008 which resulted in bank failures, are triggered in the U.S. and then wildly spread worldwide. It therefore increasingly urges the need of more frequent banking examination. There is a substantial improvement in the supervisory system of banking sector in terms of recovery, management efficiency, assets quality, earning quality and liquidity to regulate the level of risk of commercial banks. The

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policy makers have recommended bank supervision by using CAMELS (capital adequacy, asset quality, management quality, earnings, liquidity and sensitivity) rating criterion to assess and examine the performance and financial soundness of the bank. The CAMELS supervisory criterion in banking sector is a significant improvement over the earlier. In order to avoid the crisis and protect the depositors and the economy, Governments paid due attention to regulate the economy through their central banks to foster a sound and healthy banking system (Heffernan, 1996 and Shekhar & Lekshmy, 2007). Thus, Reserve Bank of India recommended two supervisory rating models named as CAMELS (Capital Adequacy, Assets Quality, Management, Earning, Liquidity, Systems and Controls) and CACS (Capital Adequacy, Assets Quality, Compliance, Systems and Controls) for rating of Indian commercial Banks and Foreign Banks operating in India.

Review of Literature

Chakrabarthy (1986) has made an empirical study of the relative performance of different groups of banks based on three basic parameters i.e. profit, earnings, and expenses. The study has recommended that for more effective profit planning scheduled commercial banks should take up some exercise to evaluate the relative performance. Varde (1988) distinguished between effectiveness, efficiency and productivity of banks and has classified efficiency of a bank into four categories i.e. manpower efficiency; operational efficiency; commercial efficiency; and efficiency of ancillary business. Efficiency with respect to all four categories can be measured separately, and this efficiency in turn has got a positive influence on the productivity of the respective category. Arora and Kaur (2008) have examined the internal determinants of diversification moves by banks taking two dependent variables, i.e. net interest margin, and non-interest margin. It has been observed that all the four explanatory variables viz. risk, technological change, cost of production, and regulatory cost have got significant influence on the variations in the structure of income of the banks. Aburime (2009) studied the determinants of profitability of 33 Nigerian banks from 2000 to 2004 with particular reference to individual bank. The result depicted that credit portfolio, capital size and ownership concentrations were significantly related to bank profitability.

Hirtle and Lopez (1999) stressed that the bank's CAMEL rating is highly confidential, and only exposed to the bank's senior management for the purpose of projecting the business strategies, and to appropriate supervisory staff. CAMEL is an acronym for five components of bank safety and soundness: capital adequacy, asset quality, management quality, earning ability and liquidity. A study conducted by Lace and Stephen (2001) showed that there is definitely a relationship between bank efficiency scores and financial ratios used to proxy a bank's CAMEL rating. Prasuna (2004) analyzed the performance of Indian banks by adopting the CAMEL model. The study concluded that the competition was tough and consumers benefited from better services quality, innovative products and better bargains. Similarly Kapil (2005) investigated the relationship between the CAMEL

ratings and the bank stock performance. The viability of the banks was analyzed on the basis of the offsite supervisory exam model—CAMEL model. On the other hand Singh and Kohli (2006) undertook SWOT analysis of 20 old and 10 new private sector banks. These banks have also been ranked on the basis of financial data for the years 2003-2005 and the performance was evaluated by using CAMEL model.

Milligan (2002) concluded that many banks are not aware of how to assess their ratings but there is a great need to understand the work of the banks and what to do when something goes wrong. It is very crucial to assess the soundness of banks and financial institutions through rating system which is used by federal and state regulators, usually known as CAMELS rating system. Sarker (2005) in Bangladesh examined the CAMELS model for regulation and supervision of Islamic banks by the central bank. This study enabled the regulators and supervisors to get a Shariah benchmark to supervise and inspect Islamic banks and Islamic financial institutions from an Islamic perspective. Christopoulos (2011) research results of Lehman Brothers for the five years (2003-2007) showed that its credits were found as bad and doubtful. Further, the management was not complying with the rules set by the supervisory authorities and risk management methods followed were insufficient. Dahiyat (2012) suggested a framework to assess the performance of Jordanian brokerage firms by developing a CAMELS' based banking rating system. This framework would also be helpful to supervisory bodies, investors, clients, stakeholders and researchers.

Research Methodology

CAMELS is a ratio-based model to appraise the performance of banks. The present study is a descriptive research based on analytical research design. Out of Indian private sector banks only new private sector banks viz. Axis Bank, Development Credit Bank, HDFC Bank, ICICI Bank, Indusind Bank, Kotak Mahindra Bank and Yes Bank have been selected for the purpose of present study. The data of the sample banks for a period of 5 years (2008-2012) have been collected from the published annual reports of the banks. Eighteen financial ratios have been selected to assess the performance of banks. Five year average has been calculated with the help of simple arithmetic mean.

Objectives of the Study

The objectives of the study are:

1. To analyze the financial position and performance of the new Indian private sector banks using CAMELS model.

2. To give recommendations and suggestions for the financial improvement of new Indian private sector banks.

Hypothesis

There is no significant difference in performance of old private sector banks as assessed by CAMELS model.

Analysis and Discussion

Capital Adequacy

Capital adequacy is one of the crucial indicators of the financial health of banking system. It plays an important role to conserve and protect stakeholders' confidence and preventing the bank from bankruptcy. It reflects whether the bank has enough capital to bear unexpected losses arising in the future. Athansasoglou et al. (2006) opined that capital is one of the bank specific factors that influence the level of bank profitability. Capital is the amount of own fund available to support the bank's business and act as a buffer in case of adverse situation.

Capital Adequacy Ratio (CAR): This ratio is computed to ensure that banks can bear a reasonable level of losses arising from operational losses. Higher the CAR ratio, indicates stronger the bank and the more will be the protection of investors. The banks need to maintain 9% capital adequacy ratio as per latest RBI norms. CAR = (Tier-I Capital + Tier-II Capital)/Risk Weighted Assets.

Table 1: Capital Adequacy ratio

Sr. No.	Bank	2008	2009	2010	2011	2012	Mean	Rank
Capital Adequacy Ratio								
1.	Axis Bank	13.73	13.69	15.80	12.65	13.66	13.90	6
2.	Development Credit Bank	13.38	13.30	14.85	13.25	15.41	14.03	5
3.	HDFC Bank	13.60	15.69	17.44	16.22	16.52	15.89	4
4.	ICICI Bank	14.92	15.53	19.41	19.54	18.52	17.58	2
5.	Indusind Bank	11.91	12.33	15.33	15.89	13.85	13.86	7
6.	Kotak Mahindra Bank	18.65	20.01	18.35	19.92	17.52	18.89	1
7	Yes Bank	13.60	16.60	20.60	16.50	17.90	17.04	3
Debt-Equity Ratio								
1.	Axis Bank	64.12	99.71	107.01	138.26	149.38	111.69	3
2.	Development Credit Bank	67.09	57.75	83.76	138.5	130.42	95.50	2
3.	HDFC Bank	39.96	18.33	60.01	56.71	79.68	50.93	1
4.	ICICI Bank	140.21	134.96	182.61	198.86	232.04	177.73	7
5.	Indusind Bank	81.16	111.53	205.83	136.42	183.09	143.60	4
6.	Kotak Mahindra Bank	142.45	151.17	135.25	171.56	207.94	161.67	5
7	Yes Bank	74.77	134.77	153.71	176.35	302.70	168.46	6

Advances/Assets Ratio (%)

1.	Axis Bank	54.5	55.2	57.8	58.7	59.4	57.12	2
2.	Development Credit Bank	53.7	55.1	56.4	57.9	60.9	56.80	4
3.	HDFC Bank	47.6	54.0	56.6	57.7	57.8	54.74	6
4.	ICICI Bank	56.4	57.6	49.9	53.3	53.6	54.16	7
5.	Indusind Bank	55.0	57.1	58.1	57.3	60.9	57.68	1
6.	Kotak Mahindra Bank	54.9	57.9	55.5	57.7	59.5	57.10	3
7.	Yes Bank	55.5	54.2	61.0	58.2	51.6	56.10	5

Deposite Capital Adequacy

Bank	Car		Dept-Equity		Advance to		Group	Rank
	%	Rank	%	Rank	%	Rank	Mean	Rank
Axis Bank	13.90	6	111.69	3	57.12	2	3.67	3
Development Credit Bank	14.03	5	95.50	2	56.80	4	3.67	3
HDFC Bank	15.89	4	50.93	1	54.74	6	3.67	3
ICICI Bank	17.58	2	177.73	7	54.16	7	5.33	7
Indusind Bank	13.86	7	143.60	4	57.68	1	4.00	5
Kotak Mahindra Bank	18.89	1	161.67	5	57.10	3	3.00	1
Yes Bank	17.04	3	168.46	6	56.10	5	4.67	6

Table 1 depicts that Kotak Mahindra Bank is ranked first with the highest CAR of 18.89 followed by ICICI Bank. Indusind Bank scored the lowest position with lowest CAR of 13.86.

Debt-Equity Ratio: This ratio represents the degree of leverage of a bank i.e. the amount of total debt in the capital structure. It is calculated by dividing total borrowings and debts with shareholders' net worth. Higher ratio is an indication of less protection for the depositors and creditors and vice-versa. Ttable 1 depicts that HDFC Bank is on the top position with the lowest average of 50.93 followed by Development Credit Bank. ICICI Bank scored the lowest position.

Advances to Assets: The relationship between the total advances and total assets is shown by this ratio. This ratio reveals a bank's aggressiveness in lending which ultimately produces better profitability. Higher ratio is assumed to be better than a lower one. A view of table 1 depicts that Indusind Bank is on the top position with the highest average of 57.68 followed by Axis Bank. ICICI Bank scored the lowest position with least average of 54.16.

Composite Capital Adequacy: On the basis of group averages of three ratios of capital adequacy given in table 1, Kotak Mahindra Bank was at the top position with group average of 3.00. ICICI Bank was at lowest position due to its poor performance in debt-equity and advances to assets ratios.

Assets Quality: The quality of assets is crucial factor to determine the degree of financial strength of a bank. The prime objective to measure the assets quality is to ascertain the composition of non-performing assets (NPAs) as a percentage of the total assets.

Net NPAs to Net Advances: It is the most standard measure to assess the assets quality, measuring the net non-performing assets as a percentage of net advances. Net NPAs = Gross NPAs - Net of provisions on NPAs - interest in suspense account.

Table 2: Net NPAs to net advances

Sr. No.	Bank	2008	2009	2010	2011	2012	Mean	Rank
Net NPAs to Net Advances								
1.	Axis Bank	0.42	0.4	0.4	0.30	0.27	0.36	3
2.	Development Credit Bank	0.66	3.88	3.11	0.97	0.57	1.83	7
3.	HDFC Bank	0.47	0.63	0.31	0.19	0.18	0.35	2
4.	ICICI Bank	1.55	2.09	2.12	1.11	0.73	1.52	6
5.	Indusind Bank	2.27	1.14	0.5	0.28	0.27	0.89	4
6.	Kotak Mahindra Bank	1.78	2.39	1.73	0.72	0.61	1.44	5
7.	Yes Bank	0.09	0.33	0.06	0.03	0.05	0.11	1
Priority Sector Advances to Total Advances								
1.	Axis Bank	27.78	28.14	28.69	28.99	28.56	28.43	5
2.	Development Credit Bank	35.34	41.89	42.13	38.00	36.33	38.73	1
3.	HDFC Bank	27.47	30.12	35.09	34.24	32.68	31.92	4
4.	ICICI Bank	26.48	28.42	29.79	24.68	23.37	26.54	6
5.	Indusind Bank	39.12	35.31	30.79	35.76	35.67	35.33	2
6.	Kotak Mahindra Bank	37.96	37.76	32.69	29.79	31.47	33.93	3
7.	Yes Bank	25.58	27.23	20.24	26.30	25.92	25.05	7
Secured Advances to Total Advances								
1.	Axis Bank	83.84	86.56	84.54	81.7	86.44	84.61	2
2.	Development Credit Bank	71.09	70.53	76.33	91.19	86.94	79.21	4
3.	HDFC Bank	70.03	76.82	73.26	75.51	75.54	74.23	6
4.	ICICI Bank	76.91	72.85	74.92	78.88	84.82	77.67	5
5.	Indusind Bank	92.7	92.18	86.91	85.8	91.86	89.89	1
6.	Kotak Mahindra Bank	73.63	74.36	80.39	85.51	83.37	79.45	3
7.	Yes Bank	51.45	46.65	45.22	58.58	72.94	54.96	7

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Bank	Net NPAs to Net Advance		Priority Sec. Advance to Total Advance		Secured Advance to Total Advance		Group Rank	
	%	Rank	%	Rank	%	Rank	Mean	Rank
Axis Bank	0.36	3	28.43	5	84.61	2	3.33	2
Development Credit Bank	1.83	7	38.73	1	79.21	4	4.00	4.5
HDFC Bank	0.35	2	31.92	4	74.23	6	4.00	4.5
ICICI Bank	1.52	6	26.54	6	77.67	5	5.67	7
Indusind Bank	0.89	4	35.33	2	89.89	1	2.33	1
Kotak Mahindra Bank	1.44	5	33.93	3	79.45	3	3.67	3
Yes Bank	0.11	1	25.05	7	54.96	7	5.00	6

Table 2 shows that Yes Bank is on the top position with least average of 0.11 followed by HDFC Bank. Development Credit Bank scored the lowest position.

Priority Sector Advances to Total Advances: Government of India stresses priority sector lending by commercial banks. Priority sector lending covers agricultural, SSI advances, micro enterprises within SSI, etc. It is determined by dividing total Priority sector advances with total advances. Table 2 depicts that Development Credit Bank is at the top position with highest average of 38.73. Yes Bank scored the lowest position with lowest ratio of 25.05.

Secured Advances to Total Advances: It is recommended that an advance is granted in lieu of a security of asset, the market value of which always equal to or greater than the amount of such advance. In order to reduce risk, banks always sanction secured advances. The greater the security lesser will be the risk and vice versa. From table 2 it is clear that Indusind Bank is on the top position with highest average of 89.89 followed by Axis Bank. Yes Bank stood at the lowest position with least ratio of 54.96.

Composite Asset Quality: An analysis of table 2 reveals that Indusind Bank is at the first position with group average of 2.33, followed by Axis Bank. ICICI Bank is at the bottom position with 5.67 rank due to its poor performance in net NPAs to net advances and Priority Sector Advances to Total Advances ratios.

Management Efficiency: Management efficiency is another essential component of the CAMEL model that guarantees the growth and survival of a bank. Management efficiency means adherence with set norms, ability to plan and respond to changing environment and administrative capability of the bank.

Expenditure to Income Ratio: This ratio expresses the relationship between operating expenses to net interest income and other income. It shows the capability of a bank to meet its operating expenses from its revenues. The lower the ratio, the better for the bank and vice versa. Table 3 shows that HDFC Bank is on the top position with least average of 70.39. Development Credit Bank stands at the lowest position with the highest ratio of 88.64.

Table 3: Expenditure to Income ratio

Sr. No.	Bank	2008	2009	2010	2011	2012	Mean	Rank
Expenditure to Income Ratio								
1.	Axis Bank	74.70	72.87	66.37	67.57	72.89	70.88	2
2.	Development Credit Bank	85.12	90.15	91.48	86.72	89.77	88.64	7
3.	HDFC Bank	69.62	73.60	68.09	68.16	72.48	70.39	1
4.	ICICI Bank	79.89	76.93	70.67	72.26	74.69	74.89	4
5.	Indusind Bank	90.99	86.68	78.41	74.86	78.44	81.87	6
6.	Kotak Mahindra Bank	77.66	80.13	66.60	73.16	76.87	74.88	3
7.	Yes Bank	78.97	78.35	70.68	74.48	78.50	76.19	5
Business per Employee (In Rs.)								
1.	Axis Bank	1117	1060	1111	1366	1276	1186	2
2.	Development Credit Bank	454	379	515	506	514	474	6
3.	HDFC Bank	506	446	590	653	654	570	5
4.	ICICI Bank	1008	1154	765	735	708	874	3
5.	Indusind Bank	1063	836	837	844	788	873	4
6.	Kotak Mahindra Bank	384	347	487	535	613	473	7
7.	Yes Bank	683	988	1624	2220	1748	1453	1
Return on Advances								
1.	Axis Bank	9.83	10.57	8.59	8.43	9.85	9.45	6
2.	Development Credit Bank	12.74	13.47	10.69	10.42	11.21	11.71	4
3.	HDFC Bank	12.62	14.96	10.77	10.56	11.56	12.09	3
4.	ICICI Bank	10.72	10.06	8.7	8.26	9.42	9.43	7
5.	Indusind Bank	11.94	12.56	11.63	12.14	13.77	12.41	2
6.	Kotak Mahindra Bank	13.61	15.5	13.51	13.28	14.23	14.02	1
7.	Yes Bank	11.84	13.63	10.24	10.57	12.24	11.70	5

Composite Management Efficiency

Bank	Expenditure to Income Ratio		Business per Employee		Return on Advance		Group	Rank
	%	Rank	%	Rank	%	Rank	Mean	Rank
Axis Bank	70.88	2	1186	2	9.45	6	3.33	2
Development Credit Bank	88.64	7	474	6	11.71	4	5.67	7

HDFC Bank	70.39	1	570	5	12.09	3	3.00	1
ICICI Bank	74.89	4	874	3	9.43	7	4.67	6
Indusind Bank	81.87	6	873	4	12.41	2	4.00	5
Kotak Mahindra Bank	74.88	3	473	7	14.02	1	3.67	3.5
Yes Bank	76.19	5	1453	1	11.70	5	3.67	3.5

Business per Employee: Business per employee reveals the efficiency of human resources of bank. It is followed as a tool to measure the efficiency of employees of a bank. Higher the ratio, the better it is for the bank. Table 3 highlights that Yes Bank is on the top position with the highest average of 1453. Kotak Mahindra Bank stands at the lowest position with the lowest ratio of 473.

Return on Advances: This ratio expresses the relationship between net profit after tax and total advances. Higher return on advances means more returns earned on advances issued by the bank. Higher the ratio of return on advances, higher will be the productivity of funds management and vice versa. Table 3 shows that Kotak Mahindra Bank is on the top position with the highest average of 14.02. ICICI Bank stands at the lowest position with lowest ratio of 9.43

Composite Management Efficiency: HDFC Bank and Indusind Bank top the Table 3 with bracketed group rank of 1.5, closely followed by Axis Bank. Whereas Development Credit Bank scored the lowest position with rank 7 due to its poor performance in expenditure to income ratio and business per employee ratios.

Earning Quality

The quality of earnings is a very crucial parameter which reflects the quality of a bank's profitability and its ability to maintain quality and earn consistently. It mainly reveals the profitability of bank and explains consistency of future earnings.

Operating Profit to Total Assets: This ratio reflects how much a bank can earn profit from its operations for every rupee invested in its total asset.In this ratio operating profit are expressed as percentage of total assets.

Table 4: Opening indity

Sr. No.	Bank	2008	2009	2010	2011	2012	Mean	Rank
Operating Profit to Total Assets								
1.	Axis Bank	2.43	2.90	3.19	3.03	2.81	2.87	3
2.	Development Credit Bank	1.71	1.11	0.80	1.27	1.04	1.18	7
3.	HDFC Bank	3.36	3.27	3.17	3.09	2.91	3.16	1
4.	ICICI Bank	2.14	2.29	2.62	2.35	2.36	2.35	5

5.	Indusind Bank	0.89	1.45	2.24	2.67	2.66	1.98	6
6.	Kotak Mahindra Bank	2.78	2.38	3.92	3.00	2.84	2.98	2
7.	Yes Bank	2.49	2.65	2.91	2.50	2.32	2.57	4

Net Interest Margin to Total Assets

1.	Axis Bank	2.83	2.87	3.05	3.10	3.04	2.97	3
2.	Development Credit Bank	2.71	2.92	2.34	2.80	2.83	2.72	4
3.	HDFC Bank	4.66	4.69	4.13	4.22	4.00	4.34	2
4.	ICICI Bank	1.96	2.15	2.19	2.34	2.44	2.21	7
5.	Indusind Bank	1.36	1.80	2.81	3.40	3.30	2.53	5
6.	Kotak Mahindra Bank	5.08	5.33	5.62	5.09	4.31	5.08	1
7.	Yes Bank	2.35	2.56	2.66	2.61	2.44	2.52	6

Non Interest Income to Total Income

1.	Axis Bank	1.96	2.25	2.4	2.19	2.05	2.17	1
2.	Development Credit Bank	2.7	1.78	1.78	1.66	1.28	1.84	5
3.	HDFC Bank	2.03	2.08	1.96	1.73	1.7	1.90	3
4.	ICICI Bank	2.37	1.95	2.01	1.73	1.71	1.95	2
5.	Indusind Bank	1.35	1.79	1.76	1.76	1.96	1.72	6
6.	Kotak Mahindra Bank	1.92	1.26	1.9	1.43	1.68	1.64	7
7.	Yes Bank	2.57	2.18	1.94	1.31	1.29	1.86	4

Composit Earning Quality

Bank	Operating Profit to Total Assets		Net Interest Margin to Total Assets		Non Interest Income to Total Income		Group	Rank
	%	Rank	%	Rank	%	Rank	Mean	Rank
Axis Bank	2.87	3	2.97	3	2.17	1	2.33	2
Development Credit Bank	1.18	7	2.72	4	1.84	5	5.33	6
HDFC Bank	3.16	1	4.34	2	1.90	3	2.00	1
ICICI Bank	2.35	5	2.21	7	1.95	2	4.67	4.5
Indusind Bank	1.98	6	2.53	5	1.72	6	5.67	7
Kotak Mahindra Bank	2.98	2	5.08	1	1.64	7	3.33	3
Yes Bank	2.57	4	2.52	6	1.86	4	4.67	4.5

Table 4 reveals that HDFC Bank is on the top position with the highest average of 3.16. Development Credit Bank stands at the lowest position with least ratio of 1.18.

Net Interest Margin to Total Assets: Net Interest Margin is the difference between the interest earned and the interest expended. It is expressed as a percentage of total assets. A higher difference indicates the better earnings. Table 4 reveals that Kotak Mahindra Bank is on the top position with the highest average of 5.08 followed by HDFC Bank. ICICI Bank stands at the lowest position with least ratio of 2.21.

Non Interest Income to Total Income: This measures the income from operations other than lending as a percentage of the total income. Other income consists of income from commission, net profit (loss) on sale of investment, fixed assets, fee-based income and miscellaneous income. Table 4 reveals that Axis Bank is on the top position with the highest average income of 2.17. Kotak Mahindra Bank stands at the lowest position with least ratio of 1.64.

Composite Earning Quality: On the basis of group averages of three ratios of quality of earning as depicted in Table 4, HDFC Bank was at the top position with group average of 2.00, followed by Axis Bank. Indusind Bank scores the lowest position with group average of 5.67 due to its poor performance in Non Interest Income to Total Income and Operating Profit to Total Assets, ratios.

Liquidity

Liquidity denotes the ability of a bank to meet its obligations, mainly of depositors. The image of bank largely depends upon the risk of liquidity. Liquidity is a significant aspect which reflects bank's ability to meet its financial obligations. An adequate liquidity position means a situation, where organization can obtain sufficient liquid funds.

Liquid Assets to Total Assets: This ratio measures the overall liquidity position of a bank. The liquid assets consist of cash in hand, money at call and short notice, balance with RBI and balance with other banks.

Table 5: Liquidity

Sr. No.	Bank	2008	2009	2010	2011	2012	Mean	Rank
Liquid Assets to Total Assets								
1.	Axis Bank	11.5	10.1	8.4	8.8	4.9	8.74	5
2.	Development Credit Bank	13.9	11	5.4	6.7	5.3	8.46	4
3.	HDFC Bank	11	9.5	13.4	10.8	6.3	10.2	7
4.	ICICI Bank	9.5	8	10.8	8.4	7.6	8.86	6
5.	Indusind Bank	9.4	6.9	7.3	8.9	9.6	8.42	3
6.	Kotak Mahindra Bank	7.5	3.9	6.2	4.9	4	5.30	1
7.	Yes Bank	9.5	8.3	7.3	5.9	4.8	7.16	2

Cash Deposit Ratio

1.	Axis Bank	8.34	8.02	6.71	7.34	4.86	7.05	2.5
2.	Development Credit Bank	11.1	6.03	6.09	7.21	6.43	7.37	4
3.	HDFC Bank	12.46	9.47	9.25	12.03	6.08	9.85	6
4.	ICICI Bank	12.02	8.03	13.62	9.27	8.01	10.19	7
5.	Indusind Bank	8.02	5.39	7.86	7.15	6.85	7.05	2.5
6.	Kotak Mahindra Bank	10.25	6.36	8.73	7.2	5.23	7.55	5
7.	Yes Bank	7.23	7.9	7.45	6.7	4.75	6.80	1

Credit Deposit Ratio

1.	Axis Bank	68.09	69.48	73.84	75.25	77.13	72.76	6
2.	Development Credit Bank	66.98	70.46	72.27	76.14	83.41	73.85	5
3.	HDFC Bank	62.94	69.24	75.17	76.7	79.21	72.65	7
4.	ICICI Bank	92.3	99.98	89.7	95.91	99.31	95.44	2
5.	Indusind Bank	67.21	71.33	76.94	76.14	82.77	74.88	4
6.	Kotak Mahindra Bank	94.69	106.27	86.97	100.23	101.41	97.91	1
7.	Yes Bank	71.05	76.71	82.81	74.8	77.29	76.53	3

Bank	Liquid Assets to Total Assets		Cash Deposit Ratio		Credit Deposit Ratio		Group	Rank
	%	Rank	%	Rank	%	Rank	Mean	Rank
Axis Bank	8.74	5	7.05	2.5	72.76	6	4.50	5
Development Credit Bank	8.46	4	7.37	4	73.85	5	4.33	4
HDFC Bank	10.2	7	9.85	6	72.65	7	6.67	7
ICICI Bank	8.86	6	10.19	7	95.44	2	5.00	6
Indusind Bank	8.42	3	7.05	2.5	74.88	4	3.17	3
Kotak Mahindra Bank	5.30	1	7.55	5	97.91	1	2.33	2
Yes Bank	7.16	2	6.80	1	76.53	3	2.00	1

Table 5 shows that Kotak Mahindra Bank is on the top position with lowest average of 5.30 followed by Yes Bank. HDFC Bank stands at the lowest position with the highest ratio of 10.20.

Cash Deposit Ratio: Cash being most liquid asset, cash deposit ratio depicts the availability of average cash balance against total deposits in a bank. It is the amount of money a bank should have available as a proportion of the total amount of money deposited by customers. It is an assurance to the customers that they will be paid back their money when required. Cash Deposit ratio = (Cash in hand + Balances with RBI)/Deposits. Table 5 shows

that Yes Bank is on the top position with the lowest average of 6.80. ICICI Bank stands at the lowest position with highest ratio of 10.19.

Credit Deposit Ratio: Credit-Deposit ratio is percentage of loan sanctioned by banks from amount deposited by customers. It means the capacity of banks to lend. Higher the ratio, more credit the bank generates from its deposits. Credit Deposit Ratio is affected by certain factors like credit-deposit growth, cash reserves and investments made by banks. Banks give credit after fulfilling the requirements of cash reserves and statutory liquidity out of its deposits. A higher ratio reveals more reliance on deposits for lending and vice-versa. Table 5 shows Kotak Mahindra Bank is on the top position with the highest average of 97.91 followed by ICICI Bank. HDFC Bank stands at the lowest position with highest ratio of 72.65.

Composite Liquidity: Composite Liquidity in the Table 5 depicts that Yes Bank is on the top with group average of 2.00. HDFC Bank scores the last position with group average of 6.67.

Sensitivity Ratios: Changes in interest rate, foreign exchange rates and equity prices affect the bank's earning capability. The bank examines the sensitivity of market risk by changes in these variables. So, sensitivity to market risk measures how adversely the bank is affected because of these changes. Non-trading, foreign exchange operation and trading activities are the primary source of market risk. Trautmann (2006) revealed that sensitivity has been an instrument to assess the risk of the market primarily based on adverse changes in commodity price, interest rate, foreign exchange rate, fixed assets and the ability of management to identify and control these risks.

Price Earnings Ratio: The price earnings ratio provides information as what the market is ready to pay for the company's earnings. Higher the price earnings ratio means the market is ready to pay more for the company's earnings. On the other hand, a low price earnings ratio indicates that the market is ready to pay less for company's earning.

Table 6: Sensitivity ratio

Sr. No.	Bank	2008	2009	2010	2011	2012	Mean	Rank
Price Earnings Ratio								
1.	Axis Bank	24.7	8.2	18.0	17.2	11.2	15.86	6
2.	Development Credit Bank	50.8	−13.4	−8.7	51.0	21.2	20.18	2
3.	HDFC Bank	28.5	18.3	28.1	27.1	23.2	25.04	1
4.	ICICI Bank	23.9	10.4	22.7	20.8	13.4	18.24	5
5.	Indusind Bank	33.5	7.6	18.9	20.0	18.7	19.74	4
6.	Kotak Mahindra Bank	21.2	14.9	19.9	21.1	22.0	19.82	3
7.	Yes Bank	24.0	4.9	16.4	14.7	13.2	14.64	7

Total Securities to Total Assets Ratio

1.	Axis Bank	18.32	18.67	18.92	18.2	20.49	18.92	2
2.	Development Credit Bank	22.61	21.32	25.72	23.75	23.3	23.34	5
3.	HDFC Bank	23.77	28.45	22.94	19.34	22.55	23.41	6
4.	ICICI Bank	18.89	16.73	18.86	16.01	18.45	17.79	1
5.	Indusind Bank	23.38	22.8	24.1	21.96	20.66	22.58	4
6.	Kotak Mahindra Bank	28.63	28.38	25.88	25.95	25.5	26.87	7
7.	Yes Bank	21.17	20.43	18.65	18.21	21.96	20.08	3

GAP Analysis

1.	Axis Bank	100.25	99.74	100.13	94.87	103.54	99.71	6
2.	Development Credit Bank	98.29	102.22	101.35	94.39	104.25	100.10	1
3.	HDFC Bank	107.1	108.96	108.66	101.32	109.23	107.05	4
4.	ICICI Bank	109.53	112.13	100.76	99.30	105.60	105.46	3
5.	Indusind Bank	96.30	99.42	97.79	97.74	99.60	98.17	7
6.	Kotak Mahindra Bank	114.61	118.24	109.31	109.7	109.94	112.36	5
7.	Yes Bank	105.98	108.55	103.91	100.78	105.71	104.99	2

Composite Sensitivity

Bank	Price Earning Ratio		Total Securities to Total Assets Ratio		GAP Analysis		Group	Rank
	%	Rank	%	Rank	%	Rank	Mean	Rank
Axis Bank	15.86	6	18.92	2	99.71	6	4.67	5
Development Credit Bank	20.18	2	23.34	5	100.10	1	2.67	1
HDFC Bank	25.04	1	23.41	6	107.05	4	3.67	3
ICICI Bank	18.24	5	17.79	1	105.46	3	3.00	2
Indusind Bank	19.74	4	22.58	4	98.17	7	5.00	6.5
Kotak Mahindra Bank	19.82	3	26.87	7	112.36	5	5.00	6 . 5
Yes Bank	14.64	7	20.08	3	104.99	2	4.00	4

Table 6 shows that HDFC Bank is on the top position with highest average of 25.04 followed by Development Credit Bank. Yes Bank stands at the lowest position with least ratio of 14.64.

Total Securities to Total Assets Ratio: Total Securities to Total Assets Ratio reveals the risk-taking ability of the bank. It is option of the bank to follow a strategy to have high profits, high risk or low profits, low risk. It also throws light on the availability of alternative investment opportunities. The ratio

reveals the correlation between securities of banks with total assets and provides the percentage change of its portfolio with respect to alteration in interest rates or other issues. Table 6 shows that ICICI Bank is on the top position with the lowest average of 17.79. Kotak Mahindra Bank stands at the lowest position with the highest ratio of 26.87.

GAP Analysis: GAP Analysis is a device followed to assess a bank's earnings exposure to interest rate movements. A bank's gap over a given time period is the difference between the value of its assets that mature or reprice during that period and the value of its liabilities that mature or reprice during that period. If this difference is large (in either a positive or negative direction), then interest rate changes will have large effects on net interest income. A balanced position would result if the amount of repricing assets were exactly offset by the repricing liabilities (ratio = 1.0). Ratio less than 1.0 indicate a bank that is liability sensitive (liabilities reprice quicker than assets), while a ratio greater than 1.0 indicates that the bank's assets reprice faster than liabilities (asset sensitive). GAP = (Risk Sensitive Assets) - (Risk Sensitive Liabilities).

Risk sensitive assets include net advances, net investments and money at call, whereas risk sensitive liabilities include deposits and borrowings. From table 6 it is clear that Development Credit Bank is on top with the ratio close to 1.00. Indusind Bank stands at the lowest position.

Composite Sensitivity: Composite sensitivity shown in the table 6 depicts that Development Credit Bank is at the top position with group average of 2.67, followed by ICICI Bank. Indusind Bank and Kotak Mahindra Bank score the last position with group average of 6.5 each due to their poor performance in GAP analysis and total securities to total assets ratio.

Composite Ranking (overall performance) of Indian New Private Sector Banks

For the purpose of assessment of the overall performance of Indian New Private Sector Banks, composite rating and results are calculated and presented in Table 7 for the period of 2008-2012. It is found that under the capital adequacy parameter Kotak Mahindra Bank were at the top position, while ICICI Bank lowest rank. Under the asset quality parameter, Indusind Bank held the top rank while ICICI held the lowest rank.

Table 7: Composite ranking

Bank	C	A	M	E	L	S	Mean	Rank
Axis Bank	3.67	3.33	3.33	2.33	4.50	4.67	3.63	2
Development Credit Bank	3.67	4.00	5.67	5.33	4.33	2.67	4.22	6
HDFC Bank	3.67	4.00	3.00	2.00	6.67	3.67	3.83	3
ICICI Bank	5.33	5.67	4.67	4.67	5.00	3.00	4.72	7
Indusind Bank	4.00	2.33	4.00	5.67	3.17	5.00	3.86	4
Kotak Mahindra Bank	3.00	3.67	3.67	3.33	2.33	5.00	3.50	1
Yes Bank	4.67	5.00	3.67	4.67	2.00	4.00	4.00	5

Under management efficiency parameter, it is observed that top rank is taken by HDFC Bank and Indusind Bank and lowest rank is taken by Development Credit Bank. In terms of earning quality parameter the capability of HDFC Bank got the top rank, while Indusind Bank at the lowest position. Under the liquidity parameter Yes Bank stood on the top position and HDFC Bank was on the lowest position. In terms of sensitivity parameter Development Credit Bank got the top rank whereas, Indusind Bank and Kotak Mahindra Bank were at the bottom position.

The study found that Kotak Mahindra Bank is at the first position with overall composite ranking average of 3.50 closely followed by Axis Bank with overall composite ranking average of 3.63. ICICI Bank holds the bottom rank with overall composite ranking average of 4.72.

Classification of New Private Sector Banks Based on CAMELS Criteria

Table 8: Classification of NPSB

Rank	CAMELS Criteria on the basis of Mean=4, SD=0.41	Banks
Excellent	(Upto 3.72)	Kotak Mahindra Bank and Axis Bank
Good	(From 3.72 to 4)	HDFC Bank and Indusind Bank
Fair	(From 4 to 4.27)	Yes Bank and Development Credit Bank
Poor	(Above 4.27)	ICICI Bank

ANOVA Results

For determining whether there is any significant difference between the means of CAMELS ratios, we applied one-way ANOVA test on the data shown in Table 7. The results of one-way ANOVA test are presented in Table 9.

Table 9: ANOVA result

Sources of Variation	Sum of Squares	Degree of Freedom	Mean Square	F-Value	Sig.
Between Groups	6.057	6	1.010	0.812	0.568
Within Groups	43.513	35	1.243		
Total	49.570	41			

The results of ANOVA test highlighted the calculated values of F-ratio is less than the tabulated values (for 6, 35 d.f. at 5% level of significance is 2.372). It means there is no statistically significant difference between the mean values of CAMELS ratios and we do not reject the null hypothesis. It signifies that there is no significant difference in performance of new private sector banks assessed by CAMELS model.

Conclusion

The study reveals that Kotak Mahindra Bank stands at first rank having excellent performance followed by Axis Bank, whereas ICICI Bank has secured last rank in terms of performance. ICICI Bank has to improve its CAR, Asset Quality and Liquidity position. In the same line, Development Credit Bank

should take necessary steps to increase the management efficiency, earning capacity; Yes Bank has to increase its CAR and Asset Quality. Indusind Bank has to concentrate to increase its earnings. HDFC Bank needs improvement in liquidity management. Hence, periodical CAMELS scanning facilitate the commercial banks to diagnose its financial health and alert the bank to take necessary preventive steps for its sustainability.

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Financial Indicators and Performance Evaluation of Banks

MEENU GUPTA

The main objective of the paper is to compare and contrast Economic Value Added with traditional performance measures as a predictor of financial health of banks under study. The study employs multiple correlation and panel regression analysis to examine whether EVA is a predictor of financial health of banks or not as compared to other traditional performance measures. The results are carried out on the secondary financial data from the year ended 2003 to 2008 for all public sector banks and top 20 private sector banks selected on the basis of market capitalization. The results reveal that among traditional performance measures EPS and RONW act as better predictor of financial health of banks followed by EVA/EC.

Introduction

The essential part of the banking system is its financial viability. It is the responsibility of RBI to monitor the financial health of every bank to ensure its conformity with the rules and regulations mentioned in different acts. The financial performance measures rest on the premise that the goal of the firm should be to maximize the financial health and wealth of its current shareholders. Many researchers have attempted to measure the productivity and efficiency of the banking industry through outputs, performance, cost and efficiency. Financial health is used to measure the bank's overall financial performance over a given period of time. The recent financial crisis has also raised question on the persistent and increasing fragility of the financial institutions. CAMEL framework is commonly used by the banks for analyzing the health of individual institutions, which looks at five major aspects of a financial institution: Capital adequacy, asset quality, management soundness, earnings ability and liquidity (Hilbers et al., 2000). These indicators broadly cover various aspects of performance of banks. earlier return on capital employed, return on net worth, return on investment, earning per share, profit before depreciation, interest and taxes were the most important performance measures. However, with increasing competition and presence of a policy environment facilitating tapping of economies of scale are focusing their efforts on creating shareholder value in Indian banking system. Economic Value Added, a modern measure is more than a performance measure. It is a focal point of a management system and a mindset. It has emerged as a performance measurement tools in banks.

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Literature Review

Anupam (2004) showed that EVA was not superior to traditional performance measures in its association with the MVA. Malik (2004) indicated that EPS explains EVA only up to the extent of 14%, RONW up to the extent of 61% and ROCE up to the extent of 69%. This indicated that these traditional measures do not reflect the real value of shareholders' wealth and thus, EVA has to be measured to have an idea about shareholder value. Worthington and West (2004) analyzed the three alternative formulations for pooling data, namely the common effects, fixed effects and random effects models, with the fixed effects approach found to be the most empirically appropriate.

Keshar (2005) examined the financial health of joint venture banks in the CAMEL framework. The results provided that the health of joint venture banks is better than that of the other commercial banks. In addition, a perusal of indicators of different components of CAMEL indicates that the financial health of joint venture banks has not been so strong to manage the possible large scale shocks to their balance-sheet; and their health is fair. Pal (2005) analyzed with the help of descriptive statistics and chi-square test. As far as Indian companies were concerned, it seemed to be empirically approved evidences to support Stern Stewart's claim that EVA is superior to traditional performance measures in its association with equity market value.

Bodla and Verma (2006) concluded that both the banks have performed excellently. In some parameters of performance SBI has outperformed ICICI Bank but on the whole ICICI Bank has performed better than SBI. It has found that SBI has an edge over its counterpart ICICI Bank in terms of Capital adequacy. However, the vice versa is true regarding assets quality, earning quality and management quality. Ismail (2006) found that NOPAT and Net income (NI) outperform EVA and RI in explaining stock return. It was also found that accruals and operating cash flow have significant incremental information content, while accounting adjustments of EVA proponents have significantly less contribution in explaining stock return.

Goyal and Kaur (2008) revealed that there was significant difference amongst the mean ratios of the banks on all parameters except for liquid assets to total assets, liquid assets to total deposits, net profit to average assets and percentage change in NPAs. Wirnkar and Tanko (2008) revealed the inability of each factor in CAMEL to capture the wholistic performance of a bank and the relative weight of importance of the factors in CAMEL which resulted to a call for a change in the acronym of CAMEL to CLEAM. Lee (2009) concluded that EVA was not superior to other available measurements for accounting. However, this study contributed several improvements to Kim's (2006) and found that REVA and MVA were, apparently, valuable performance measures for evaluating hospitality firms.

Objective

The objective of this paper is to evaluate the effectiveness of Economic Value Added vis-à-vis other traditional performance measures as a predictor of financial health of Indian banks.

Research Methodology

Hypotheses

On the basis of studies referred above, the hypotheses of the study are:

H01: EVA is not a superior measure as compared to traditional performance measures.

H02: There is no significant relationship between financial health and Economic Value Added.

H03: There is no significant relationship between financial health and other traditional performance measures.

Sample size

The present paper includes all Indian public sector banks. ie. 27 banks and top 20 private sector banks selected on the basis of market capitalization. The banks, in respect of which the detailed information for all the years is not available (unlisted banks) has not been included in the present study. Finally, 30 banks are listed and selected for measuring the relationship of EVA vis-à-vis traditional performance measures as a predictor of financial health.

The present study covered a period of 6 years (2003-08). The secondary data has been collected from various sources like CMIE prowess data base, financial journals, annual reports of the banks and statistical tables relating to banks in India. The study employs multiple correlation and panel regression analysis to examine whether EVA is more strongly associated with financial health or not as compared to other traditional performance measures.

Computation of Dependent and Independent Variables

In the paper, a comparison of Economic Value Added vis-à-vis Traditional performance measures like economic value added, return on capital employed, return on net worth, profit before depreciation, interest and taxes, Profit before interest and taxes and earning per share as a predictor of financial health of banks has been made. The financial health of banks has been analyzed on the parameters of CAMEL by the regulators (including RBI) as well as analysts. The acronym CAMEL stands for Capital, Asset Quality, Management Soundness, Earnings and Liquidity (Kosmidou and Zopounidis, 2008; Goyal and Kaur, 2008, Wirnkar and Tanko, 2008; Sharma, 2006). CAMEL framework is commonly used by the banks for analyzing the health of individual institutions, which looks at five major aspects of a financial institution: capital adequacy, asset quality, management soundness, earnings ability and liquidity (Hilbers et al., 2000). These indicators broadly cover various aspects of performance of banks. The study analyses the financial health of the banks through ratios (Table 1) commonly used in banking research. These act as dependent variables.

Table 1: CAMEL Indicators

C	Capital adequacy	1.	Capital Risk adequacy ratio (CAR)
A	Asset quality	1.	Net NPAs to Net Advances ratio (NnPANA)
		2.	Gross NPAs to Gross Advances ratio (GrNPAGA)
M	Management Soundness	1.	Ratio of Burden to Total Assets (RBTA)
		2.	Ratio of Burden to Interest Income (RBII)
E	Earnings ability	1.	Return on Assets (ROA)
		2.	Return on Equity (ROE)
		3.	Ratio of Net Interest Margin to Total Assets (RNIMTA)
L	Liquidity	1.	Cash Deposit Ratio (CDR)
		2.	Credit Deposit Ratio (CRDR)

To determine the significance of relation between dependent and the independent variables, the results have been tested at 5% (two-tailed test) and 1% (two-tailed test) level of significance. The backward linear regression analysis which gives the most significant variable(s) left in the regression equation has been applied to further strengthen the results.

In the present study EVA considered as modern financial measures and ROCE, RONW, PBDIT, PBIT and EPS are considered as traditional performance measures. To evaluate the effectiveness of EVA with traditional performance measures, CAMEL indicators has been considered as dependent variable and EVA, ROCE, RONW, PBDIT, PBIT and EPS as independent variables.

1) Capital Adequacy Ratio (CAR):

   Capital Adequacy Ratio = Tier-I Capital + Tier-II Capital/Risk Weighted Assets Tier-I capital includes equity capital and free reserves. Tier-II capital comprises of subordinate debt of 5-7 years tenure, revaluation reserves, general provisions and loss reserves.

2) Net NPAs to Net Advances Ratio (NnNPANA):

   Net NPAs to Net Advances Ratio = Net Non- performing assets/Net Advances.

3) Gross NPAs to Gross Advances Ratio (GrNPAGA):

   Net NPAs to Net Advances Ratio = Gross Non- performing assets/Gross Advances.

4) Ratio of Burden to Total Assets (RBTA):

   Ratio of Burden to Total Assets = (Operating Expenses – Operating Income) / Total Assets.

5) Ratio of Burden to Interest Income (RBII):

   Ratio of Burden to Interest Income = (Operating Expenses – Operating Income) / Interest Income.

6) Return on Assets (ROA): Return on Assets = Net Profit After Tax/ Total Assets

7) Return on Equity (ROE): Return on Equity = Net Profit After Tax / Total Shareholders' Fund

8) Ratio of Net Interest Margin to Total Assets (RNIMTA):

   Ratio of Net Interest Margin to Total Assets = (Interest Earned – Interest Paid)/Total Assets.

9) Cash-Deposit Ratio (CDR):

   Cash-Deposit Ratio = Cash in Hand + Balances with RBI / Total Deposits.

10) Credit-Deposit Ratio (CRDR):

    Credit Deposit Ratio = Loan created by Bank/ Total Deposits.

11) Economic Value Added = EVA is the excess of operating profits over the cost of capital employed. It is calculated as:

    $EVA = NOPAT - (WACC \times ECE)$

Where

   Net Operating Profit After Tax(nopat)

   Invested Capital(ic)

   Weighted Average Cost of Capital (WACC)

   WACC = Proportion of Equity * Cost of Equity + Proportion of debt * Cost of Debt

   Cost of Equity = $Rj = Rf + â(Rm - Rf)$

   Cost of Debt = Interest Expended (1-t) / Total Debt

11) Return on Capital Employed (ROCE)

    $ROCE = (PBIT/ ACE) \times 100$

    Where, PBIT is Profit before interest and tax

    ACE is Average Capital Employed

12) Return on Net worth (RONW)

    $RONW = [NPAT/ ANW] \times 100$

    Where, NPAT is Net profit after tax

    ANW is Average Net worth

13) Profit before Depreciation, Interest and Taxes (PBDIT)

    PBDIT = PBIT + D

    Where, PBIT is Profit before interest and taxes

    D is Depreciation

14) Profit before Interest and Taxes (PBIT)

    PBIT = PBI + T

    Where,

    PBI = Profit before interest

    T = Taxes.

15) Earning per share (EPS)

EPS = NI / ESO

Where, NI is Net income after taxes and preference dividend

ESO is Number of equity shares outstanding

Results and Discussions

Correlation Analysis

An attempt has been made to find out the superiority of Economic Value Added over the traditional performance measures by using the multiple correlation analysis. The analysis points out the Economic Value Added/ Economic Capital, return on net worth, return on capital employed, profit before depreciation, interest and taxes, profit before interest and taxes, and earning per share as the significant variables under different parameters of financial health of banks under study as shown in Table 2.

Among independent variables, Economic Value Added has shown a negative correlation with asset quality of the banks, i.e., GrNPAGA (-0.412) and NnPANA (-0.301) at 1% level of significance. This variable also shows significant positive correlation with management soundness and liquidity position of the banks. EVA does not show any significant correlation with any of the parameters of capital adequacy and earnings ability of the banks.

The variable return on capital employed has significant correlation with all parameters of earnings ability whereas negative correlation with management soundness of the banks at 1% level. It has also shown significant positive correlation with asset quality of the banks at 5% level, i.e. NnPANA (0.186) and GrNPAGA (0.150). The correlation result of return on net worth is similar to the return on capital employed. The variable RONW is significantly correlated with asset quality, management soundness and earnings ability of the banks. Both ROCE and RONW have significant correlation with credit deposit ratio at 1% level, i.e. 0.336 and -0.417 respectively.

The independent variables PBDIT and PBIT have shown similar results. Both have negative relationship with asset quality of the banks at 1% level of significance. One of the parameter of earnings ability i.e. RNIMTA has shown significant negative correlation with PBDIT (-0.303) and PBIT (0.290) at 1% level. They have also shown a negative correlation with RBII and positive correlation with CRDR at 1% level of significance.

Capital adequacy is one of the important parameters of CAMEL indicators. Earning per share is the only independent variable which shows significant positive correlation with capital adequacy of the banks, i.e. 0.387 at 1% level. The result also shows that EPS has significant positive correlation at 1% level with ROA (0.422) and ROE (0.250). It has negative correlation with asset quality of the banks at 5% level of significance, i.e. NnPANA (-0.177) and GrNPAGA (-0.168). Also, this variable has negative correlation with management soundness of the banks.

Table 2: Correlation results

	ROA	ROE	CAR	CDR	RNTMTA	GrNPAGA	RBTA	RBII	CRDR	NnPANA	EVA	PBDIT	PBIT	EPS	ROCE	RONW
ROA	1															
ROE	.740**	1														
CAR	.499**	.232**	1													
CDR	0.085	0.049	0.028	1												
RNTMTA	.362**	.373**	.285**	-0.087	1											
GrNPAGA	-0.055	0.108	-0.068	-0.027	0.08	1										
RBTA	-.362**	-.353**	-.196**	-0.097	.206**	-0.134	1									
RBII	-.423**	-.402**	-.195**	-0.085	.266**	-.212**	.832**	1								
CRDR	-0.008	-.258**	0.005	0.072	-.270**	-.496**	0.031	-0.003	1							
NnPANA	-.160*	-0.009	-.179*	-0.029	-0.136	.858**	-0.106	-.252**	-.332**	1						
EVA	0.042	-0.047	-0.016	-0.053	-0.081	-.412**	0.132	.175*	.405**	-.301**	1					
PBDIT	0.098	-0.044	0.056	0.113	-.303**	-.277**	-0.101	-.206**	.523**	-.201**	0.142	1				
PBIT	0.103	-0.04	0.061	0.106	-.290**	-.266**	-0.101	-.205**	.511**	-.195**	0.132	.993**	1			
EPS	.422**	.250*	.387**	0.058	0.127	-.168*	-.180*	-.297**	.215**	-.177*	0.14	0.13	0.129	1		
ROCE	.343**	.258**	0.122	0.065	-.282**	.150*	-.308**	-.532**	.336**	.186*	-0.038	.607**	.597**	.217**	1	
RONW	.608**	.907**	0.14	0.022	.415**	.262**	-.264**	-.295**	-.417**	0.138	-0.108	-.179*	-.164*	0.126	0.063	1

Source: Computed

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 3: Panel regression results

(Dependent variable(DV): CAMEL indicators, independent variables(IV): EVA and traditional performance measures)

IV \ DV	EVA	ROCE	RONW	PBDIT	PBIT	EPS	R^2	R^2 Adjusted	F-Value	Durbin-Watson	Mean	Std. deviation
Capital Adequacy Ratio	0.02676 (0..9787)	1.3026 (0.1949)	-0.6808 (0.4971)	0.66355 (0.5081)	0.08574 (0.9318)	-0.1827 (0.855)	0.5180	0.3793 (0.00)	3.734	1.433	0.1244	0.0178
Net NPAs to Net Advances ratio	-1.992 (0.0483)	1.0654 (0.288)	-1.678 (0.095)	1.080 (0.282)	-0.5711 (0.569)	1.201 (0.232)	0.7814	0.7186	12.425 (0.00)	1.006	0.0215	0.0204
Gross NPAs to Gross Advances ratio	-3.174 (0.001)	0.72430 (0.470)	-0.7457 (0.457)	1.0858 (0.279)	-0.4076 (0.684)	-0.0482 (0.962)	0.8439	0.7990	18.788 (0.00)	0.7470	0.0491	0.03384
Ratio of Burden to Total Assets	0.4697 (0.6393)	-1.1446 (0.2543)	-1.618 (0.1078)	-0.4979 (0.619)	0.3737 (0.709)	-1.337 (0.183)	0.5995	0.4843	5.2023 (0.00)	1.561	0.4519	0.6492
Ratio of Burden to Interest Income	0.1146 (0.9089)	-1.1747 (0.242)	-2.463 (0.015)	-0.7676 (0.444)	0.7403 (0.460)	-1.156 (0.120)	0.6731	0.5791	7.1557 (0.00)	1.664	0.0794	0.0821
Return on Assets	1.833371 (0.0689)	1.5599 (0.1211)	10.869 (0.000)	-0.8604 (0.3911)	0.5081 (0.6122)	2.468 (0.0148)	0.8376	0.79085	17.921 (0.00)	1.204	0.0107	0.00
Return on Equity	0.9504 (0.3436)	2.433 (0.0163)	21.03 (0.000)	0.6759 (0.500)	-1.406 (0.162)	2.615 (0.009)	0.933	0.9142	48.676 (0.00)	1.60	0.185	0.08
Ratio of Net Interest Margin to Total Assets	-1.244 (0.2155)	0.3825 (0.7027)	4.435 (0.00)	-0.576 (0.5653)	1.267 (0.2073)	-0.5589 (0.5771)	0.7717	0.7061	11.749 (0.00)	1.27	0.029	0.0058
Credit Deposit Ratio	1.740 (0.0841)	-0.022 (0.982)	-0.690 (0.491)	-0.8215 (0.412)	-0.065 (0.948)	1.849 (0.067)	0.8618	0.8221	21.685 (0.00)	1.248	0.630	0.1062
Cash Deposit Ratio	-0.3893 (0.6976)	-0.495 (0.621)	0.1513 (0.88)	0.5884 (0.557)	-0.679 (0.498)	1.790 (0.0756)	0.268	0.0573	1.273	2.656	0.0754	0.0486

Source: computed

None of the independent variables found significant in case of cash deposit ratio (one of the parameter of liquidity position) of the banks. There exists poor relationship of cash deposit ratio with EVA and traditional performance measures.

It can be said that the independent variables, EVA, EPS, PBDIT and PBIT has showed negative correlation with asset quality of the banks. ROCE and RONW showed positive correlation with earning ability and negative correlation with management soundness of the banks. The variable EPS has the only positive correlation with capital adequacy whereas negative correlation with management soundness of the banks. Hence, the correlation analysis for the whole period of six years indicates that traditional performance measures act as a superior measure and predictor of the financial health of banks. Moreover, some of the banks have been able to establish a clear and positive relation with EVA along with traditional performance measures.

Relationship of EVA and other Performance Measures

Table 3 depicts the relationship of EVA and other traditional performance measures with the financial health of banks. It has been analyzed with the help of panel regression. The regression analysis points out the fact that EVA/EC along with RONW and EPS act as better predictor of the financial health of banks.

The independent variables, EVA and RONW have been found to be statistically significant under asset quality of the banks. These variables explain 84.39% variation in case of GrNPAGA and 78.15% variation in case of NnPANA. Durbin Watson value (less than two) indicates that there is no problem of autocorrelation. F-value is also significant at one percent level indicating the fitness of model.

In second model where management soundness has been taken as dependent variable, RONW is the only variable which has shown a significant variation at 1% level.

F-statistics is also significant at 1% level i.e. 7.156. No significant variable has been found under RBTA. In this case, the null hypothesis (H_{01}) has been accepted which proves that EVA is not a superior measure of performance as compared to traditional performance measures.

In case of earning ability of banks, EPS and RONW explain 83.76% variation in ROA. The value of R-square and adjusted R-square are high and it may be adequate for the fitness of the model. F-value is significant at 1% level. i.e. ROA= 17.92, ROE=48.67 and RNIMTA= 11.79. This suggests that the association between earning ability of banks with EPS and RONW is significant. Durbin Watson value indicates that there is no problem of autocorrelation.

The independent variables EPS and EVA found to be statistically significant at 10% level in case of credit deposit ratio under liquidity position of the banks. F -value is also significant at one percent level indicating the fitness

of model i.e., 21.68. The model explains 86% variation in the dependent variable. The results regarding the association of cash deposit ratio with EVA and traditional performance measures under liquidity parameters slightly differ. The table reveals that value of adjusted R- square is very low and it may not be adequate for the fitness of the model. The t-value and F-statistics also suggest that the association between the cash deposit ratio (dependent variable) and independent variables is not significant during the study period.

None of the independent variable has been found significant under capital adequacy of the banks. Table 3 provides the values of R-square, Adjusted R-square 0.5170, 0.3793 respectively. It sounds that there exists poor relationship between capital adequacy and performance measures (independent variables) of the banks. The t and F-statistics also give identical results and both of them lead to insignificant association between the variables under reference. EVA and traditional performance measures do not suitably explain the capital adequacy of the banks. The overall analysis showed that EVA with traditional performance measure EPS, found to be better predictor of financial health of the banks.

The regression analysis has provided mixed results. The results are similar to Barel, 2009; Dutta and Sengupta, 2011; and Faizulayev, 2011. Among traditional performance measures, RONW and EPS have appeared as significant variables followed by Economic Value Added. Hence, the null hypothesis (H_{01}) has not been rejected which proves that EVA is not a superior measure of performance in comparison with traditional measures. The second null hypothesis (H_{02}) has been rejected which proves that EVA has significant relationship with the financial health of banks. The third null hypothesis (H_{03}) has been rejected which shows that there is significant relationship of financial health of banks with other traditional performance measures.

Conclusions

There is concrete evidence to support Stern and Stewart's claim that Economic Value Added measure is better than traditional performance measures in relation to the financial health of banks. The results indicate that EVA has emerged to be the second most significant variable showing a highly positive relationship in about 45% of the total banks under study. The need of the hour for all Indian banks that they should start reporting their financial position in terms of EVA. Moreover, the banks should not discontinue the traditional performance measures entirely, especially RONW and EPS as these measures have shown a very strong relationship with financial health of the banks. Further research can also be conducted to see which component of EVA (Operating Cash Flow, Earnings, and RI), if any, contributes to the association between EVA and stock returns and firm values than accrual earnings

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Liquidity Risk Assessment of Life Insurance Corporation of India

PIYALI CHANDRA KHAN AND DEBABRATA MITRA

Liquidity risk assessment is important for an insurer to maintain sufficient funds (i.e. liquidity) to handle the overall liquidity position of the company in a befitting fashion. Life Insurance Corporation of India(LIC) enjoyed a monopoly since its inception in 1956 till the opening up of insurance sector to private participants in the year 2000. The study aims at analyzing the liquidity position of LIC in the past two decades. The study also tries to identify the liquidity structure of LIC after opening up of the insurance sector in India. It is revealed from the analysis that LIC possess a sound liquidity position with an increasing trend of profitability even after opening up of the insurance sector during last one decade.

Introduction

At present, 24 life insurance companies are operating in India. LIC is a benchmark for the other private insurance players. LIC is the market leader with a commanding share of over 74 percent in terms of number of policies sold and 82 per cent in terms of amount of premium collected followed by SBI Life, HDFC Life and ICICI Prudential. In the year 2006, the growth of the life insurance industry in India was fastest in the world. The growth in life insurance industry gained a momentum with the entry of new players. Their focus was on expanding market through aggressive marketing and new product offerings rather than taking away the market share of the existing public sector. The concept of Bancassurance is gaining importance today since the novice private players are capturing business more through bancassurance channel rather than agency channel.

Literature Review

Considering the financial services sector, it is generally believed that there is a lower probability of the insurance companies to run into difficulties over liquidity issues as compared to the banking companies (Newton et al, 2009; Lorent,2008).The insurance theory states that the Life insurers require less

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liquidity than the non-life insurers due to the sufficiently long-term nature of the business (Shiu, 2006). The life insurers imposes high surrender charges which are either explicitly stated or implied implicitly as one of the feature in the contract issued by them (Babel and Santemaro, 1997). Therefore, these charges lower the vulnerability of life insuring companies to liquidity risk which may happen due to premature policy withdrawals (Herrington, 1994).

Basically two distinct features, first the long duration of liabilities in the life insurance industry(compared to banks and non-life insurers) and second high surrender charges make the life insurance companies less susceptible to liquidity risk(Lorent, 2008). But that does not eliminate the chances of a life insurance company to go into doldrums due to liquidity risk. A glimpse from history reminds us of various experiences where several well known life insurance companies ended up to be big failures due to their liquidity problem (Shiu, 2006;Babel and Santemaro, 1997). Integral risk management offers important improvement opportunities for the insurance companies' processes. There are different levels of liquidity management. There is day-to-day cash management, which is commonly a treasury function within a company. There is ongoing cash flow management which typically monitors cash needs for the next six to twenty-four months. The third category of liquidity management addresses the stress liquidity risk, which is focused on the catastrophic risk (AAA,2000). Firms have adopted a variety of structures for managing liquidity risk that range from highly centralised to highly decentralized structure. Firms with a more centralised approach to liquidity risk management cited the benefits of common language and methodology throughout the organisation, the ability to add central management resources and local expertise, and the ability to open centrally managed cash and collateral resources to affected subsidiaries. At the opposite end of the spectrum, groups conducting primarily an insurance business tend to grant a large measure of autonomy to individual operating units, even when put under stress(BIS,2006). Recent economic conditions have been benign, yet the implications of rapidly changing markets and technologies, cross-border financial system consolidation, growing interdependencies of markets, new market infrastructures and participants, regulatory and accounting change, and even improvements in the sophistication of liquidity risk management, merit thoughtful attention by both the private and the public sectors (IIF, 2007). By modelling processes, insurance companies will be able to obtain, in a simple way, a complete picture of the company and, in particular, of those areas of the company having risks on which they should focus in order to minimise global exposure. (Everis, 2009). Liquidity management as part of insurers' asset liability management is the management of the cash inflows and cash outflows..Liquidity risk is a measure of the insufficiency of an insurer's cash resources in meeting its current or future cash needs. It is also the measure of the need that assets will have to be liquidated at a discount or that refinancing is only possible at a higher interest rate (Geneva Association, 2012).

Objectives

This study is conducted with the following objectives:

1. To analyze the liquidity position of Life Insurance Corporation of India during its monopoly days and after opening up of the life insurance sector.

2. To compare the liquidity aspect of Life Insurance Corporation of India.

3. To draw a relationship between the liquidity and profitability of Life Insurance Corporation of India in its competitive regime.

Methodology

The study has primarily analyzed the liquidity position of Life Insurance Corporation of India vis-à-vis profitability. This study is concerned with the twenty four year's data of Life Insurance Corporation of India i.e. (1987–1988 to 2011- 2012). It has framed the data into two periods viz. 12 years prior to liberalization (1987-88 to 1999-2000) and 12 years after liberalization (2000-01 to 2011-12). The data is secondary in nature and is obtained from the published annual reports of LICI and IRDA. Different components of current assets & current liabilities are evaluated in context of fundamental principles of working capital. t Test and Anova have been applied to test the significance of the pattern of current ratio and profit after tax position of the firm.

Findings and Analysis

The study has been conducted to analyze the liquidity position of Life Insurance Corporation of India in the pre and post liberalized regime.

In the liberalized era, the current assets have been gradually increasing except the year 2003-04 where there was a negative growth. The current assets increased 4.69 times in these twelve years which indicates a strong growth in the business of LICI. The current liabilities have also grown up simultaneously. In the year 2002-03 the increase was as high as 94.56% as compared to the year 2001-02. Again in the year 2011-12, the growth was the highest during this period (95.16%). In many occasions we find that there has been a negative growth in the current liabilities viz. financial years 2004-05, 2006-07, 2008-09 & 2010-11.

Current Ratio (CR) is an important indicator of the liquidity position. It has been revealed that CR of LICI was 3.62 in the year of liberalization. It dripped down to as low as 1.19 by 2003-04 because the current assets faced a negative growth whereas the current liabilities experienced a high rate of positive growth. But it can be inferred that LICI had tried to manage its liquidity position by reducing its current liabilities whenever the CR came down.

According to the study by Wild et al.(2007) and Walsh(2006), current ratio of 1:1 is considered to be the ideal ratio for the insurance sector. LICI had a higher current ratio in all the years as compared to the industry standard. So, it can be inferred that there are chances of LICI to face the liquidity trouble as it has a high current ratio. LICI had the least current ratio of 1.19 in the year 2003-04 but that is also above the industry standard.

Table 1: Liquidity Position before liberalization of the Insurance sector (1988-89 to 1999-2000) and after liberalization of the Insurance sector (2000-01 to 2011-12)

Year	Rate of change in current assets(%)	Rate of Change in current liabilities (%)	Current ratio	Year	Rate of change in current assets(%)	Rate of change in current liabilities (%)	Current ratio
1988-89	24.2	39.1	2.62	2000-01	– – –	– – –	3.62
1989-90	41	13.4	3.26	2001-02	35.41	42.95	3.43
1990-91	26.1	23.9	3.32	2002-03	10.17	94.56	1.94
1991-92	22.8	14	3.57	2003-04	-2.41	59.36	1.19
1992-93	9.2	21.8	3.20	2004-05	4.94	-0.79	1.26
1993-94	27.8	42.6	2.87	2005-06	16.60	0.66	1.46
1994-95	26.4	34.1	2.70	2006-07	10.54	-4.88	1.69
1995-96	20.9	17	2.79	2007-08	24.71	8.99	1.94
1996-97	13.9	14.1	2.79	2008-09	13.83	-11.31	2.49
1997-98	47.1	8	3.80	2009-10	1.57	11.80	2.26
1998-99	7.7	31.9	3.10	2010-11	23.98	-24.77	3.72
1999-2000	7.1	24.2	2.67	2011-12	61.83	95.16	3.09

Table 2: Working capital (rate of change)

Year	Working Capital (Rs. In Lakh)	Rate of Change (%)	Year	Working Capital (Rs. In Lakh)	Rate of Change (%)
2000-01	1261354	42.41	1988-89	97247.84	17
2001-02	1671753	33	1989-90	153684.5	58
2002-03	1260913	-25	1990-91	195304.4	27
2003-04	403421	-68	1991-92	247140.1	27
2004-05	545512	35	1992-93	257667	04
2005-06	973572	78	1993-94	311951.9	21
2006-07	1404902	44	1994-95	381442.5	22
2007-08	2070718	47	1995-96	470091.6	23
2008-09	2912445	41	1996-97	534507.5	14
2009-10	2757590	-05	1997-98	903265.3	69
2010-11	4486715	63	1998-99	894493	-01
2011-12	6711846	50	1999-2000	885720.3	-01

The working capital position of the firm reflects an overall increase of 432% in these twelve years (Table 2). It was found that in the year 2003-04, the working capital was lowest because the cash balance and the advances decreased by 2.41% but the current liabilities had a steep increase of 59.6% from the last year. However it can be observed that from the year 2004-05 onwards the working capital position of the firm has been gradually increasing. The year 2009-10 experienced a decline of 5% but after that in the last two years there has been a commendable growth in the working capital position of the firm. It is because in the year 2010-11 the current assets has increased to a great extent but current liabilities decreased; it indicates the strong liquidity position of the corporation after opening up of the insurance market. In the year 2011-12 we can observe that the current assets and the current liabilities both increased simultaneously but the rate of increase in the current assets is quite less than the rate of increase in the current liabilities as a result of which working capital has increased but increased at a slower pace in comparison to its earlier years.

The profitability position of the firm has been represented by profit after tax (PAT) position of the firm. It can be observed that there has been a huge increase in profit after tax from 2000-01 to 2001-02 (Table 3). The rate of increase was 160%. But after that the profit after tax has never increased to that extent. Unfortunately, LICI had a negative growth in profit after tax in three years, viz.2002-03 (40%), 2005-06(11%) and 2011-12(11%). The rise in the PAT in the year 2001-02 may be due to the strong stock market position of the nation which was to some extent affected by the global recession in the later years. However, the overall position of LICI was found to be quite satisfactory as the profit after tax improved by 270% in the last 12 years. This resembles that LICI is quite capable to earn superior return in this competitive environment.

Table 3: PAT (rate of change)

Year	Profit After Tax (Rs. In Lakh)	Rate of Change (%)	Year	Profit After Tax (Rs. In Lakh)	Rate of Change (%)
2000–01	31665	13	1988–89	2944.19	38
2001–02	82179	160	1989–90	3903.05	33
2002–03	49697	–40	1990–91	4929.13	26
2003–04	55181	11	1991–92	6290.42	28
2004–05	70837	28	1992–93	6306.9	0.26
2005–06	63158	–11	1993–94	8667.53	37
2006–07	77362	22	1994–95	10313.08	19
2007–08	84463	09	1995–96	12801.16	24
2008–09	95735	13	1996–97	14979.9	17
2009–10	106072	11	1997–98	18072.93	21
2010–11	131334	24	1998–99	23069.51	28
2011–12	117180	–11	1999–2000	28066.09	22

Table 4: Comparative analysis of liquidity vis-à-vis profitability

Year	% change in Working Capital	% Change in Profitability (Profit after Tax)
Before Liberalisation		
1988–89	17	38
1989–90	58	33
1990–91	27	26
1991–92	27	28
1992–93	04	0.26
1993–94	21	37
1994–95	22	19
1995–96	23	24
1996–97	14	17
1997–98	69	21
1998–99	–01	28
1999–2000	–01	22
After Liberalisation		
2000–01	42.41	13
2001–02	33	160
2002–03	–25	–40
2003–04	–68	11
2004–05	35	28
2005–06	78	–11
2006–07	44	22
2007–08	47	09

2008–09	41		13
2009–10	–05		11
2010–11	63		24
2011–12	50		–11

The above Table 4 depicts the percentage change in working capital and percentage change in profit after tax which has been calculated as year to year basis. It can be observed from the above table that the change in the period prior to the liberalization was more similar as compared to the changes in both the figures after the liberalization period. In the year 2002-03, it has been found that both working capital and profit after tax had decreased in comparison to the immediate last year i.e. 2001-02.

Table 5: Comparative analysis of the liquidity position

	Mean (after)	Mean (Before)	SD (after)	SD(Before)	CV(before)	CV(after)
C A	4049915.17	657786.73	2260312	453473.23	1.791751	1.450553
C L	**1844853.50**	221335.81	732877.4	151555.43	2.517274	1.460428
W C	2205061.75	444376.31	1823185	298336.24	1.209456	1.489515
C R	**2.34**	3.06	0.921394	0.3789387	2.539736	8.068864
PAT	**80405.25**	11695.32	28939.85	7991.295	2.778357	1.463508

The mean position reflects a sound position in terms of all the parameters which resembles that LICI is less likely to have liquidity trouble (Table 5). The standard deviation is quite high; this resembles that the Current assets, Current liabilities and Working capital are quite dispersed over the years. This is because there has been a tremendous growth in the last twelve years. However, the standard deviation of current ratio is comparatively low which depicts that the CR of the firm is quite steady. This is also a good indicator of the liquidity position of the firm. The Profit after tax position of LICI was on an average Rs. 80405 lakh in the last twelve years. The standard deviation is comparatively quite low. This implies that there has been more or less a steady growth with few exceptions in the last twelve years.

Table 6: WC/CR and profitability: correlation

Correlation (entire period)	Working Capital	Current Ratio
Profit After Tax	0.83	–.27
Correlation (before)	Working Capital	Current Ratio
Profit After Tax	0.96	–.13
Correlation (after)	Working Capital	Current Ratio
Profit After Tax	0.80	0.38

Working capital is an important contributor to the earnings of the firm. So, the study examined the correlation between the profit after tax and the working capital of the firm. The study revealed that there is a strong positive

relation between the profit after tax and the working capital invested by the firm (Table 6). To confirm the earlier findings a correlation between the current ratio and the profit after tax was undertaken. It was revealed that current ratio has a negative correlation with the profit after tax. This resembles that preference for liquidity did not bring a negative impact of the profitability of the firm. In fact it may be observed that LICI had a simultaneous increase in the working capital and the profit after tax position in the liberalized regime. This finding commensurate with earlier studies.

Test of Significance

By various studies it has been observed that there is no significant difference in the pattern of working capital and profit after tax figure of LICI over the period 1988 to 2012. In order to validate this t-test analysis has been applied on the working capital and profit after tax of LICI (Table 7). Two way ANOVA at 0.05 level of significance have been applied on the working capital and profit after tax of LICI (Table 8). Both t-tests and Anova reject the null hypothesis showing that there is significant change in the pattern of working capital and profit after tax of LICI over the period 1988 to 2012.

Table 7: t-test: two-sample assuming equal variances

	Variable 1	Variable 2
Mean	2.699166667	46050.285
Variance	0.608842754	1662672114
Observations	24	24
Pooled Variance	18955235983	
Hypothesized Mean Difference	0	
Df	60	
t Stat	1.25788E-05	
P(T<=t) one-tail	0.001111301	
t Critical one-tail	1.670648865	
P(T<=t) two-tail	0.002222601	
t Critical two-tail	2.000297804	

Table 8: ANOVA

Source of Variation	S S	df	M S	F	P-value	F crit
Rows	3.20421E+11	30	10680707148	1.80400527	0.017503	1.585937
Columns	2.92694E+11	3	97564629807	16.47897503	1.29E-08	2.705838
Error	5.3285E+11	90	5920552076			
Total	1.14596E+12	123				

Conclusion

The overall position of LICI was found to be quite satisfactory as the Profit after tax improved by 270% in the last 12 years. This resembles that LICI is

quite capable to earn superior return in this competitive environment. The other parameters like working capital, current ratio also resembled a sound position which proves that LICI is less likely to have liquidity problem. The standard deviation is quite high which shows that the current assets, current liabilities and working capital are quite dispersed over the years. This is because there has been a tremendous growth in the last twelve years. However, the standard deviation of current ratio is comparatively low which depicts that the CR of the firm is quite steady. This is also a good indicator of the liquidity position of the firm. The Profit after tax reflects that on an average the PAT of LICI has been 80405 lakhs in the last twelve years. The standard deviation is also quite low, so there has been a more or less steady growth with few exceptions in the last twelve years.

The above discussion indicates that LICI had a strong liquidity position in the past twelve years after liberalisation. The company had sufficient current assets to meet the current liabilities. The profit position of the company was also quite satisfactory. It has been inferred that the profit of the firm remain unaffected. Thus, it can be inferred that there is least chance of LICI to get into liquidity problem even in this competitive globalized regime.

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A Study of Cyclical Nature of Indian Real Estate

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Indian real estate has been witnessing golden era with property boom spreading in all directions and it is touching new heights. The Industry experts feel that Indian real estate has huge demand and potential in almost every sector, especially commercial, residential, and retail. However, Indian real estate could not remain unaffected from the impacts and implications of global recession. It was believed that Asian economies like China and India would not only remain insulated but also play a major role in moderating the global slowdown. However, the decoupling theory has proved wrong. The world wide economic slowdown has definitely impacting the real estate sector both across the world and India as well. The present study critically analyses the impact of economic recession on key parameters and develops ICM model highlighting the important role played by government to counter the harmful effect.

Introduction

Economic slowdowns are regular occurrences around the world. Last two centuries witnessed many slowdowns manifested in banking panics, stock market crashes, currency crisis, bursting of the real estate bubble, etc. In such situations, the supply of money out spaces the demand evaporating the liquidity. The main cause of this financial disaster is unregulated capitalism leading to suboptimal outcome. Unregulated markets adversely affect the macro economic variables resulting instability of local currency as well as equity and increased uncertainty. This is detrimental to the business confidence and overall economic activities.

Indian Real Estate was a sunrise sector in 2006 passing through a golden era. It was fascinating to know that the value of commercial property of Delhi and Mumbai was at par with New York, Paris and London. Multinationals have been desperate to invest here. It was moral boosting to hear about the number of mergers, acquisitions and joint ventures taking place with important role of Indian companies. In most of them, Indian partners were the initiators. The globalization and liberalization had trickled

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down in otherwise closed Indian economy. The impact was revolutionary on social, economic, and cultural fabric of India, a country known in the world as tradition bound and always resisting to change. Indian real estate is expected to increase from $12 billion to $ 90 billion by 2015. The demand for housing is expected to increase to 80 million with expectation to add new jobs to the value of 4 million by 2015. Investments in the real estate segment are expected to yield 13-16 per cent return. It was expected that it would increase to become top most real estate markets in the world.

Review of Literature

Indian economy has been mostly insulated from global downturns, showing a degree of stability. After survival through the recession of 2008, it is striking back more forcefully and confidently with corrected prices and improved product variety. India's consumption-driven model is also more people-friendly than other development strategies (Bandhopadhyaya, Arindam, Basu, Sanjay, Baid.2008). There was no direct exposure of India to the US subprime credit market but it triggered negative sentiments in India. The Bombay Stock Exchange Sensex fell 3.35% or 469 points on September 15. The worst affected was the realty index which dropped 7.6% on the same day (Sehgal, 2008).

India has not witnessed a boom and bust cycle of the kind experienced in developed countries. However, no liberalized economy can remain unaffected by external factors (Subramanium & Jayraj, 2006; Garg, 2006). It is only after liberalization that the Indian economy has been witnessing several cyclical movements. Economic cycles do impact real estate and there is a relationship between real estate and financial markets (Born and Pyhrr, 1994; Mueller,1995). In real estate, most common cycles are considered to be of 8-10 years (Laposa, 1995) and there are evidences of such 15 different real estate cycles (Pyhrr and Roulac,1996). It was realized that the boom/bust of 1920–34 exhibited many similarities to the boom/bust of 1980–93. Both periods were initiated by an unusually high period of inflation and rapidly rising rents (Ronald, 1997). Developers finding it difficult to sell high-end apartments began to move towards lower income segments (Sarthak 2008, City Group Research, 2007). Studies revealed importance of government in moderating boom-bust cycle (Hoyt, 1993). It was realized that internal policy can be planned in such a way that it minimizes affect from external factors (Garg, 2006).

It was analyzed that uncertainties can arise for real estate managers in economic growth, political and social development within and outside country (Geert and Pity, 2004). To overcome the pitfalls scenario building could be used as an important technique to study future property development, investment and management decision (John, 1999).

Though market is slowing down but the situation is not one of crashing market because this relatively slower rate of correction is a sign of maturing market (Mangalam, 2008). In the long run, the Indian growth story is likely to continue, real estate prices will certainly increase. However, they will not

see a meteoric rise as they did earlier. The market will eventually consolidate. It will be a more stable market (Prabhakar, 2008). Henceforth, ultimately , strong demand for real estate in India will remain intact and will see us through another real estate cycle once the market finds its own level by responding to these short to mid term global and domestic factors (Cushman & Wakefield Report, 2009).

Objectives

Following are the main objectives of this research paper:

- To study the impact of economic recession on real estate sector of India.
- To examine the effectiveness of steps taken by government to boost the real estate sector of India.
- To study the future of real estatate sector of India.

Research Methodology

The present study uses descriptive research design wherein data has been collected from 450 buyers and 50 developers of Delhi NCR region. The final questionnaire is pruned after passing through many stages of experience surveys, pilot testing and finally reliability as well as validity testing. The response rate has been 80%. The data collected has been analyzed and hypotheses are tested using statistical tools.

Hypotheses

Following eight hypotheses have been tested in this paper using t-test, F-test and chi-square test. The results have been summarized in Table 1.

Hypothesis 1: There is no significant variance between impacts of economic recession on real estate of India reflected in terms of various factors.

Hypothesis 2: There is no significant variance between the future of real estate of India in three times period reflected in terms of decline, growth and stability.

Hypothesis 3: There is no difference of opinion between buyers and developers regarding methods adopted to handle the harmful impact of economic recession on real estate of India according to developers.

Hypothesis 4: There is no difference of opinion between buyers and developers regarding methods adopted to handle the harmful impact of economic recession on real estate of India according to consumers.

Hypothesis 5: There is no association of income with the steps followed by government to handle harmful impact of economic recession on real estate.

Hypothesis 6: There is no association of occupation with the steps followed by government to handle harmful impact of economic recession on real estate.

Hypothesis 7: There is no association of education with the steps followed by government to handle harmful impact of economic recession on real estate.

Hypothesis 8: There is no association of gender with the steps followed by government to handle harmful impact of economic recession on real estate.

Discussion and Analysis

Table 1 summarizes the impact of economic recession on real estate sector. Majority of respondents were of view that profit of builders, demand and price of property will remain same or fall during recession. Launch of new projects will fall during recession, competition will increase and rate of home loans will reduce to induce buyers to purchase property. Hence, majority of buyers were of opinion that real estate will remain same or fall during recession.

When consumers were asked as to how they *predict future of real estate sector of India in 1-2 years, 2-3 years, and 3-4 years,* one definite trend was that real estate will stabilize and grow over the period of 3-4 years. Two F –Test were conducted to test the first two hypotheses. In both the cases, the calculated value of 'F' has been much larger than table value at 95% level of confidence. They revealed significant difference between impact of economic recession on real estate of India and the future of real estate of India in three different time periods reflected in terms of decline, growth and stability. Hence, the two hypotheses were rejected.

The effectiveness of various steps taken to boost the real estate sector of India has been evaluated through comparative ranking for buyers and developers (Table 2). It reveals that for *buyers* three most important methods to handle impact of economic recession on Indian real estate are: changes in prices for current and future purchase of property, RBI cutting the CRR, RBI cutting the repo rate. For *developers* three most important methods to handle impact of economic recession on Indian real estate are: RBI cutting the CRR, reduction in prices of steel and cement etc, RBI cutting the repo rate. Buyers reveal significant relationship with income for reduction in price of steel and cement and changes in prices for current and future purchase of property.

Table 1: Comparative ranking for consumers and developers

Sl#	Variables	Buyers'	ranking	Developers'	ranking
1.	Reduction in price of steel and cement to reduce the input cost of construction industry	3.14	5	3.02	2
2.	RBI cutting the cash reserve ratio by 3.5% to increase liquidity	3.21	2	3.2	1
3.	RBI cutting repo rate at which the banks borrows from RBI by 15%	3.1911	3	2.98	3
4.	Providing funds to developers through NHB (National Housing Banks to reduce the risk from 150% to 100%)	3.10	7	2.86	7
5.	Changes in price for current and future purchase of property	3.26	1	2.9	6

| 6. | Reduction in home loans by .75% to 1%by banks | 3.18 | 4 | 2.98 | 4 |
| 7. | Launching a large number of promotion techniques like buy 1 get 1 free, win a car | 3.13 | 6 | 2.92 | 5 |

One sample t-test depicts that both buyers and developers (Table 3) *reject the null hypotheses 3 and 4* as the value of 't' at degree of freedom 49(developers) and 449 (buyers) for one tailed significance is less than.05 (p<.05) at 95 % level of confidence. Hence, all factors are important in handling recession.

Table 2: One sample t-test for consumers and developers at test value 2.5

Sl. No	Variables	Developers' ranking *df* 49		Buyers' ranking *df* 449	
		T	*Sig (2-tailed)*	T	*Sig (2-tailed)*
1.	Reduction in price of steel and cement to reduce the input cost of construction industry	2.358	.022	10.380	.000
2.	RBI cutting the cash reserve ratio by 3.5% to increase liquidity	2.337	.024	12.407	.000
3.	RBI cutting repo rate at which the banks borrows from RBI by 15%	3.601	.001	12.603	.000
4.	Providing funds to developers through NHB (National Housing Banks to reduce the risk from 150% to 100%)	3.083	.003	10.308	.000
5.	Changes in price for current and future purchase of property	3.633	.001	3.633	.000
6.	Reduction in home loans by .75% to 1%by banks	4.183	.000	4.183	.000
7.	Launching a large number of promotion techniques like buy 1 get 1 free, win a car	2.527	.015	2.527	.000

Table 4 depicts the results of chi square to test association between steps taken by government to handle harmful impact of recession on income, occupation education and gender. This table shows clearly that in case of reduction in price of steel and cement and changes in prices for current and future purchase of property, there is significant relationship or association with income. We accept the alternate hypothesis. Buyers with less income would be happy with reduction in price of steel and cement and reduction in price of property in recession. Further, no association has been found between occupation, education and gender with the steps followed by government to handle harmful impact of economic recession on real estate.

Table 3: Chi-square of income, occupation, education and gender

Sl. No.	Variables	Income	Occup- ation	Education	Gender
1.	Reduction in price of steel and cement to reduce the input cost of construction industry	43.729*	.103	.359	.126
2.	RBI cutting the cash reserve ratio by 3.5% to increase liquidity	24.81	.662	.201	.680
3.	RBI cutting repo rate at which the banks borrows from RBI by 15%	19.96	.159	.052	.769
4.	Providing funds to developers through NHB (National Housing Banks to reduce the risk from 150% to 100%	17.12	.570	.336	.571
5.	Changes in price for current and future purchase of property	28.877	.328	.677	.165
6.	Reduction in homeloans by .75% to 1%by banks	14.27	.375	.677	.949
7.	Launching a large number of promotion techniques like buy 1 get 1 free, win a car	13.74	66	.523	.888

Table 4:Results of hypotheses testing

Hypothesis	Significant/Not Significant	Statistical Test
1	Significant	F-test
2	Significant	F-test
3	Significant	One Sample t-test
4	Significant	One Sample t-test
5	Significant association between income and reduction in price of steel and cement and changes in price for purchase of property.	Chi-Square
6	Not significant	Chi-Square
7	Not Significant	Chi-Square
8	Not Significant	Chi-Square

Model Building

The role of government is very important in strategic decision making in real estate. During the period of growth, stability and boom, government of a country assumes different roles. On the basis of findings the model has taken two major dimensions namely *strategies and scenarios* (Geert and Pity, 2004). Strategies dimension has three variants: *growth, stable, decline* and scenario have been developed for *1-2 years, 2-3 years, and 3-4 years* starting with economic recession 2008. Future trend has been depicted for the various factors in the model (Figure 1).

It was realized that *role of government* was pro-active and very strongly needed to support and improve the condition of real estate in initial 1-2 years after recession in 2008, when government was playing the role of an *initiator (I)*. By the year 2009 end and beginning of 2010 situation began to stabilize. Here, the Government played the role of *controller (C).After* March 2010 the situation improved a lot and the real estate market showed sign of strong survival and growth changing the role of government to be of a *moderator (M)*. This phenomenon is indicated with the help of changing shades of blue color. The model is being named as *ICM Real Estate Model (Initiator Controller Moderator Model)*.

Strategies adopted reveal that for initial 1-2 years there will be growth in sales promotions (g) to attract consumers to buy property. Competition (e) is expected to stabilize in initial 1-2 years. The remaining demand for real estate (a), price of property (b), profit of builders and developers (c), launch of new products (d), rate of home loans (f) will decline. In 2-3 years competition (e) will grow as situation improves, demand for property (a), launch of new products(d) will decline, rate of home loans (f) will stabilize and price of property b), and profit of builders (c) will decline. In coming 3-4 years sales promotion (g) methods will decline because of increase in demand, price of property (b) and profit of builders(c) will stabilize, and demand for property (a), launch of new products (d), rate of home loans (f) and competition (e) will increase.

Figure 1: ICM model of real estate

This work emphasizes the studies done in the past and checks its validity against Indian real estate. There have been boom and bust cycles in the past in Indian real estate also but not to the extent as experienced in the west. Indeed government has a very important role in controlling the

recession in real estate, which is second largest contributor to GDP. Only commitment can win the support of buyers and developers alike which is very important in the tough time of recession. Studies reveal that in spite of economic recession, demand for lower income group housing is still robust. There is a lot of potential to study the scope of new age construction like green construction, fire safety, earthquake resistance housing, etc. These should be used effectively during recession.

Conclusions and Suggestions

The respondents provided valuable insights regarding various issues. The important insights obtained from analyzing the customers' responses are described below:

- The respondents agreed that the future of Indian real estate is very bright. There is a lot of scope for development in infrastructure especially retail and hospitality.

- All respondents agreed that the recession would correct the unreasonable increase in prices for real estate.

- Consensus emerged towards extremely important role played by government in providing boost to real estate in the past and in alleviating the current situation.

Following suggestions are proposed.

- Sound credit policies should not be violated while sanctioning housing loans.

- There is a need to set up a centralized Real Estate Regulatory Authority in line with existing authorities such as SEBI, IRDA, TRAI and RBI.

- Fiscal stimulus package should be implemented for key areas such as housing to overcome the crisis

- Income of the people is the best criterion to be considered by the government while implementing measures to handle negative impact of recession.

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Effect of Bank Credit on the Growth of Indian Priority Sector

P. VENI AND ATAKELT HAILU ASFAW

Annual production growth rate of MSME has been growing and so does its annual growth rate of bank credit. Result of correlation showed strong positive correlation between the annual growth rate of bank credit flow and MSME while weak positive correlation with annual agricultural growth. The regression result indicated that the improvement of financial access has great effect on the growth of MSME while less for agricultural growth.

Introduction

Financial system play greater role to mitigate problems of poverty through channelizing financial resources from surplus area to deficit productive area. Financial resource is the key factors of production that must be viewed as preconditions for the development and availability of other physical and human resources (Levine, 1997; Srivastava, 2008)). Financial system is, therefore, considered as the life blood of every economic unit and it is a pre-requisite to accelerate the process of socio-economic development. Many researchers pointed out that there is strong positive relationship between the financial system development and economic growth (Ayadi *et.al*, 1998, Bhatt 1989, Saunders 2008, Jeucken 2001, Geda *et.al*. 2008). Financial system brings sustainable long term economic growth through mobilization of saving, advancing loans, spreading risks, capital formation and providing liquidity etc.

Banking is one of the oldest and biggest elements of financial system that lie at the heart of the world's financial system (Rose, 2007). Development of banking system play crucial role not only for stability and soundness of national economy but also for the stability of world financial system. Priority sectors are sectors that are prioritized and preferred by government as a result of their great share and contribution to Gross Domestic Product and living standard of society. Improving the financial access of priority sectors enable to build up their capacity in terms of productivity, innovation, modernization, product expansion and improvement (Mathur, 1995); (GTZ, 2004).

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Srivastava (2008) noted that financial institutions play significant role in economic growth not only through capital formation but also help in allocation of funds among different industry and sectors of the economy in consonance with the national priority. Priority Sectors are the engine of economic development due to their capacity and contribution toward employment generation, import substitution, high contribution to GDP, promote balanced regional growth, have equitable distribution of wealth and promote exports (Desai, 1999); (Ahiawodzi, 2012); (Thampy, 2010)). Priority Sectors are high labor incentive, require less initial capital and they have high share in the creation of new job, innovation, capital formation, generation of income and output (Ahiawodzi, 2012); Thampy (2010); Alemayehu *et.al*, (2008), Srivastava (2008)).

Every economic unit, especially priority sector, has been contributing for this fast socio-economic development. On the other hand, the contribution of Agricultural GDP has been decreasing year to year; from 23.12 % in 2000-2001 to 18.81 % in 2005-2006; from 17.74% to 17.2% in 2010-11.(Ministry of Agriculture, 2013).The contribution of MSMEs has been growing in terms of production, employment generation and export earning from 2000-01 to 20012-03. Its GDP share has been growing continuously from 13% in 2000- 01 to 18% in 2007-08 and slowed down to 17% in 2008 and reached 15.3% in 2010. (Ministry of Agriculture, 2013).

Objectives of the Study

The main objectives of the study are:

- to investigate the effect of bank credit on growth of priority sectors with special reference to MSME and agricultural sector.
- to analyze the performance of MSMEs and agricultural sector.
- to assess the achievement of annual bank credit targets of priority sectors.

Hypotheses

The following hypotheses are formulated in order to meet the objectives of the study:

- There is a significant difference between annual bank credit flow and growth of agricultural sectors
- There is significant correlation between deployment of bank credit and growth of MSME

Research Methodology

In order to achieve the intended objective of the study, statistical techniques like correlation and regression analysis with the help of SPSS are used. The data is further analyzed by growth rate and percentage with table and graphic representation of figure. Correlation coefficient and ANOVA help to test the relationships between variables.

Regression model found to be vital to explain the effect of independent variable (annual bank credit flow) on dependent variable (growth of priority sector). The growth of priority sector are measured by annual production growth rate which serve as dependent variable and annual growth rate of bank credit flow as independent variable. The model of the study is represented as follows:

$$GAGSi, t = \beta 0 + ABCXt + \mu, t \dots (1)$$

Where: GAGS = Growth of Agricultural Sectors (dependent variable) i in year t, ABC = the Independent variable which is annual agricultural bank credit. t is time period from 2000-2012, â0 and ABC = unknown parameters to be predicted.

$$GMSMEi, t = \beta 1 + BC2Xt + \mu t \dots (2)$$

Where: GMSME= Growth of MSME, BC_2 = annual growth of Bank Credit to MSME $\beta 1$ and BC_2 are unknown parameter to be predicted.

MSME and Agricultural sectors are the major priority sectors that have high GDP share in the Indian economy. Therefore, it is vital to know the contribution of each priority sector to GDP and their growth through estimating unknown parameters so as to know the effect of commercial bank credit access on their level of production growth.

Result and Discussion

Bank Group Wise Credit Deployment of Priority Sector

It is vital to discuss the position of bank group wise credit flow to priority sectors with special subsectors of agriculture, SSI sector and weak section. A target of 40 per cent of adjusted net bank credit (ANBC) has been stipulated for lending to the priority sector by domestic public and private sectors bank. Within this, sub-targets of 18 percent and 10 percent of ANBC have been stipulated for lending to agriculture and the weaker sections respectively.

A target of 32 per cent of ANBC has been stipulated for lending to the priority sector by foreign banks having offices in India. Within the overall target of 32 per cent to be achieved by foreign banks, the advances to micro and small enterprises and the export sector should not be less than 10 percent and 12 percent.

According to Table 1 the percentage of bank credit to priority sectors from group of banks has increased year to year and share of bank credit to priority sectors have reached more than 40%. Outstanding advances of priority sector provided by public sector banks has increased from 521376 in 2006-07 to 10, 21,496 crore in 2011 and showing average annual growth rate of 14.84 percent. Public-sector banks have achieved the overall priority-sector lending target during 2006 to 2012.

Outstanding advances of private sector banks to priority sectors has increased from year to year and reached 249,099 crore in 2011 with average annual growth of 15.65 % between 2006 and 2011. Private sector banks

have achieved the overall lending target during this period. The share of adjusted net foreign bank credit is increasing and its average annual growth rate has reached 17.9% which is the highest growth than other banks during 2006 to 2011-2012

Bank Credit and Production of Priority Sector

The effect of bank credit on production growth of MSME and agricultural sectors were carried out by using bank credit and production growth rate even though there are many other influential factors like level of investment, employment, GDP share, income, and profitability etc. The relation between the bank credit and growth of priority sector with special reference to MSMEs and agricultural sector were investigated through regression model. The positive relationship between banking access and economic growth has been supported by many authors (Ayadi et.al, 1998); Bhatt, 1989; Saunders, 2008; Jeucken, 2001; Geda et.al. 2008).

Unaffordable loan term and condition, high transaction costs, collaterals requirement and high interest rate are the major constrained of financial access for priority sector. According to study of Thampy (2010), the major bottleneck for the growth of Indian small and medium enterprises (SME) is its lack of adequate access to finance. Lack of adequate financial access to priority sectors is the major cause for hindering their contribution to economic growth and development (Akingunola. *et al,* 2011)). In order to solve this problem, government of India provides credit privilege for creating easy access of institutional credit to major socio-economic sectors and called as priority sectors. Table 1 shows agricultural and MSME production as well as financial access of bank.

Bank priority sector advances have been growing from 154,414 crore in 2000-01 to 13,99,100 crore in 2011-12. It has been increasing especially after 2004. Agricultural credit has started growing faster after 2004 while bank credit to MSMEs has been found to be slow during the same year. Even though production of MSME is almost tantamount with agricultural and allied sector, high privilege for access of bank finance has been given to agriculture and allied sector than MSME. Trend of bank credit to MSME is not as required and depend on the production growth rate. The access for external finance increased depend on the production capacity and its GDP share as well as production growth rate. As the figure 1 shows that the growth of MSME's production increased while its bank credit flow is slower.

In spite of remarkable increase in the flow of bank agricultural credit, GDP share of agricultural production has been falling in the recent years. However the share of bank credit in proportion to agricultural production has been increasing from 11.27% in 2000 to 36.8% in 2011.The performance of agricultural credit in terms of this parameter seems to be significant. While the share of bank credit in proportion of MSMEs' production continuously decreasing from 20.21% in 2000-01 to 18.8% in 2010-11. The production of MSME is increasing and almost equivalent with agricultural production in spite of the fact that bank credit to MSME has been growing slowly. Credit access to MSME is lower than agricultural sectors due to its low percentage share of ANBC.

Table 1: Bank group wise credit to priority sectors

Year	2006	2007	2008	2009	20010	2011	2012P	AAGR
1. Public sector banks								
Total priority sector advances	4,09,748 (40.3)[-]	5,21,376 (39.7) [15.75]	6,10,450 (44.7) [17.1]	724150 (42.8) [18.6]	863777 (41.55) [19.28]	1021496 (46.60)) [18.3]	1129993 (39.40) [10.6]	14.84%
Total advances to agriculture#	1,55,220 (15.3)	2,02,614 (15.4)	2,49,397 (18.)	299415 (17.7)	372463 (17.28)	414973 (16.60)	475148 (15.70)	
Total advances to micro & small enterprises	82,434 (8.1)	1,02,550 (7.8)	1,51,137 (11.1)	191408 (11.3)	276318 (13.3)	369930 (14.80)	396343 (13.10)	
Advances to weaker sections	78,158 (7.7)	93,747 (7.1)	1,21,740 (8.9)	165829 (9.8)	211376 (10.17)	240321 (9.60)	293960 (9.70)	
2. Private-sector banks								
Total priority sector advances	1,06,586 (42.8)	1,44,549 (42) [35.62]	1,64,068 (47) [13.5]	187849 (46.2) [14.5]	214669 (45.8) [14.28]	249099 (46.60) [16]	286420 (39.40) [14.99]	15.65%
Total advances to agriculture#	36,712 (13.6)	52,034 (12.7)	58,567 (17.0)	76103 (18.7)	90737 (15.58)	92146 (17.2)	00900 (13.8)	
Total advances to micro and small enterprises	10,421 (4.2)	13,136 (3.9)	46,912 (13.7)	46656 (11.5)	64824 (13.83)	88115 (16.5)	110513 (15.2)	
Advances to weaker sections	4,174 (1.7)	5,223 (1.6)	7,152 (2.0)	14262 (3.5)	25532 (5.44)	28575 (5.3)	38929 (5.3)	
3. Foreign banks								
Total priority sector advances	30,439 (34.4%)	37,831 (33.4) 24.3	50,254 (39.5) 32.82	55483 (34.3) 10.41	59959 (36.03) 8.1	66737 (39.7) 11.3	80559 (40.90) 20.7	17.93
Total advances to agriculture#	N A	N A	N A	N A	121	56 (0.00)	111 (0.00)	

Contd...

Total advances to micro and small enterprises	8,430 (9.5)	11,637 (10.3)	15,489 (12.2)	18138 (11.2)	21147 (12.70)	20981 (12.4)	21760 (11)
Advances to weaker sections	N A	N A	N A	N A	0 .00	0.00	0.00
Total Export credit (includes SSI export)	17,326 (19.6)	20,711 (18.3)	28,954 (22.7)	31511 (19.4)	35167 (21.13)	43322	51742

Source : RBI

Figures in parentheses show percentage of advances to ANBC or credit-equivalent amount of OBE, whichever is higher.

Figure in Iverson bracket [] shows annual growth rate of priority sector lending to ANBC.

Figures for 2007 represent small-scale industries. In terms of revised guidelines on lending to the priority sector, MSEs are defined on basis of the Micro, Small and Medium Enterprises Development (MSMED) Act 2006.

P : Provisional

AAGR (average growth rate)

Table 2 : Deployment of bank credit to priority sectors

Year	Gross bank credit to priority sector			Production of MSME and agricultural sector		
	Total priority sector	Out of total priority sector		GDP at Factor Cost	Production of SSI	Agriculture and Allied Production
		agriculture	SSI			
2000	154,414	51922	56002	1991982	261297 (13.12)	460608 (23.12)
2001-02	175,259	60761[17]	57199[2.14]	2167745[8.8]	282270[8] (13.021)	498620[8.3] (23)
2002-03	211,609	73518[20.99]	60394[5.59]	2338200[7.86]	314850[11.5] (13.466)	485080[-2.7] (20.746)
2003-04	263,834	90541[23.2]	65855[9.4]	2622216[12.15]	364547[15.8] (13.90)	544667[12.3] (20.77)
2004-05	381,476	125250[38]	74588[13.3]	2971464[13.32]	429796[17.9] (14.46)	565426[3.8] (19.03)
2005-06	510,738	173972[33.9]	91212[22.3]	3390503[14]	497842[15.8] (14.683)	637772[12.8] (18.81)
2006-07	635966	230377[32.4]	117910[29.3]	3953276[16.98]	709398[42.2] (17.945)	722984[13.4] (18.29)
2007-08	748073	275343[19.5]	132698[12.5]	4582086	790759[11.5] (17.258)	836518[15.7] (18.26)
2008-09	932459	338656[22.99]	168997[27.4]	5303567	880805[11.4] (16.608)	943204 [12.7] (17.78)
2009-10	1092179	416133[22.9]	206401[22.1]	6091485	982919[11.6] (16.136)	1079365 [14.4] (17.7)
2010-11	1239386	460333[10.6]	229101[10.99]	7157412	1095758[11.5] (15.31)	1269888[17.65] (17.74)
Average annual growth rate in %	21.96		14.1	14.3		9.85

Note: Figures in brackets are percentages share to GDP at current price with base year of 2004-2005

Figure in Iverson bracket [] shows annual growth rate of each sector

GDP and production of MSME and agriculture are priced on Current price with Base year of 2004-05

Source: RBI , Handbook of Statistics on Indian Economy

Regression Result

There is general agreement that the growth of priority sectors is not an alternative for the socio-economic development especially in developing country. Bank credit play pivotal role for the growth of priority sectors since they are hampered by lack of external finance and number of other factors including lack of managerial skills, equipment and technology, regulatory issues, and access to international markets (Ahiawodzi, 2012; Dasgupta, 2002; Srivastava, 2008; Alemayehu et.al, 2008). The result of regression analysis shows there is strong positive correlation between the growth of MSME and bank credit flow. The Pearson correlation coefficient between growth of MSME and bank credit flow is 0.566 which shows positive effect of bank credit on the growth of MSME.

Therefore, the hypothesis that states that there is significant relationship between MSME's production growth rate and bank credit is accepted. The Pearson correlation coefficient for growth of agricultural sectors and bank credit is 0.256 which shows weak positive effect of bank credit on the growth of agriculture sector.

Bank credit flow to MSME that used as independent variable in regression model has high degree of explanatory power than agricultural bank credit. R square for growth of MSME is 0.32 which means that about 32% of variation in the growth of MSME is explained by growth of bank credit even though there are many other factors influencing the production growth of MSME. F-ratio further evidenced that growth of bank credit has positive effect on growth of MSME and shows statistically significant at the level of 8.8%.

Table 3: Model summary

	Model summary				Model summary			
Model	R	R Square	Adjusted R Square	Std.Error of the Estimate	Model	R	R Square	Adjusted R Square	Std.Error of the Estimate
1	.259a	.067	−.049	6.277652	1	.566a	.320	.235	8.524211

a. Predictors: (constant), Annual growth rate of agricultural bank credit flow

b. Dependent variable: annual production growth rate of agricultural sectors

a. Predictors: (constant), Annual growth rate of bank credit flow to MSME

b. Dependent variable: annual production growth rate of MSMEs

Table 4: ANOVA

$ANOVA^b$

Model		Sum of squares	df	Mean square	F	Sig.
1	Regression	273.319	1	273.319	3.761	.088a
	Residual	581.297	8	72.662		
	Total	854.616	9			

a. Predictors: (constant), Annual growth rate of bank credit flow to MSME

b. Dependent variable: Annual production growth rate of MSMEs

ANOVA[b]

Model		Sum of squares	df	Mean square	F	Sig.
1	Regression	22.729	1	22.729	.577	.469[a]
	Residual	315.271	8	39.409		
	Total	338.000	9			

a. Predictors: (constant), Annual growth rate of agricultural bank credit flow

b. Dependent variable: Annual production growth rate of agricultural sectors

Equation of regression line between growth of bank credit and MSME has beta value of 0.596 which measures the unit change between growth of MSME and bank credit. It shows that when the growth of bank credit flows to MSME increase, by one rupee, the estimated increase in the mean or average amount of MSME's production is about 0.596. If the growth of bank credit increases by one rupee, it generates additional 0.596 paisa in MSME's production. The value of â1(Y-intercept) is 6.48 which implies that an average annual growth of MSME when growth of bank credit become nil.

Table 5: Coefficients

Model	Unstandardized coefficients		Standardized coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	15.440	6.380		2.420	.042
Annual Growth rate of Agricultural Bank Credit Flow	-.191	.251	-.259	-.759	.469
(Constant)	6.484	5.472		1.185	.270
Annual Growth rate of Bank Credit Flow to MSME	.596	.307	.566	1.939	.088

a. Dependent variable: Annual production growth rate of agricultural sectors

b. Dependent Variable: Annual production Growth rate of MSMEs

Table 5 shows that regression equation for the independent variable (growth of bank credit) and dependent variable (growth of agricultural sectors) indicates the value of beta -0.191 which is the slope that indicates negative effect of growth of bank credit on growth of agricultural sector. It does not mean that it has negative relationship instead it means that one unit increment in annual growth of bank credit may lead to decrease in the growth of agricultural sector by 0.19.

Conclusion

The contributions of bank credit flow on priority sector production are positively significant and play vital role in the process of socio economic developmental process. Annual growth rate of bank credit has strong positive

correlation with annual production growth rate of MSME while annual growth rate of agricultural production shows weak positive correlation. The regression result shows that there is strong positive relationship between annual growth rate of MSME's production and bank credit. Annual growth rate of agricultural production has weak relationship with annual growth rate of bank credit.

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Influence of Advertising on Attitude of Young Indian Consumers

RAJUL DUTT AND ATUL KASHYAP

The aim of this research paper was to investigate the determinants of consumer's attitude towards advertising among 300 faculty members of engineering/MCA colleges/Institutions. A total of 237 faculty members from private colleges in western U. P. participated in this research .Six independent variables are determined to examine the influence for the study. The data were collected from 237 valid responses. The outcome shows that in formativeness, entertainment positively relates to consumer's attitude towards advertising.

Introduction

In the year 2011 the total share of Indian advertising industry stood at Rs 25,594 crore, recording a growth of 8 per cent compared to the previous figures. The figure was far below the earlier projection of 17 percent as the Indian economy faced a severe inflation. The growth projections for the advertising industry for 2012 remains a cautious 8-9 percent, with a total share of Rs. 28013 crore. Now for a breakdown of the share; television continued to dominate with a share of 44.8 percent, following by the print media with a share of 42.2 percent. The growth of internet share had been the most impressive, claiming the third largest share of the ad share at 3.8 percent. Radio saw a flat growth of 3.1 per cent share of the ad, on the other hand, outdoor ads did better with a 5.1 percent share. Cinema related advertising was at the bottom with a mean share of 0.5 per cent. The total annual advertising expenditure in India is currently estimated at US dollor 5 billion of which around 45 percent is spent on television and radio alone. The advertising industry grew from Rs 728 billion in 2011 to Rs 820 billion, in 2012, registering an overall growth of 12.6 per cent. Total advertising across media was Rs 327 billion in 2012. Despite the economic slowdown, advertisement revenue saw a growth of 9 per cent in 2010, as against 13 percent in 2011 and 17 percent in 2010. Print continues to be the largest beneficiary, accounting for 46 per cent of the advertising at Rs 150 billion. While television continues to be the dominant segment in the advertising arena,

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Table : Indian advertising revenue by media category 2012-13

Media Category	Jan-Dec'12 INR MM	Jan-Dec'2013 INR MM	% Change	% Market Share
Television	140920	150186	6.6	41
News Paper	137810	146079	6.0	40
Internet	20576	27000	31.2	7
O D H	18000	19260	7.0	5
Radio	12723	13741	8.0	4
Magazines	8198	8198	0.0	2
Cinema	2275	2633	15.7	1
Grand total	340502	367096	7.8	100

Varadarajan and Thirunarayana (1990) examined consumer's attitude towards marketing practices, consumerism, and government regulations. They found a high level of consumer skepticism regarding the operating philosophy of business, discontent with marketing practice, and support for consumer movement and greater government regulation. Chan, Yau and Chan (1990) found that demographic variables significantly affect consumer's attitude in the same way across the samples. Crellin (1998) found a significant generational split between those receptive and unreceptive to advertising in China. Those under 35 felt positive towards advertising, whereas those over 35 had similar and traditionally hostile attitudes to advertising.

Literature Review

Bogart (1985) argued that chances of careful processing of advertisement are lowered by the high number of advertisements competing for individual's attention on a daily basis. Fernds and Rosen (2000), and Lohse and Rosen (2001) use the terms "directional media" and directional advertising to refer to yellow pages advertising. Brackett and Carr (2001) however distinguished advertising from the media that carry them. Ducoffe (1996) argues that media context is thought to have an important influence on the value of advertising. Previous studies also confirmed that advertising placed in a less credible medium like TV is considered to be less informative (Bauer and Geryser, 1968; Becker, Martino and Towners, 1976; Larkin, 1979). Directional medium is primarily designed for carrying advertisements. Therefore, their attitude towards medium (i.e. the Yellow pages) are essentially based on their attitudes toward a specific medium.

The emergence of globalization has created more dimensions for researchers to explore the role of advertising in product and services performance including consumer's attitude (Kanso & Nelson, 2007). According to Tai (2007), the advertisement of technology enables competitor's easy access to marketing information. Therefore advertising plays an important role in such situation by developing a strong brand name of the corporation or products. Advertising is a non-personal communication in the structure of information,

usually paid for and generally perceive in nature about products, services or ideas by acknowledged sponsors' through an assortment of media (Borvee and Arens, 1992). In general advertising is used to inform, persuade and remind consumers. Advertisement is believed to enhance buyers response to products or services offered by a firm, thus enabling possibilities of increased profitability. However, advertising has been accused of an array of sins ranging from an economic waste to purveying of harmful products, from sexism to decite and manipulation from triviality to intellectual and moral population (Mittal, 1994).

Hypotheses

H1: Consumer Psychology has a negative influence on attitude towards advertising

H2: Informativeness has a positive influence on attitude towards advertising

H3: Entertainment has a positive influence on attitude towards advertising

H4: Good Income Status has a positive influence on attitude towards advertising

H5: Public Interactivity has a positive influence on attitude towards advertising.

H6: Materialism has positive Influence towards Advertising

Research Methodology

The questionnaire was divided into two parts: Part A and Part B. Part A solicited responses on participants' background and overall knowledge on the subject matter. Part B of the questionnaire consisted of questions on the conceptual variables. Each variable comprised about two to five questions/statements. We used a five-point Likert scale that ranges from 1 = "Strongly Disagree" to 5 = "Strongly Agree". Prior research employed similar measurement (Haque et al., 2007; Kwek, Tan & Lau, 2010; Lee, 2009; Eze, Tan & Yeo, 2012; Eze, Chin & Lee, 2011). We employed convenience-sampling method to select 300 participants in this study because there was no population frame for the prospective participants (Sekaran, 2003). Munusamy and Wong (2007) used similar method in their research. Subsequently, we distributed the questionnaire to young faculty members, who were between 22-40 years old. We used personal administration method to collect the data. We chose personal administration method for data collection because it is widely used in surveys of this nature and, particularly it helps in achieving the objectives of this paper (Lee, Eze & Ndubisi, 2011; Eze & Kam, 2001).

Findings

Out of 300 questionnaires 81% i.e. 242 were returned out of which 5 were incomplete amounting to 79% valid responses. We used Statistical Package for Social Sciences (SPSS) program to process the data for this study.

Table 1 illustrates the demographic profile of the respondents, who participated in this study. Majority of the respondents were female (60.3%)

compared with the male respondents, which was 39.66%. In addition, respondents within the age group of 25 to 29 years old emerged with the highest number of participants i.e. 71.73%. The highest number of respondents in terms of education level came from the undergraduates or diploma level category (78.06%). In addition, most of the respondents (76.37%) earn Rs 5001 to Rs 10,000, monthly, . Majority of the respondents agree that TV is the most effective source of advertising (56.96%). In addition, the respondents encounter advertisements 3 to 5 times in a day (35.86%). Lastly, majority of the respondents, (61.8%), indicated neutral response.

Table 1: Respondents' demographic profile

	Frequency	Percent	Cumulative (%)
Gender			
Male	94	39.66	39.66
Female	143	60.34	100
Age			
22-25	47	19.93	19.93
25-29	170	71.73	91.66
30-34	18	7.60	99.26
35-39	1	0.42	99.68
40 and above	1	0.42	100
Education level :			
Diploma/Undergraduate	55	78.06	94.51
Graduate	161	5.06	99.57
Postgraduate (MBA/M.Sc./M.Phil./PhD)	21	0.42	100
Income Level			
Rs 5000-10000	181	76.37	76.37
Rs 100001-20000	31	13.08	89.45
Rs 20001-30000	12	5.06	94.51
Rs 30001-40000	6	2.53	97.04
Rs 40001and above	7	2.95	100
Types of effective advertisement			
Television	135	56.96	56.96
Newspaper	33	13.08	70.88
Magazine	19	8.01	78.89
Billboard	7	2.95	81.84
Radio	5	2.10	83.94
Internet	38	16.03	100
Number of times to encounter advertisement			
0-2 times	45	18.99	18.99
3-5 times	85	35.86	54.85
6-8 times	42	17.72	72.57
8 times and above	65	27.43	100
Response towards advertisement			
Positive response	52	21.94	21.94
Neutral	147	62.03	83.97
Negative response	38	16.03	100

Table 2. Mean standard deviation and reliability value for variables

ID	Variable Name	Mean	Std. Deviation	N (items)	Cronbach's Alpha
CP	Consumer Psychology	2.69	1.10	2	0.55
P	Informativeness	3.87	0.80	5	0.73
E	Entertainment	3.53	0.81	5	0.75
IS	Income Status	3.45	0.83	2	0.53
PI	Public Interactivity	3.43	0.83	4	0.77
M	Materialism	3.36	0.98	5	0.79
ATA	Attitudes towards Advertising	3.55	0.84	6	0.70

Table 3. Factor analysis for each item

	Component					
	1	2	3	4	5	6
CP1	0.841					
CP2	0.841					
I1		0.579				
I2		0.684				
I3		0.699				
I4		0.822				
I5		0.738				
E1			0.692			
E2			0.646			
E3			0.754			
E4			0.757			
E5			0.713			
IS1				0.835		
IS2				0.835		
PI1					0.823	
PI2					0.833	
PI3					0.748	
PI4					0.700	
M1						0.697
M2						0.790
M3						0.820
M4						0.689
M5						0.740

Table 2 presents the mean, standard deviation and the number of items for each variable. For independent variables, Informativeness yielded the highest mean (I=3.87), followed by Entertainment (E=3.53), Income Status (IS=3.45),

Public Interactivity (PI=3.43), Materialism (M=3.36), and Consumer Psychology (CP=2.69). Since all variables (except CP) yielded mean value more than 3, we can conclude that these factors are useful in assessing consumers' attitude towards advertising. In addition, consumer Psychology (CP) yielded a mean value of 2.69, which indicates that the respondents tend to be neutral on the variable. Table 2 also depicts the Cronbach's Alpha values of the independent and dependent variables in this study. Nunnally (1978) indicated that the value for Cronbach's Alpha of 0.7 or higher is considered acceptable. In Table 3 all variables yielded value more than 0.70, except Consumer Pscychology and Income Status. The results indicated that the Cronbach's Alpha value for Consumer Psychology is 0.550 and for Income Status is 0.53. Cronbach (1951) stated that a value higher than 0.50 was a satisfactory level of good internal consistency, Therefore, the reliability analysis for all variables in this study are still acceptable.

In addition, during factor analysis, items were retained according to the following criteria: (i) factor loadings greater than 0.5 and (ii) no cross-loading of items. In other words, items were dropped where they have a loading of less than 0.5 or where their loadings are greater than 0.5 on two or more factors (King & Teo, 1996; Eze, 2008). As shown in Table 3 the factor loading for each item is greater than 0.50 and loads into its intended construct.

Table 4. Pearson correlation coefficient matrix

	C P	I	E	IS	PI	M	ATA
C P	1.000	−0.030	−0.024	−0.072	0.054	−0.222[**]	−0.142[*]
I	−0.030	1.000	0.368[**]	0.331[**]	0.409[**]	0.176[**]	0.431[**]
E	−0.024	0.368[**]	1.000	0.146[*]	0.346[**]	0.106	0.403[**]
IS	−0.072	0.331[**]	0.146[*]	1.000	0.325[**]	0.209[**]	0.391[**]
PI	0.054	0.409[**]	0.346[**]	0.325[**]	1.000	0.316[**]	0.334[**]
M	−0.222[**]	0.176[**]	0.106	0.209[**]	0.316[**]	1.000	0.279[**]
ATA	−0.142[*]	0.431[**]	0.403[**]	0.391[**]	0.334[**]	0.279[**]	1.000

** Correlation is significant at the 0.01 level
* Correlation is significant at the 0.05 level

Table 4 reveals the correlation matrix of the conceptual variables. A two-tail test at 0.05 significance level indicates that there are positive relationships among the independent variables and the dependent variable, except for consumer Psychology(CP). Consumer Psychology(CP) was found to be negatively related to attitude towards advertising, which may have some implications for the first hypothesis as the regression analysis indicates.

Table 5. Multiple regression analysis (ANOVA Test)

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	21.517	6	3.586	19.014	0.000[a]
	Residual	39.607	210	0.189		
	Total	61.124	216			

According to Field (2009), a key purpose of ANOVA test is to show whether the model is significantly better at predicting the dependent variable or using

the means. In Table 5, the F-value (19.014) is large with a small p-value=0.000<0.05. Hence, it can be concluded that at least one of the six independent variables can be used to model young adults attitude towards advertising in this study.

Table 6. Multiple regression analysis (regression coefficients)

Model	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1 (Constant)	0.944	0.292		3.233	0.001		
C P	-0.050	0.034	-0.086	-1.484	0.139	0.927	1.079
I	0.205	0.062	0.215	3.319	0.001	0.733	1.364
E	0.242	0.057	0.259	4.207	0.000	0.817	1.224
IS	0.183	0.047	0.234	3.851	0.000	0.834	1.200
PI	0.036	0.056	0.043	0.636	0.525	0.689	1.451
M	0.097	0.045	0.132	2.176	0.031	0.834	1.199

Attitude towards advertising = 0.944 + (-0.050 Consumer Psychology) + 0.205 (Informativeness) + 0.242 (Entertainment) + 0.183 (Income Status) + 0.036 (Public Interactivity) + 0.097 (Materialism).

Discussion

Based on the findings in this study, consumer psychology correlated negatively with attitudes towards advertising, which indicates that negative belief towards consumer Psychology would result in an increase in negative attitudes towards advertising. The results also indicate that there is a positive effect of Informativeness about product on attitudes towards advertising with a p-value of 0.001. Petrovici et al. (2007) arrived at similar conclusion in their study on personal uses and perceived social and economic effects of advertising in Bulgaria and Romania. In addition, hypothesis 3 was supported with a p -value of 0.000. This means, this variable is important in designing advertising campaign for businesses, because belief in Entertainment, tend to generate positive attitudes towards advertising. Tsang and Tse (2005) reached similar conclusion in their study on a hedonic model for effective web marketing: an examination.

Income had a positive influence on attitudes towards advertising with a p-value of 0.000. This finding indicates that there is a significant effect of economic situations in a particular society with respect to consumers' attitude towards advertising. Hence, hypothesis 4 is supported. Based on the analysis, the hypothesis between interactivity and attitude towards advertising emerged insignificant with a p -value of 0.525. Following this outcome, hypothesis 5, was not supported. This finding is inconsistent with the findings of Pollay and Mittal (1993), who reported that public integration would have a positive influence on attitude towards advertising. Finally, materialism has a positive influence on attitude towards Advertising with a p-value of 0.031.

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Direct Benefit Transfer Scheme: Issues and Challenges at Bottom of the Pyramid

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Direct benefit transfer schemes undertaken by the Government of India is a step towards curbing inequality. The present paper, therefore, is an attempt to highlight reality, issues and challenges related with this scheme at bottom of the pyramid. Purposive sampling is used to collect data in order to meet the objectives of the study. Present study highlighted the issues related with the implementation of DBT like very few Aadhaar enabled accounts, low accessibility to banking services, very low usage of ATM facilities, and low level of awareness of this scheme at bottom of the pyramid level.

Introduction

Government of India launched the Direct Benefit Transfer (DBT) scheme on January 1, 2003 for bringing equality, improvements in targeting, reducing corruption, elimination of waste, controlling expenditure and facilitate reforms (Handbook on DBT, GOI). For developing countries like India, it is very essential to reduce inequalities and poverty in order to meet the social development and in this process Government of India has taken this historical initiative. Initiatives like cash transfer contribute to reduce inequalities (Ferreira &Souza, 2004; Hoffmann, 2003). Positive impact of these kind of conditional cash transfer programmes has experienced in poor countries like Brazil as inequality decreased through their Conditional Cash Transfer (CCT) programme Bolsa-Familia; One of the largest CCT programme of the world (Scorzafave and Lima, 2010). Many countries have got the idea to deliver social benefits to its citizens from the Bolsa-Familia Programme (BFP) that covered close to 100 percent of Brazil's poor in 2007. Most of the countries using CCT programme to transfer direct cash to a family is based on certain conditions like school attendance, nutritional monitoring, pre & post-natal tests etc. and the entire system is managed through efficient targeting, disbursement and regular monitoring of the disbursed funds (KPMG.com).

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Learning from the global experiences, Government of India launched DBT in phased manner initially with 20 districts of 16 states. Under the present structure, DBT covers 26 schemes out of the 42 schemes run by the government. DBT include pension schemes, maternity benefits, scholarships, the MGNREGS, and subsidy on LPG cylinders etc. (Handbook on DBT, GOI). The amount of subsidy is directly transferring to bank accounts of beneficiaries. Implementation of this programme rests on the functioning of Unique Identification Authority of India (UIDAI). Electronic transfer of payments/subsidy to identified beneficiaries will be leveraged through the Aadhaar card (biometric identity card) enabled bank accounts or post office accounts. Government is taking this scheme as game changer and plan to expand the DBT programme to the entire country by the end of 2013. Planning is going on to convert all government welfare schemes and programmes to UID-driven cash transfers.

Only threat to better results of this scheme is widespread corruption which leads to leakages and under-delivery of government benefits to beneficiaries. A study by the Asian Development Bank found that food subsidies have resulted in an insignificant reduction in the poverty gap for India and, quite surprisingly, 70% of the beneficiaries were non-poor (Jha and Ramaswamy, 2010). Main problem associated with this scheme is that only Aadhaar card holders will get cash transfer. As of today approximately only 30 crore people have Aadhaar cards. Other drawbacks are 41% of the population in India is unbanked out of which 61% represents to rural areas (RBI) and most of the 6,00,000 villages do not have bank branches (Economic & Political Weekly, 2013).These factors can limit the reach of cash transfer. It is feared that the money may not be used for the intended purpose. For better results and smooth implementation of this scheme like Brazilian CCT, public participation is essential. This is high time to examine the actual awareness about this initiative of government after a very good campaign. Issues of stakeholders must be raised as this scheme is in its inception stage of implementation. To examine the awareness and find out other issues related to this scheme, State of Himachal Pradesh is selected as the state is constantly at the top of the list to deliver social development scheme (Economic Survey, 2011) and with very good literacy rate 83.78% (Statistical outline of H.P., 2013). Nearly 52 lacs Aadhaar numbers have been issued to 68.57 lacs people of Himachal Pradesh (http://www.myaadhaarcard.in).

Review of Literature

Laura and Rubio (2005) evaluated the impact of direct cash transfer programmes in bringing effectiveness in household behaviour in their study on six countries Mexico, Colombia, Turkey Honduras, Jamaica, and Nicaragua. Das, Do and Özler (2005) made an attempt to review the impact of conditional cash transfer programs implemented to increase investment in human capital and found that households will behave differently when given unconditional cash. Households would consume less of conditioned-on goods and more of other goods, Bryant (2009) found that cash transfers have played a key role in reducing poverty in industrialized nations for more

than 50 years, but until the past decade, cash transfers were thought to be unaffordable or impossible to deliver in poorer countries. Scorzafave and Lima (2010) analyzed the effect of different income sources on Brazilian income inequality for the period 1993-2007 and revealed that informal labour income and self-employment income sectors reduce income inequality, while public sector wages showed increased inequality during the period under study. It was found that social transfer programs had a positive but limited impact on equality. Ghosh (2011) in his research reported that cash transfers cannot and should not replace the public provision of essential goods and services, but rather supplement them. In other words, cash transfers are desirable and can play a positive redistributive role if they are additional to other public expenditure on essential goods and services that are required by all citizens, including the poor. Economic and Political Weekly (2013) highlighted the financial inclusion data and grass root problems.

Objectives

This paper is intended to achieve the following objectives:

- To examine the awareness about the Direct Benefit Transfer scheme at bottom of the pyramid.
- To find out the issues related to the direct benefit transfer scheme.
- To identify the major hurdles for the implementation of DBT scheme.
- To suggest the measures to overcome these hurdles for better results.

Research Methodology

The present study is mainly based on primary data collected from the Himachali stakeholders of direct benefit transfer scheme. In order to meet the objectives of the study purposive sampling technique is used. Data is collected from the people of district Kangra. Kangra is the largest district of the state with the highest population, highest socially backward constituents and with 95% Aadhaar enrollments. Data is collected from 203 (139 males and 64 females) ruralites households (less literate) using schedule method of data collection to maintain the accuracy of the data.

Findings

Table 1: Frequency distribution (DBT Issues)

Description	Yes	No
Aadhaar Card	193	10
Bank Account	169	34
A T M	90	113
Aadhaar enabled Bank Account	74	129

Source: Primary Probe

Table 1 shows that out of total 203 respondents 95% respondents have Aadhaar card, 85% have bank account, 44% respondents have ATM cards and only 36% respondent replied that their bank accounts are Aadhaar

enabled. The non-linkage of Aadhaar number with bank accounts is a major challenge of this programme.

Table 2 shows the gender wise analysis (139 males and 64 females) of various issues related to DBT scheme and its implementation. t-statistics is used to find the differences at 95% level of significance. Results show that there is significant difference between male and female regarding awareness about direct benefit transfer scheme. the females are largely on the downside as there mean score is only 2.56 (between disagreement and neutral point). Both types of respondents' purchases are affected by lack of money. Accessibility to banking services is a concern for both. Female's behaviour regarding use of ATM is significantly different as the mean score is 2.00. The analysis also reflects that females are more dependent on others to avail banking services. Both do not feel safe while banking through other than bank personnel. In case of subsidy transfer to female member of the family, both are significantly different; females replied that subsidy should be transferred to their accounts for proper utilisation of amount. Results also show that for better awareness and fruitful results, this scheme should be promoted through gram sabha and self-help groups.

There is significant difference among different categories about awareness of DBT as significance value of Brown-Forsythe is 0.000 at 95% level of significance. Here crucial issue is very low awareness level of SC category respondents. Each category peoples' purchases are affected by lack of money. In case of accessibility to banking services, there is significant difference among the people belonging to SC category showed difficulty in accessing the banking services. Difference is also significant among categories in terms of ATM usage and dependence on others to avail banking services. Respondents showed low usage of ATM as the combined mean score is 2.47; SC and OBC peoples are on the lower side of ATM users among categories. While transacting through other than banking personnel, people of Kangra do not feel safe and significantly differ from one another. Respondents of different categories view that subsidy must be transferred to female members' accounts and promotion of DBT through local bodies (Table 3).

Awareness level of all age group people is significantly different from each other, people of 40-50 and 50-60 age groups are less aware about direct benefit scheme. In case of purchases affected by lack of money and accessibility to banking services there is no difference, all have behaved in similar fashion. There is significant difference among different age groups in terms of ATM usage and dependence on others to avail banking services. People of above 40 age are non-ATM users and this is the problematic area for DBT implementation because maximum head of the family members are fallen under this age group. There is no significant difference among different age groups in response to feeling while banking through others, subsidy transfer to others and promotion of DBT through gram sabha and SHG. In all these cases, they responded in one direction. People do not feel safe for transaction through others, all are on the verge of agreement in case of subsidy transfer issue and all think that these kinds of scheme should be promoted through local bodies for better results (Table 4).

Table 2: Gender-wise analysis

Description	Gender	Frequency	Levene Statistic (Sig. Value)	t-Statistic	Sig. Value	Mean
Awareness	Male	139	0.823	2.725	0.007	3.20
	Female	64				2.56
Lack of Money	Male	139	0.016	-0.706	0.481	3.49
	Female	64				3.63
Accessibility to Banks	Male	139	0.343	1.296	0.196	3.58
	Female	64				3.33
ATM use	Male	139	0.041	2.911	0.004	2.68
	Female	64				2.00
Dependence on others	Male	139	0.288	-3.862	0.000	2.48
	Female	64				3.30
Feel safe while banking through others	Male	139	0.002	-1.416	0.160	2.13
	Female	64				2.44
Subsidy transfer to female member	Male	139	0.033	-3.288	0.001	3.81
	Female	64				4.31
Promotion	Male	139	0.090	-2.021	0.045	4.06
	Female	64				4.36

Source: Primary Probe

Table 3: ANOVA Category-wise analysis

Description	Category	Frequency	Levene Statistic (Sig. Value)	F Statistic/ Brown-Forsythe*	Sig. Value	Mean	Overall Mean
Awareness	General	52	0.424	36.072	0.000	4.15	3.00
	S C	75				1.85	
	ST	24				3.29	
	O B C	52				3.37	
	O B C	52				3.33	
Accessibility to Banks	General	52	0.048	13.659*	0.000	4.23	3.50
	S C	75				2.84	
	ST	24				3.63	
	O B C	52				3.67	
ATM use	General	52	0.000	8.928*	0.000	3.13	2.47
	S C	75				1.76	
	ST	24				3.00	
	O B C	52				2.58	
Dependence on others	General	52	0.090	9.038*	0.000	2.19	2.74
	S C	75				3.29	
	ST	24				2.04	
	O B C	52				2.81	
Feel safe while banking through others	General	52	0.007	3.454*	0.018	2.13	2.23
	S C	75				1.95	
	ST	24				2.21	
	O B C	52				2.73	
Subsidy transfer to female member	General	52	0.000	2.925*	0.036	3.65	3.97
	S C	75				4.05	
	ST	24				4.38	
	O B C	52				3.98	
Promotion	General	52	0.000	7.882*	0.000	4.12	4.16
	S C	75				4.45	
	ST	24				4.38	
	O B C	52				3.67	

* Showing the value of Brown-Forsythe
Source: Primary Probe

Table 4: ANOVA Age-wise analysis

Description	Age	Frequency	Levene Statistic (Sig. Value)	Statistic/ F Brown-Forsythe*	Sig. Value	Mean	Overall Mean
Awareness	Upto 30	39	0.000	3.873*	0.005	3.77	3.00
	30-40	50				3.06	
	40-50	49				2.59	
	50-60	46				2.65	
	Above 60	19				3.16	
Accessibility to Banks	Upto 30	39	0.020	1.988*	0.100	3.82	3.50
	30-40	50				3.64	
	40-50	49				3.35	
	50-60	46				3.13	
	Above 60	19				3.79	
ATM use	Upto 30	39	0.000	12.819*	0.000	3.90	2.47
	30-40	50				2.40	
	40-50	49				2.16	
	50-60	46				1.65	
	Above 60	19				2.47	
Dependence on others	Upto 30	39	0.010	7.509*	0.000	2.05	2.74
	30-40	50				2.48	
	40-50	49				2.98	
	50-60	46				3.52	
	Above 60	19				2.32	
Feel safe while banking through others	Upto 30	39	0.377	0.474	0.755	2.36	2.23
	30-40	50				2.22	
	40-50	49				2.33	
	50-60	46				2.15	
	Above 60	19				1.89	
Subsidy transfer to female member	Upto 30	39	0.344	0.488	0.745	3.85	3.97
	30-40	50				3.90	
	40-50	49				4.14	
	50-60	46				4.00	
	Above 60	19				3.89	
Promotion	Upto 30	39	0.070	0.350	0.844	4.10	4.16
	30-40	50				4.22	
	40-50	49				4.04	
	50-60	46				4.24	
	Above 60	19				4.21	

* Showing the value of Brown-Forsythe; Source: Primary Probe

Table 5: ANOVA Occupation-wise analysis

Description	Occupation	Frequency	Levene Statistic (sig. value)	F-Statistic/ Brown-Forsythe* (Sig. value)	Sig. value	Means	Overall Mean
Awareness	Agriculturist	13	0.000	21.415*	0.000	2.92	3.00
	Self-Emloyed	45				3.93	
	Labour	50				1.64	
	Service	40				3.63	
	Others	55				3.04	
Lack of Money	Agriculturist	13	0.000	2.518*	0.045	3.69	3.53
	Self-Emloyed	45				3.64	
	Labour	50				3.90	
	Service	40				3.03	
	Others	55				3.44	
Accessibility to Banks	Agriculturist	13	0.000	20.820*	0.000	3.08	3.50
	Self-Emloyed	45				4.36	
	Labour	50				2.36	
	Service	40				3.98	
	Others	55				3.60	
ATM use	Agriculturist	13	0.000	18.808*	0.000	1.85	2.47
	Self-Emloyed	45				2.71	
	Labour	50				1.24	
	Service	40				3.45	
	Others	55				2.82	
Dependence on others	Agriculturist	13	0.000	19.120*	0.000	2.77	2.74
	Self-Emloyed	45				1.87	
	Labour	50				3.90	
	Service	40				2.08	
	Others	55				2.87	
Fee safe while banking through others	Agriculturist	13	0.018	4.153*	0.003	2.69	2.23
	Self-Emloyed	45				2.16	
	Labour	50				1.98	
	Service	40				1.78	
	Others	55				2.73	
Subsidy transfer to female member	Agriculturist	13	0.001	2.333*	0.059	3.85	3.97
	Self-Emloyed	45				3.73	
	Labour	50				4.34	
	Service	40				3.78	
	Others	55				4.00	
Promotion	Agriculturist	13	0.425	2.712	0.031	3.54	4.16
	Self-Emloyed	45				4.04	
	Labour	50				4.44	
	Service	40				4.08	
	Others	55				4.20	

* Showing the value of Brown-Forsythe; Source: Primary Probe

Analysis of variance among the different occupation has been shown in Table 5. There is significant difference between different occupations regarding awareness about DBT. Labour class and agriculturist are among the least aware people. Whether DBT will control the corruption and malpractices, nobody is sure as combine mean score is 3.22 and all category respondents have shown a similar response to finance as a problem i.e. lack of money affected the purchases of subsidised items. Responses of different categories are significantly different in case of accessibility to banking, ATM usage and dependence on others to avail banking services. Labourers find it difficult to access banking services, agriculturists and labourers are among the non-users of ATM facility of banks and labourers are also heavily depending on others to avail banking services. There is no significant difference in response to safety while banking through others, subsidy transfer to female members and promotion of DBT. Respondents belong to different occupations behaved similarly as they do not feel safe to transact through others, everyone want that subsidy should be transferred to female members and these kinds of schemes should be promoted through gram sabha and self help groups for better awareness (Table 5).

Conclusion

Present study highlighted the burning issues related to the implementation of DBT like very few Aadhaar enabled accounts, low accessibility to banking services, very low usage of ATM facilities, and low level of awareness of this scheme at bottom of the pyramid level. Fast expansion of financial inclusion is required for better implementation of this scheme. Socially deprived classes are least among the unaware group, here government may promote this scheme through gram sabha and self help groups. Rural people are highly dependent on others to avail banking services so simplified banking services are required so that they can easily get benefit as they do not feel safe while transacting through others. Among other issues like transfer of subsidy to female member's accounts need to be addressed as cases are of misuse of finance by male members. Moreover, most of the males are daily wage earners and to get subsidy from banks their routine life will also get affected. Above issues require government attention for better implementation and fruitful results.

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