Research Papen on

"EVA BASED PERFORMANCE MEASUREMENT: A CASE STUDY OF SBI AND HDFC BANK"

Abstract:

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The report studies Indian bank's profile to demonstrate a direct correlation between the investment in stakeholder relationships and corporate performance. Many Indian banking seems to have destroyed shareholder's wealth over a period of time and only a few have positively contributed to their wealth. With the help of EVA (Economic Value Added) which tell what the institution is doing with investor's hard earned money, the report examines an appropriate way of evaluating bank's performance and also finds out which Indian banks have been able to create (or destroy) shareholders wealth since 2005-2006 to 2007-2008.

Key Words: Economic Value Added (EVA), Operating Profit Margin, Return on Invested Capital (ROIC), Return on Net worth (RONW), Cost of Equity, Wealth Creation,

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Introduction:

Economic Value Added, EVA for short, is primarily a benchmark to measure earnings efficiency. Though the term "Economic Profit" was very much there since the inception of "Economics", Stern Stewart & Co., of USA has got a registered Trade Mark for this by

the name “EVA”, an acronym for Economic Value Added. EVA as a residual income measure of financial performance is simply the operating profit after tax less a charge for the capital, equity as well as debt, used in the business. Because EVA includes profit and loss as well as balance sheet efficiency as well as opportunity cost of investor capital- it is better linked to changes in shareholder wealth and is superior to traditional financial metrics such as PAT or percentage rate of return measures such as ROCE or ROE. In addition, EVA is a management tool to focus managers on the impact of their decisions in increasing shareholder wealth. These include both strategic decisions such as what investments to make, which business to exist , what financing structure is optimal ; as well as operational decisions involving trade-offs between profit and asset efficiency such as whether to make in house or outsource, repair or replace a piece of equipment , whether to make short or long production runs etc.

Most importantly the real key to increasing shareholder wealth is to integrate the EVA framework in four key areas : to measure business performance ; to guide managerial decision making ; business literacy throughout the organization. To better align managers interests with Shareholders- the EVA framework needs to be holistically applied in an integrated approach- simply measuring EVA is not enough it must also become the basis of key management decisions as well as be linked to senior management’s variable compensation.

Defining Shareholder’s Value and Wealth Creation:

From the economist's viewpoint, value is created when management generates revenues over and above the economic costs to generate these revenues. Costs come from four sources: employee wages and benefits; material, supplies, and economic depreciation of physical assets; taxes; and the opportunity cost of using the capital. Under this value-based view, value is only created when revenues exceed all costs including a capital charge. This value accrues mostly to shareholders because they are the residual owners of the firm. Shareholders expect management to generate value over and above the costs of resources consumed, including the cost of using capital. If suppliers of capital do not receive a fair return to compensate them for the risk they are taking, they will withdraw

their capital in search of better returns, since value will be lost. A company that is destroying value will always struggle to attract further capital to finance expansion since it will be hamstrung by a share price that stands at a discount to the underlying value of its assets and by higher interest rates on debt or bank loans demanded by creditors.

Wealth creation refers to changes in the wealth of shareholders on a periodic (annual) basis. Applicable to exchange-listed firms, changes in shareholder wealth are inferred mostly from changes in stock prices, dividends paid, and equity raised during the period. Since stock prices reflect investor expectations about future cash flows, creating wealth for shareholders requires that the firm undertake investment decisions that have a positive net present value (NPV).

Although used interchangeably, there is a subtle difference between value creation and wealth creation. The value perspective is based on measuring value directly from accounting-based information with some adjustments, while the wealth perspective relies mainly on stock market information. For a publicly traded firm these two concepts are identical when (i) management provides all pertinent information to capital markets, and (ii) the markets believe and have confidence in management.

Concept of EVA:

The company creates shareholders value only if it generates returns in excess of its cost of capital. The excess of returns over cost of capital is simply termed as Economic Value Added. To put in a simple terms EVA is the profits generated by any economic entity over its cost of capital employed. The entity can be a company, country or the entire human civilization. If the difference between the above two parameters is positive than the entity is said to be creating wealth for its stakeholders. A negative EVA on the other hand indicates the company is a destroyer of value.

EVA is just a way of measuring an operation's real profitability. EVA holds a company accountable for the cost of capital it uses to expand and operate its business and attempts to show whether a company is creating a real value for its shareholders

Calculation of EVA:

Just earning profit is not enough, a business should earn sufficient profit to cover its cost of capital and create surplus to grow. Stated simply, any profit earned over and above the cost of capital is Economic Value Added. Traditionally the methods of measurement of corporate performance are many. Common bases used are: - Net Profit Margin (NPM), Operating Profit Margin (OPM), Return on Investment (ROI), Return on Net Worth (RONW) etc. Profit After Tax (PAT) is an indicator of profit available to the shareholder and Profit Before Interest After Tax (PBIAT) is an indicator of the surplus generated using total funds. ROI is still recognized as the most popular yardstick of profitability measurement. However, the traditionally used profit indicators are ineffective parameters in explaining whether the reported profit covers the cost of capital. Old profit concept fails to indicate clear surplus. The basic proposition is that the Return on Capital Employed should be greater than the Cost of Capital (i.e. ROCE > K0). Capital Employed highlights long term capital and cost of capital represents weighted average cost of capital.

Traditionally, Profit after Tax is shown in the Profit & Loss Account to indicate the profit available to the shareholders, both preference and equity. Ability to maintain dividend is not a test of profit adequacy. Ability to generate Economic Value Added is the only test of profit adequacy. Any surplus generated from operating activities over and above the cost of capital is termed as EVA. It is a new measure of corporate surplus that should be shared by the employees, management and shareholders. EVA focuses on clear surplus in contradiction to the traditionally used profit available to the shareholders. It is used by companies as a performance indicator and also as a basis for executive compensation. Surplus should be derived by deducting cost of capital from profit before interest but after tax.

$$EVA = NOPAT - WACC \times Capital\ Employed.$$

Where, NOPAT means Net Operating Profit before Interest and after Tax.

WACC represents Weighted Average Cost of Capital.

Capital Employed = Net Block + Trading Investment + Net Current Assets.

It is free from subjective assumption that needs to be adopted while identifying profit and cost of capital. Cost of equity is derived on the basis of Capital Assets Pricing Model (CAPM). The founders of EVA traditionally use CAPM. Under CAPM Cost of Equity (Ke) is given by the following

$$Ke = Rf + \beta (Rm - Rf)$$

Where, Rf = Risk free return.

Rm = Market expected Rate of Return

β = Risk Co-efficient.

Both market return and Beta are highly volatile, and if annual market return and yearly beta of a company are chosen for finding cost of equity, abnormally high or low market related cost of equity may be obtained. To avoid this difficulty, one may apply "Long run approach". While deriving EVA it becomes necessary to make certain accounting adjustments, which are required only for corporate reporting purposes. It is sometimes alleged that EVA talks too much about the shareholders value added rather than focusing on the interest of all stakeholders. But EVA is a powerful performance measurement tool and it is argued that if a company is able to serve its shareholders then it can better serve all other stakeholders also.

Benefits of EVA for Banks:

As banks become 'capital hungry' to meet their growth expectations and simultaneously meeting the regulatory requirements in the Basel-II era, they would have to remain responsive to the expectations of the market on a risk adjusted basis to ensure continued supply of financial capital from the shareholders and human capital from the ultimate stakeholders. One of the fundamental limitations in the existing business growth strategies of Indian banks, especially public sector banks, is its virtual, if not complete, disconnect with riskiness. 'Profit rich but Risk poor' strategies are doomed for failure in the long-run! Finalization of business targets should no longer remain a mundane 'volume-mix' targeting exercise but should built-in inherent risk-return dimensions.

Business strategies that ensure 'Risk & Return by Choice and not by Chance' are key to ensure continuing success of banks in the emerging market. In order to align the performance of individual zones/regions/branches to the overall corporate expectations in terms of EVA, the vocabulary of risk management has to percolate down the hierarchy of banks to the individual unit level. New performance benchmarks in the form of EVA should naturally form the unifying cord/link in every bank. EVA can be an important tool that bankers can use to measure and improve the financial performance of their bank. Since EVA takes the interest of the bank's shareholders into consideration, the use of EVA by bank management may lead to different decisions than if management relied solely on other measures. As mentioned earlier an important difference between banks and others is the role of debt. For other firms debt is a part of the financing operations and interest expenses are excluded from Net Operating Profit After Taxes (NOPAT) so that returns are unlevered. A bank's debt funding is effectively the raw material which is intermediated into higher yielding assets. Interest expense, on this view, is equivalent of the cost of goods sold. This has an important consequence. In our analysis NOPAT for each year was therefore arrived at after adding interest on RBI loans and other loans to Profit before Depreciation and Taxes less Cash Taxes. The component of cash taxes represented as if banks were debt free. In order to calculate cash taxes, tax shield on the interest paid on RBI loans and others were added back to Tax Provision and tax paid on other incomes were deducted from tax provision of the year. A tax rate of 30 percent per year was assumed for maintaining consistency over years in our analysis. The economic capital of a bank is defined as the shareholders funds plus reserves excluded from equity, such as loan losses or contingency reserve which in economic terms, function as capital. In this fund total long term borrowings of the bank are added to arrive at the Invested Capital (IC). In our analysis we have first attempted to critically evaluate bank's performance in generating Return on Invested Capital (ROIC) over years, we have taken two most critical indicators viz. Return on Invested Capital (ROIC) and Incremental ROIC.

Limitations of Traditional Methods:

Most of the accounting based measures such as Price: Earnings, Book Value, Returns on Equity, Return on Net worth etc. fail to provide a clear understanding of the major variables that drive value, except to some extent Returns on Invested Capital. These methods are easily influenced by the smart and perhaps mischievous management through window dressings. They also do not incorporate risk or time value of money also and do not help investors understand the intricate process of value creation. In addition, these traditional measures use, for most part, historical data to measure current performance. Ideally, one would like to measure how current decisions will affect the firm's future performance. Unlike accounting measures, Economic Value Added, raises the issue highlighted in the Nobel Prize work of Franco Modigliani and Merton Miller: just as debt holders of a bank expect a specific return, the shareholders of the bank, expect a certain rate of return for taking risk of investing in the bank.

EVA a Superior Performance Measure:

First let us look into the claim of EVA being superior than the conventional measures such as ROI, ROE and ROA, which are based on the accounting figures. Most of these measures give us the rate of return earned by the bank with respect to capital invested in the bank. The most important limitation of these measures are derived from limitations inherent in the measurement of accounting profit. As per current accounting practices, while historical-cost-based accounting measures are being used to carry most of the assets in the balance sheet, revenue and expenses (other than depreciation) are recognized in the profit and loss account at their current value. Therefore accounting rate of returns do not reflect the true return from an investment and tend to be biased downwards in the 10 initial years and upwards in the latter years. Similarly as noted by Malkelainen (Esa Malkelainen 1998), distortion occurs basically due to the historical cost and straight line depreciation schedule used by most businesses to value their assets. This leads to a bias in these measures due to the composition of assets of a bank at any given point in time. By composition he refers to the current nature of the assets, more current the assets are, the accounting rate of return is closer to the true rate of return. This distortion will not be significant if there is a continuous stream of investments in assets i.e. the value of the mix of assets is nearer to the current value of the assets. But the probability, that at any point

of time, a bank should have such a composition of assets is rare, in most cases either the assets are old or relatively new. This precludes these accounting measures from being used to reach any meaningful conclusion regarding the true performance of the bank. The other important limitation of accounting measures is that they ignore the cost of equity and only consider the borrowing cost. As a result it ignores the risk inherent in the project and fails to highlight whether the return is commensurate with the risk of the underlying assets. This might result in selecting projects that produce attractive rate of return but destroys bank value because their cost of capital is higher than the benchmark return established by the management. On the other hand accounting measures encourage managers to select projects that will improve the current rate of return and to ignore projects even if their return is higher than their cost of capital. Selection of projects with returns higher than the current rate of return does not automatically increase shareholders' wealth. Taking up only those projects, which provide returns that are higher than the hurdle rate (cost of capital) results in increasing the wealth of the shareholder. Therefore use of ROE, ROA or similar accounting measures as the benchmark, might result in selection of those projects that though provide rate of return higher than the current rate of return destroys bank-value. Similarly use of these measures result in continuing with activities that destroys bank value until the rate of return falls below the benchmark rate of return.

EVA proponents claim that because of these imperfections, the accounting based measures are not good proxies for value creation. Managerial compensation based on these measures does not encourage value enhancement actions by managers. Value enhancement and earnings are two different things and might be at cross-purposes because short-term performance might be improved at the cost of long term health of the bank. Activities involving enhancement of current earnings may be short term in nature, whereas any value enhancing activities should focus on long term well being of the bank. Avoidance of discretionary costs improves current performance while destroying value of the bank. The question arises whether EVA is an improvement over conventional measures and serves the purpose of motivating managers to pay attention to shareholders value even if that results in compromising current performance. The answer may be negative because all the above limitations are also associated with EVA. As shown in

equation, the calculation of EVA entails the usage of an accounting rate of return, the difference lies only in the fact that the cost of equity is also factored in to arrive at the residual income figure. Though incorporation of the cost of equity capital is the virtue of EVA, because it measures economic surplus, it does not remove the limitations of the accounting profit that forms the basis for computing EVA. Moreover the virtue might not be realized in practice since it is not easy to calculate the cost of equity. Market returns cannot be used as a proxy for cost of equity that supports assets in place because market discounts the expectations. Similarly it is difficult to use CAPM in measuring cost of equity because it is difficult to measure risk-free-rate of return, beta and market premium. Difficulties get compounded in an economic environment like India, where interest rates fluctuate frequently, the capital market is volatile and the regulators are yet to have a complete grip on the capital market to enhance its efficiency. Empirical studies show that the volatility in the Indian capital markets, like capital markets in other developing economies, is higher than capital markets in developed economies. Therefore even if for the sake of argument it can be said that the potential of EVA as a measure of performance can be realized fully in an advanced economy, the argument that EVA is a better measure is not tenable in the Indian context.

Objectives of the Study:

1. To study the shareholders value (in terms of Economic Value Added) of selected banks during the last three years, i.e. since 2005-06 to 2007-08.
2. To learn about the business policies and practices of increasing the value of organization.
3. To learn EVA and its applications to increase the shareholder's wealth.
4. To measure a bank's historical success in creating values.
5. To study the determining factors which affects the future performance of bank's stock?
6. To examine the excess returns in future and its impact on the value of the banks.

Methods of the Data Collection:

The study is mainly based on secondary data, all the data of two Indian public and private sector banks i.e. SBI and HDFC Bank that are listed on the National Stock Exchange are collected from respective annual reports, publications of RBI and from the various websites.

Tools and Techniques of Analysis:

The data from the reports have been analyzed by using various tools and techniques with a view to evaluate the performance of the banks. I have calculated following indicators for conducting overall analysis on 2 banks' financial performance for the period of 2005-06 to 2007-08.

Limitation of the Study:

The analysis was purely based on the secondary data. So, any error in the secondary data might also affect the study undertaken. With regard to the estimation of EVA for banks, one important difference between financial institution and other firms is the role of debt. For non banking firm's debt forms an integral part of financing operations and therefore interest expense/income is excluded from NOPAT calculations so that returns are unlevered. Debt (including deposits) does off course help finance a bank's assets but financial institutions are different at least in two important ways. Deposits are value generating in themselves, or can be, since they usually represent funding a below market costs (that is it would be incorrect to calculate the value of whole enterprise and arrive at the value of the equity simply by excluding the liabilities). A bank's debt funding is effectively the raw material which is intermediated ("manufactured") into high yielding assets. Interest expense, on this view is the equivalent of the cost of goods sold. The above has two consequences. Interest expense on deposit is included in NOPAT and, because of this, When calculating the cost of capital we define capital as equity & reserves and borrowings.

Data Analysis and Interpretation:

Net Operating Profit after Tax (NOPAT)

The NOPAT curriculum includes Interest Income, Other Income deducting interest on deposit and other operating expenses less tax so as to give an overall emphasis for Operating Profit. Net Operating Profit is considered instead of Net Profit so as to highlight the economic value of a firm.

(Net Profit + Provisions and contingencies + Interest on Borrowings) less (Taxes)

Net Operating Profit

Banks/Years	07-08	06-07	05-06
SBI	17963	13478	14058
HDFC	4269	3048	2348

Tax

Banks/Years	07-08	06-07	05-06
SBI	5389	4043	4217
HDFC	1281	914	704

NOPAT

Banks/Years	07-08	06-07	05-06
SBI	12574	9435	9841
HDFC	2988	2134	1644

Incremental NOPAT

The Incremental NOPAT shows the change in the overall NOPAT in the year 2007-08 when compared to 2006-07.

NOPAT (t) – NOPAT (t-1)

Incremental NOPAT

Banks/Years	2007-08	2006-07
SBI	3139	-406
HDFC	854	490

Invested Capital

The invested capital includes Total Equity and Reserves and borrowings excluding Total Deposits because these are the prime essentials for undermining the operations of a business unit.

Total equity & Reserves + Total borrowings

Invested capital

Banks/Years	07-08	06-07	05-06
SBI	100760	71002	58285
HDFC	15976	9248	8158

Incremental Invested Capital

The incremental Invested capital determines the overall change in the invested capital as compared to the previous year.

Invested capital (t) – Invested Capital (t-1)

Incremental Invested Capital

Banks/Years	07-08	06-07
SBI	29758	12717
HDFC	6728	1090

Return on Invested Capital

The return on invested capital signifies the return that the firm earns on the capital invested for a given period of time.

NOPAT / Invested Capital

Return on Invested Capital

Banks/Years	2007-08		2006-07		2005-06	
	NOPAT	Capital employed	NOPAT	Capital employed	NOPAT	Capital employed
SBI	12574	100760	9435	71002	9841	58285
HDFC	2988	15976	2134	9248	1644	8158

ROIC

Banks/Years	2007-08	2006-07	2005-06
SBI	0.12	0.13	0.17
HDFC	0.19	0.23	0.20

Beta (β)

Beta can be defined as a risk measuring factor for different capital allotments. Higher the Beta, higher the risk. Beta here has been calculated based on stock prices vis a vis NIFTY for each year separately.

$$n\Sigma xy - (\Sigma x)(\Sigma y) \div n\Sigma x^2 - (\Sigma x)^2$$

BETA (β)

Banks/Years	07-08	06-07	05-06
SBI	0.91	1.22	1.1
HDFC	0.93	1.22	1.03

2007-2008	NIFTY (X)			SBI (Y)			X^2	XY	BETA (b)
	CLOSING PRICE	CHANGE (Rs.)	CHANGE (%)	CLOSING PRICE	CHANGE (Rs.)	CHANGE (%)			
Mar	3,821.55			970.17					
Apr	4,087.90	266.35	6.97	1,075.00	104.83	10.81	48.58	75.31	
May	4,295.80	207.90	5.09	1,320.60	245.60	22.85	25.86	116.19	
Jun	4,318.30	22.50	0.52	1,504.36	183.76	13.91	0.27	7.29	
Jul	4,528.85	210.55	4.88	1,601.03	96.67	6.43	23.77	31.33	
Aug	4,464.00	-64.85	-1.43	1,573.57	-27.46	-1.72	2.05	2.46	
Sep	5,021.35	557.35	12.49	1,929.55	355.98	22.62	155.89	282.45	
Oct	5,900.65	879.30	17.51	2,051.76	122.21	6.33	306.64	110.91	0.91
Nov	5,762.75	-137.90	-2.34	2,272.61	220.85	10.76	5.46	-25.16	
Dec	6,138.60	375.85	6.52	2,331.77	59.16	2.60	42.54	16.98	
Jan	5,137.45	-1,001.15	-16.31	2,134.58	-197.19	-8.46	265.99	137.92	
Feb	5,223.50	86.05	1.67	2,059.45	-75.13	-3.52	2.81	-5.90	
Mar	4,734.50	-489.00	-9.36	1,585.40	-474.05	-23.02	87.64	215.49	
Σ			26.21			59.61	967.50	965.27	
2006-2007	NIFTY (X)			SBI (Y)			X^2	X*Y	BETA (b)
	CLOSING PRICE	CHANGE (Rs.)	CHANGE (%)	CLOSING PRICE	CHANGE (Rs.)	CHANGE (%)			
Mar	3,402.55			927.01					
Apr	3,508.10	105.55	3.10	853.17	-73.84	-7.97	9.62	-24.71	
May	3,185.30	-322.80	-9.20	823.40	-29.77	-3.49	84.67	32.11	
Jun	3,128.20	-57.10	-1.79	709.98	-113.42	-13.77	3.21	24.69	
Jul	3,143.20	15.00	0.48	790.47	80.49	11.34	0.23	5.44	
Aug	3,413.90	270.70	8.61	908.52	118.05	14.93	74.17	128.62	
Sep	3,588.40	174.50	5.11	1,003.54	95.02	10.46	26.13	53.46	
Oct	3,744.10	155.70	4.34	1,068.90	65.36	6.51	18.83	28.26	1.22
Nov	3,954.50	210.40	5.62	1,284.90	216.00	20.21	31.58	113.56	
Dec	3,966.40	11.90	0.30	1,215.19	-69.71	-5.43	0.09	-1.63	
Jan	4,082.70	116.30	2.93	1,112.61	-102.58	-8.44	8.60	-24.75	
Feb	3,745.30	-337.40	-8.26	1,016.42	-96.19	-8.65	68.30	71.45	
Mar	3,821.55	76.25	2.04	970.17	-46.25	-4.55	4.14	-9.26	
Σ			13.27			11.16	329.57	397.22	
2005-2006	NIFTY (X)			SBI (Y)			X^2	X*Y	BETA (b)
	CLOSING PRICE	CHANGE (Rs.)	CHANGE (%)	CLOSING PRICE	CHANGE (Rs.)	CHANGE (%)			
Apr	1,902.50			549.5					
May	2,087.55	185.05	9.73	629.93	80.43	14.64	94.61	142.37	
Jun	2,220.60	133.05	6.37	652.69	22.76	3.61	40.62	23.03	
Jul	2,312.30	91.70	4.13	765.97	113.28	17.36	17.05	71.67	
Aug	2,384.65	72.35	3.13	762.19	-3.78	-0.49	9.79	-1.54	
Sep	2,601.40	216.75	9.09	898.01	135.82	17.82	82.62	161.97	
Oct	2,370.95	-230.45	-8.86	803.15	-94.86	-10.56	78.48	93.58	1.10
Nov	2,652.25	281.30	11.86	858.24	55.09	6.86	140.76	81.38	
Dec	2,836.55	184.30	6.95	869.25	11.01	1.28	48.29	8.91	
Jan	3,001.10	164.55	5.80	848.38	-20.87	-2.40	33.65	-13.93	
Feb	3,074.70	73.60	2.45	839.91	-8.47	-1.00	6.01	-2.45	
Mar	3,402.55	327.85	10.66	927.01	87.10	10.37	113.70	110.58	
Σ			61.32			57.48	665.58	675.57	

2007-2008	NIFTY (X)			HDFC (Y)			X^2	XY	BETA (b)
	CLOSING PRICE	CHANGE (Rs.)	CHANGE (%)	CLOSING PRICE	CHANGE (Rs.)	CHANGE (%)			
Mar	3,821.55			942.47					
Apr	4,087.90	266.35	6.97	1,011.61	69.14	7.34	48.58	51.13	
May	4,295.80	207.90	5.09	1,141.27	129.66	12.82	25.86	65.18	
Jun	4,318.30	22.50	0.52	1,140.42	-0.85	-0.07	0.27	-0.04	
Jul	4,528.85	210.55	4.88	1,193.97	53.55	4.70	23.77	22.89	
Aug	4,464.00	-64.85	-1.43	1,163.54	-30.43	-2.55	2.05	3.65	
Sep	5,021.35	557.35	12.49	1,428.07	264.53	22.73	155.89	283.86	0.93
Oct	5,900.65	879.30	17.51	1,657.80	229.73	16.09	306.64	281.70	
Nov	5,762.75	-137.90	-2.34	1,708.52	50.72	3.06	5.46	-7.15	
Dec	6,138.60	375.85	6.52	1,707.47	-1.05	-0.06	42.54	-0.40	
Jan	5,137.45	-1,001.15	-16.31	1,541.44	-166.03	-9.72	265.99	158.59	
Feb	5,223.50	86.05	1.67	1,440.80	-100.64	-6.53	2.81	-10.94	
Mar	4,734.50	-489.00	-9.36	1,312.71	-128.09	-8.89	87.64	83.23	
Σ			26.21			38.90	967.50	931.70	
2006-2007	NIFTY (X)			HDFC (Y)			X^2	XY	BETA (b)
	CLOSING PRICE	CHANGE (Rs.)	CHANGE (%)	CLOSING PRICE	CHANGE (Rs.)	CHANGE (%)			
Mar	3,402.55			759.94					
Apr	3,508.10	105.55	3.10	808.97	49.03	6.45	9.62	20.01	
May	3,185.30	-322.80	-9.20	740.92	-68.05	-8.41	84.67	77.40	
Jun	3,128.20	-57.10	-1.79	786.21	45.29	6.11	3.21	-10.96	
Jul	3,143.20	15.00	0.48	785.27	-0.94	-0.12	0.23	-0.06	
Aug	3,413.90	270.70	8.61	841.62	56.35	7.18	74.17	61.80	
Sep	3,588.40	174.50	5.11	914.02	72.40	8.60	26.13	43.97	1.22
Oct	3,744.10	155.70	4.34	992.3	78.28	8.56	18.83	37.16	
Nov	3,954.50	210.40	5.62	1,108.07	115.77	11.67	31.58	65.56	
Dec	3,966.40	11.90	0.30	1,054.88	-53.19	-4.80	0.09	-1.44	
Jan	4,082.70	116.30	2.93	1,065.40	10.52	1.00	8.60	2.92	
Feb	3,745.30	-337.40	-8.26	923.55	-141.85	-13.31	68.30	110.03	
Mar	3,821.55	76.25	2.04	942.47	18.92	2.05	4.14	4.17	
Σ			13.27			24.97	329.57	410.58	
2005-2006	NIFTY (X)			HDFC (Y)			X^2	XY	BETA (b)
	CLOSING PRICE	CHANGE (Rs.)	CHANGE (%)	CLOSING PRICE	CHANGE (Rs.)	CHANGE (%)			
Apr	1,902.50			520.74					
May	2,087.55	185.05	9.73	529.58	8.84	1.70	94.61	16.51	
Jun	2,220.60	133.05	6.37	624.3	94.72	17.89	40.62	114.00	
Jul	2,312.30	91.70	4.13	686.52	62.22	9.97	17.05	41.16	
Aug	2,384.65	72.35	3.13	628.42	-58.10	-8.46	9.79	-26.48	
Sep	2,601.40	216.75	9.09	672.49	44.07	7.01	82.62	63.74	
Oct	2,370.95	-230.45	-8.86	595.44	-77.05	-11.46	78.48	101.50	1.03
Nov	2,652.25	281.30	11.86	674.21	78.77	13.23	140.76	156.95	
Dec	2,836.55	184.30	6.95	695.65	21.44	3.18	48.29	22.10	
Jan	3,001.10	164.55	5.80	748.36	52.71	7.58	33.65	43.96	
Feb	3,074.70	73.60	2.45	723.53	-24.83	-3.32	6.01	-8.14	
Mar	3,402.55	327.85	10.66	759.94	36.41	5.03	113.70	53.66	
Σ			61.32			42.34	665.58	578.95	

Cost of Equity (Ke)

It determines the expected rate of return for the investors. We have calculated the cost of equity for the following banks using CAPM model and taking inputs such as Rf (365 days T-bills rate –same for each year i.e. 4.55%), Rm (3 years market monthly return of NIFTY) andβ.

$Rf + \beta (Rm - Rf)$

2007-08	Closing Price	Change	Change (%)
Mar 07	3,821.55		
Apr 07	4,087.90	266.35	6.97
May 07	4,295.80	207.90	5.09
June 07	4,318.30	22.50	0.52
July 07	4,528.85	210.55	4.88
Aug 07	4,464.00	-64.85	-1.43
Sep 07	5,021.35	557.35	12.49
Oct 07	5,900.65	879.30	17.51
Nov 07	5,762.75	-137.90	-2.34
Dec 07	6,138.60	375.85	6.52
Jan 08	5,137.45	-1,001.15	-16.31
Feb 08	5,223.50	86.05	1.67
Mar 08	4,734.50	-489.00	-9.36

Rm = 2.18 Ke (SBI) = 6.7 Ke (HDFC) = 6.75

2006-07	Closing Price	Change	Change (%)
Mar-06	3,402.55		
Apr-06	3,508.10	105.55	3.1
May-06	3,185.30	-322.8	-9.2
Jun-06	3,128.20	-57.1	-1.79
Jul-06	3,143.20	15	0.48
Aug-06	3,413.90	270.7	8.61
Sep-06	3,588.40	174.5	5.11
Oct-06	3,744.10	155.7	4.34
Nov-06	3,954.50	210.4	5.62
Dec-06	3,966.40	11.9	0.3
Jan-07	4,082.70	116.3	2.93
Feb-07	3,745.30	-337.4	-8.26
Mar-07	3,821.55	76.25	2.04

Rm = 1.11 Ke (SBI) = 8.75 Ke (HDFC) = 8.75

2005-06	Closing Price	Change	Change (%)
Mar-05	1,902.50		
Apr-05	2,087.55	185.05	9.73
May-05	2,220.60	133.05	6.37
Jun-05	2,312.30	91.7	4.13
Jul-05	2,384.65	72.35	3.13
Aug-05	2,601.40	216.75	9.09
Sep-05	2,370.95	-230.45	-8.86
Oct-05	2,652.25	281.3	11.86
Nov-05	2,836.55	184.3	6.95
Dec-05	3,001.10	164.55	5.8
Jan-06	3,074.70	73.6	2.45
Feb-06	3,402.55	327.85	10.66
Mar-06	1,902.50	185.05	9.73

Rm = 5.57 Ke (SBI) = 3.42 Ke (HDFC) = 3.49

Cost of Debt (Kd)

It can be defined as the total interest paid divided by the total borrowings by a firm.

(*Total Interest Expense - Interest on Deposit) / Total Borrowings)*

Banks/Years	**2007-08**		**2006-07**		**2005-06**	
	Interest paid	**borrowings**	**Interest paid**	**borrowing**	**Interest paid**	**Borrowing**
SBI	4856	51727	3479	39703	2758	30641
HDFC	504.39	4478.86	484.13	2815.39	30.07	2858.48
Kd (SBI)	0.065120419		0.061344821		0.063	
Kd (HDFC)	0.078830997		0.12037089		0.090624738	

Weighted Average Cost of Capital (WACOC)

The weighted average cost of capital (WACOC) is the minimum rate of return on capital required to compensate debt and equity investors for bearing risk

Weighted cost of Equity ÷ Weighted cost of Debt

Banks/Years	**Cost of Equity**			**Cost of Debt**		
	2007-08	2006-07	2005-06	2007-08	2006-07	2005-06
SBI	0.0670	0.0875	0.0342	0.0657	0.0613	0.0630
HDFC	0.0675	0.0875	0.0349	0.0788	0.1204	0.0906
	Weight of Equity			**Weight of Debt**		
SBI	0.49	0.44	0.47	0.51	0.56	0.53
HDFC	0.72	0.7	0.65	0.28	0.30	0.35

Capital Charge

Capital Charge is the total cost planned with to the bank to pay interest and dividend for fulfilling the criterias of equity holders and debt-borrowers.

Cost Of Capital x Capital Invested

Capital Charge

Banks	WACOC	Capital Invested	Capital Charge
2007-08			
SBI	0.066337	100760	6684
HDFC	0.070664	15976	1129
2006-07			
SBI	0.049464	71002	3512
HDFC	0.054395	9248	503
2005-06			
SBI	0.034328	58285	2001
HDFC	0.03612	8158	295

Economic Value Added (%)

(EVA - As a measure of Value creation through Management of Profits)

Economic Value Added Statement of SBI

Particular/Years	2007-08	2006-07	2005-06
Average capital employed	100760	71002	58285
Weight of debt	0.51	0.56	0.53
Weight of equity	0.49	0.44	0.47
Beta (β)	0.91	1.22	1.1
Risk free rate (Rf)	4.55%	4.55%	4.55%
Market risk premium (Rm)	2.18	1.11	5.57
Cost of equity (Ke)	6.7	8.75	3.42
Cost of debt (Kd)	0.065120419	0.061344821	0.063
WACOC	0.066337	0.049464	0.039328
ROIC (NOPAT/CAP EMPLOYED)	0.12	0.13	0.17
EVA (ROIC-WACOC)	0.0537	0.0805	0.1357

Economic Value Added Statement of HDFC

Particular/Years	2007-08	2006-07	2005-06
Average capital employed	15976	9248	8158
Weight of debt	0.28	0.30	0.35
Weight of equity	0.72	0.70	0.65
Beta (β)	0.93	1.22	1.03
Risk free rate (Rf)	4.55%	4.55%	4.55%
Market risk premium (Rm)	2.18	1.11	5.57
Cost of equity (Ke)	6.75	8.75	3.49
Cost of debt (Kd)	0.078830997	0.12037089	0.090624738
WACOC	0.070664	0.054395	0.03612
ROIC (NOPAT/CAP EMPLOYED)	0.19	0.23	0.20
EVA (ROIC-WACOC)	0.1193	0.1756	0.1639

Economic Value Added (in Rs.)

(EVA - As a measure of value creation through Management of Capital)

This scenario is used by the following consequence:- NOPAT including net operating profit less tax subtracting capital charge comprising of cost of capital multiplied by capital employed gives the title at a substantial exposure.

NOPAT - (WACC x Invested Capital)

Banks/Years	NOPAT			Capital Charge			EVA		
	2007-08	2006-07	2005-06	2007-08	2006-07	2005-06	2007-08	2006-07	2005-06
SBI	12574	9435	9841	6684	3512	2001	5890	5923	7840
HDFC	2988	2134	1644	1129	503	295	1859	1631	1349

Findings of the Study:

After the detailed analysis of financial data and information of SBI & HDFC bank, I have derived the following findings.

1. It was seen during the analysis that in Public Sector SBI ruled the market in terms of creating shareholders value in terms of amount where in the Private Sector HDFC was at the top spot in terms of percentage.
2. After bearing all the expenditures including firms' return to all stakeholders, the remaining wealth i.e. EVA is accumulated by the shareholders after being reinvested so as to create an increment in its wealth resources.
3. All SBI and HDFC Bank have been creating an EVA and value addition for its shareholders throughout 3 years.
4. All banks are creating shareholders' value in terms of capital gain as well as reinvestment of the remaining profit into the business which will surely influence the stock prices in future.
5. It was found that the reinvestment criteria and its impact will be a great deal for the firm's expected success and value creations for the firm in the mere future.

Conclusion:

Banking industry in India is undergoing a rapid metamorphosis. Their role of a traditional banker has been replaced with financial services provider for the clients. Most of the PSU and private sector banks in our country have already started looking at their portfolio of services offered and what they should do in the future for remaining competitive in the industry. As public sector banks are likely to undergo major consolidation, suddenly for many Indian banks things have changed. The following factors of interpretation serve the purpose of analyzing the overall concern of proving the study. The public sector banks lead the private banks when NOPAT is emphasized in terms of the analysis where SBI was in the front spot for each year respectively as it is the leading bank of India. The capital charge factor determines the impact that SBI Banks have a greater focus than HDFC banks in each year respectively. As being a public bank, they have to increase their image in market by giving higher return to their shareholders. As seen that ROIC is higher in all the three years in HDFC bank than SBI bank. It has greater impact. The EVA in percentage terms was higher for private banks because the amount of invested

capital is low compared to public sector banks. The EVA in rupees terms was higher for public sector banks compared to private sector banks in each of the years due to their invested capital gives higher return to public sector banks so as to generate a consistent amount of NOPAT.

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