

Federal Bank: Residual Income Valuation Method

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Abstract

The case is about an equity analyst who had to make a presentation to a group of clients of his company on whether to buy the shares of a bank at the prevailing current price. The banking concern is Federal Bank. The case has a focus on the application of residual income valuation method. The case has highlighted the relevance of residual income method for the valuation of a bank. It also talks about the steps required to collect data, prepare proforma of balance-sheet and income statement for relevant financial forecasting as well as about selection of discount rate. It may also be used to illustrate the assumptions for financial forecasting to apply the residual income valuation method appropriately.

Key words: *Valuation techniques, Residual income valuation, Bank, Forecasting*

Introduction

Parvey Gutar, an equity analyst had to make a presentation to a group of clients of his company on 1st April, 2017. The company of interest for Gutar was Federal Bank. From a traded price (as observed on NSE: National Stock Exchange, India) of INR. 67 on 20th December, 2016, the share of the bank had given a return of 36% during the

same period before closing at INR 91 on 31-March-2017. Gutar and his team members were preparing answers to the most likely question by their clients “Is it worth a buy at the current price observing it as a case of single stock purchase and not a peer or index relative purchase?”

Federal Bank

Since its incorporation in pre-independent India, Federal Bank has had a long history in India. However, it became a scheduled commercial bank in the year 1970. It has a presence in all states and union territories of India and has been trading on domestic (NSE: National Stock Exchange and BSE: Bombay Stock Exchange) as well as a foreign stock exchange (LSE: London Stock Exchange). The bank has a market share of close to 14% in Indian banking industry (Federal Bank Annual Report, 2017, p. 11).

The bank has grown at a CAGR (compounding annual growth rate) of 11.1% in terms of deposits and 10.9% in terms of advances in last five years (FY13-FY17) (Federal Bank Annual Report, 2017, p. 7). The CASA (current account-saving account) deposit of the bank has improved sharply from a level of 27% of all deposits in FY13

(financial year) to 32.5% in FY17 (Federal Bank Annual Report, 2017, p. 6). However, the number of branches has not increased at the same pace. In FY17, the total number of branches was 1252 up from a total of 1103 in FY13 (Federal Bank Annual Report, 2017, p. 7).

In the last few years, when the Indian banking industry was suffering from problems of non-performing assets (NPA), Federal Bank has managed its loan book efficiently. The gross NPA of the bank declined from 3.44% to 2.33% from FY13 to FY17 respectively (Federal Bank Annual Report, 2017, p. 15). The bank has a continued focus on micro and small-medium enterprises. Federal Bank expressed in its mission statement to provide a post-tax return on net-worth of 18% to its shareholders.

With a punch-line of ‘digital at the fore,

human at the core' the bank has attempted to leverage technology as well as human touch with their customers. The capital adequacy ratio (CAR) of the bank has remained robust with a CAR of 12.39% as on 31st March 2017. This is much above the BASEL III requirement of 11.5% CAR (¹). Capital Adequacy Ratio (CAR) is the amount of capital that banks are required to maintain in relation to their Risk-weighted credit exposure. It offers a capital cushion to banks.

Valuing the Bank

Gutar was reminded of his MBA classes when he was taught valuation methods. He remembered valuation techniques such as Dividend Discount Model (DDM), Discounted Cash Flow (DCF) Model, Equity

Cash Flow (ECF) Model, Residual Income (RI) Model etc. taught to him. He was aware that DDM requires historical data of dividend payments and hence, for companies not paying dividend regularly, it would be difficult to apply this model. Further, ECF is based on DCF method with few adjustments such as deduction of financial claims by lenders, taking discount rate as the cost of equity rather than the weighted average cost of capital (WACC). A survey shown in the class by his faculty concluded that both ECF and RI concluded almost the same valuation numbers. Hence, looking at it as a case of a financial institution, Gutar opted for RI or residual income approach to value the bank. He articulated the entire valuation process that he had undertaken step-wise to make it easier to understand for his clients.

¹ Capital Adequacy Ratio (CAR) is the amount of capital that banks are required to maintain in relation to their Risk-weighted credit exposure. It offers a capital cushion to banks. For a detailed reading on CAR under BASEL I, II and III read: <http://www.iibf.org.in/documents/reseach-report/Report-25.pdf>

The steps taken by Gutar are listed below:

- (a) To begin with, he collected data from the balance sheet and income
- (b) He then read the management discussion to understand any significant planning or decision that the management was considering to take. The management discussion section of the annual report of 2016-17 did not highlight any significant changes in operation or management functions of the bank and hence, issues of super-normal growth or sub-normal growth were ruled out. Thus, he considered five years as the standard forecasting period for the financial data and then the terminal value was calculated for the periods beyond five year forecast periods.
- (c) He listed some assumptions to forecast the financials of the bank for next five year (see **Exhibit 3**).

statement of the bank from the last five years' annual reports (see **Exhibits 1 and 2**).

- (d) He then attempted to find the value.

Gutar was familiar with the type of questions that would be raised by his clients and hence, to illustrate each and every step of valuation, he had made a dynamic balance sheet and income statement forecasting pro-forma. For discounting rate, he had collected risk-free rate of interest (10-year Government bond-yield) from websites of Reserve Bank of India (RBI, Central Bank of India) as 7.20% per annum.

To save time, Gutar surveyed the websites of brokerage firms and identified the beta²

² Beta is a measure of the sensitivity of a stock with respect to a market index. Higher the beta; higher is the risk. The beta of 1.08 suggests that if the market index goes up by 1 %, the stock would go up by 1.08%. Similarly, if the market index goes down by 1%, the stock would go down by 1.08%. However, it must be appreciated that it is a time-varying variable.

(sensitivity of stock return with respect to market index) as 1.08 and expected the market return of 10% p.a. in long-run. Gutar was ready for presentation of his calculation based on the residual income approach.

(c) Find the value of the bank as on 31st March 2017 based on the residual income valuation method.

(d) As Gutar, would you suggest your clients to invest in shares of Federal Bank?

Discussion Questions

(a) How do you evaluate the performance of the federal bank?

(b) Discuss the methodology of residual income valuation and its suitability.

Exhibit 1: Federal Bank: Balance Sheet (Data in Millions of Indian Rupees)

EQUITIES AND LIABILITIES (in ₹)	Mar-13	Mar-14	Mar-15	Mar-16	Mar-17
SHAREHOLDER'S FUNDS (in ₹)					
Equity Share Capital (in ₹)	1710.6	1710.6	1713.3	3437.9	3448.1
Total Share Capital (₹)	1710.6	1710.6	1713.3	3437.9	3448.1
Reserves and Surplus(₹)	61936	67795.3	75668	77474.3	85975.7
Total Reserves and Surplus(₹)	61936	67795.3	75668	77474.3	85975.7
Total Shareholders' (₹) Funds	63646.6	69505.9	77381.4	80912.2	89423.8
Deposits (₹)	576148.6	597312.8	708249.9	791717.1	976645.6
Borrowings (₹)	51869.9	56879.6	23082.4	21765.7	58973.2
Other Liabilities and Provisions (₹)	18830.6	22243.2	19791.1	19905.4	24726.7
Total Capital and Liabilities (₹)	710495.7	745941.5	828504.8	914300.3	1149769.3
ASSETS (₹)					
Cash and Balances with Reserve Bank of India (₹)	27,425.00	31,042.90	33,795.40	37,745.40	45,765.70
Balances with Banks Money at Call and Short Notice (₹)	9,774.90	14,250.90	14,004.50	16,452.70	28,756.10
Investments (₹)	211,545.90	241,178.50	244,091.90	222,174.90	281,960.90
Advances (₹)	440,967.00	434,361.00	512,849.90	580,901.40	733,362.70
Fixed Assets (₹)	3,974.70	4,249.60	4,666.30	5,199.80	4,894.70
Other Assets (₹)	16,808.10	20,858.60	19,096.70	51,826.10	55,029.30
Total Assets (₹)	710,495.70	745,941.50	828,504.80	914,300.30	1,149,769.30

₹ is the symbol for Indian Rupee (Rs.), 1 US\$ = 64.8 ₹ as on 31-March-2017

Source: Annual Reports of Federal Bank.

Exhibit 2: Income Statement of Federal Bank (Data in Millions)

INCOME (₹)	Mar-13	Mar-14	Mar-15	Mar-16	Mar-17
Interest / Discount on Advances / Bills (₹)	46,356.60	50,110.80	54,468.30	56,693.10	65,456.80
Income from Investments (₹)	14,646.00	17,768.30	18,359.20	17,596.30	18,014.00
Interest on Balance with RBI and Other Inter-Bank funds (₹)	563.60	523.50	623.60	559.60	989.30
Others (₹)	109.50	1,058.10	743.50	2,597.90	2,313.80
Total Interest Earned (₹)	61,675.70	69,460.80	74,194.70	77,446.90	86,773.80
Other Income (₹)	6,644.40	6,938.50	8,783.10	7,863.80	10,818.10
Total Income (₹)	68,320.10	76,399.30	82,977.70	85,310.70	97,591.90
EXPENDITURE (₹)	0.00	0.00	0.00	0.00	0.00
Interest Expended (₹)	41,929.10	47,174.70	50,390.60	52,404.50	56,247.40
Payments to and Provisions for Employees (₹)	6,264.60	7,715.40	8,919.60	10,528.50	11,637.50
Depreciation (₹)	787.00	937.40	745.90	1,054.50	1,221.70
Operating Expenses (excludes Employee Cost & Depreciation) (₹)	4,743.80	5,767.90	6,643.80	7,085.40	9,236.10
Total Operating Expenses (₹)	11,795.40	14,420.70	16,309.30	18,668.40	22,095.30
Provision Towards Income Tax (₹)	5,148.10	1,207.10	7,602.70	3,390.20	6,789.50
Provision Towards Deferred Tax (₹)	-1,592.20	2,523.90	-2,449.80	-950.20	-2,032.40
Other Provisions and Contingencies (₹)	2,658.00	2,684.10	1,067.40	7,041.30	6,184.10
Total Provisions and Contingencies (₹)	6,213.90	6,415.10	6,220.30	9,481.30	10,941.20
Total Expenditure (₹)	59,938.40	68,010.40	72,920.20	80,554.20	89,284.00
Net Profit / Loss for The Year (₹)	8,381.70	8,388.90	10,057.50	4,756.50	8,307.90
Net Profit / Loss After EI & Prior Year Items (₹)	8,381.70	8,388.90	10,057.50	4,756.50	8,307.90
Profit / Loss Brought Forward (₹)	2,966.80	5,163.90	7,873.60	10,923.70	10,569.80
Total Profit / Loss available for Appropriations (₹)	11,348.50	13,552.80	17,931.10	15,680.20	18,877.70
Basic EPS (₹)	49	9.81	11.75	2.77	4.83
Equity Dividend Rate (%)	90	100	110	35	45
Equity Shares in Numbers (in Millions)	171.059132	855.311785	856.6552	1718.9468	1724.04541

₹ is the symbol for Indian Rupee (Rs.), 1 US\$ = 64.8 ₹ as on 31-March-2017

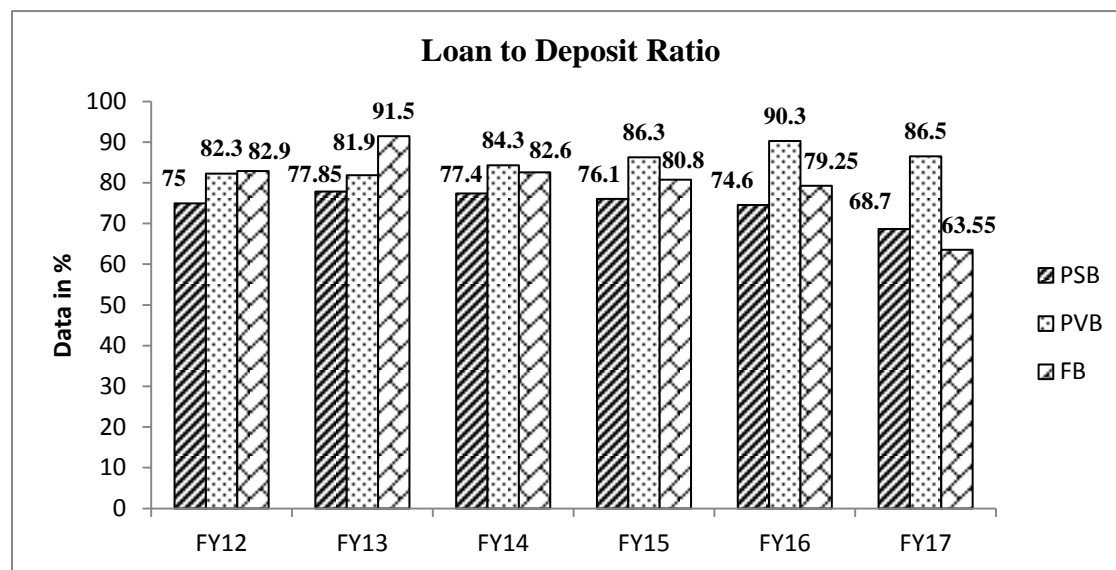
Source: Annual Reports of the bank.

Exhibit 3: Assumptions for Financial Forecasting**Balance Sheet Forecasting:**

1. No equity capital raising activity from the market.
2. Deposits to grow at a CAGR of past trend.
3. Borrowing will grow with a constant deposit to borrowing ratio as in previous year.
4. Cash and Balances with Reserve Bank of India will follow a trend of the previous year.
5. Investments will grow in the same trend of the deposit-to-investment ratio of the previous year.
6. Advances to grow at a rate of 15%.
7. Other items remaining the same.

Income Statement Forecasting:

1. Interest / Discount on Advances / Bills to grow as % of advances in line with previous year.
2. Income from Investments to grow as % of advances in line with previous year.
3. Interest on Balance with RBI and Other Inter-Bank funds to grow as % of advances in line with previous year.
4. Others (4th item of income statement) also to grow as % of advances in line with previous year.
5. Other Income to grow as % of total income in line with previous year.
6. Interest Expended to follow as % of Deposits in line with previous year.
7. Payments to and Provisions for Employees to follow constant cost to total income ratio as in previous year.
8. Depreciation to remain constant.
9. All other items to follow constant cost to total income ratio as in previous year.

Exhibit 4: Trends in Indian Banking Sector**Figure 1: Loan to Deposit Ratio in Indian Banking**

Source: Data compiled from Various Reports of RBI on trend in Indian Banking Sector.

PSB: Public Sector Banks. PVB: Private Sector Banks. FB: Foreign Banks.

Table 1: Return on Assets in Indian Banking Sector

Year	FY12	FY13	FY14	FY15	FY16	FY17
PSB	0.86	0.73	0.47	0.44	0.2	-0.47
PVB	1.37	1.29	1.11	1.03	1.5	1.02
FB	1.98	1.82	1.82	1.7	1.84	0.6

Source: Compiled from various reports of RBI on trends in Indian Banking Sector

PSB: Public Sector Banks. PVB: Private Sector Banks. FB: Foreign Banks.

Reference:

1. Federal Bank (2017). Annual report of *Federal Bank* 2016-17, page 11, section: Deriving growth from Enhanced Footprint across India. Retrieved 9th May, 2018 from <https://www.federalbank.co.in/documents/10180/8836195/Annual+Report+2016->
2. Swamy, V. (2016). “*Basel-III: Implications for Indian Banking*”. Indian Institute of Banking and Finance. Retrieved 9th May, 2018 from <http://www.iibf.org.in/documents/reseach-report/Report-25.pdf>