



TEACHING NOTE

Bajaj Auto: Evaluating the Working Capital Requirements

Prerequisite Conceptual Understanding

- To understand the importance of working capital management – Pandey I.M., “Principles of Working Capital Management”, *Financial Management*, 9th Edition, (ISBN 978-81-259-1658-1), Vikas Publishing House Pvt Ltd, 2009

Synopsis of the Case Study

The case study ‘Bajaj Auto: Evaluating Working Capital Requirement’ deals with the need and importance of investing in current assets and its implication on company’s long-term profitability. It details the significance and effective management of working capital which strengthens the firm’s liquidity position. Considering the Indian auto industry and citing an example of Bajaj Auto Ltd., the case study highlights the working capital trends of the company and explains the reasons for such movements. Further, explaining the prominence of working capital management, it evaluates the working capital requirements of Bajaj Auto Ltd.

Pedagogical Objectives

- To understand the need and importance of investing in current assets and its implication on company’s long-term profitability
- To identify the necessity of Working Capital Management (WCM) and to understand the WCM of Bajaj Auto
- To evaluate and determine the working capital requirement of Bajaj Auto Ltd. using different approaches.

This teaching note was written by Sowjanya Mora under the direction of Fathima Reshma Taj H., IBSCDC. It is only an illustrative orchestration of the case study ‘Bajaj Auto: Evaluating the Working Capital Requirements’. It is never meant to limit the learning outcomes.

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Assignment Questions

- I. What is the need and importance of current assets and its implications on company's long-term profitability
- II. Explain the need for Working Capital Management (WCM) and analyse the Working Capital trend of Bajaj Auto Ltd.
- III. Estimate the working capital requirements of Bajaj Auto Ltd. using different approaches.

Case Flow Analysis

It is suggested to give the case study to the students one day before to make the necessary calculations. However, the session can begin by asking the following questions to the students – (a) What do you mean by assets and liabilities and how do you classify them? (b) What is the importance of short-term assets and liabilities? Gradually, the concentration of students drives towards an in-depth analysis of various approaches of calculating working capital requirement. The following arranged questions will help the faculty to orchestrate the classroom discussion in an orderly manner.

I. Importance and Need of investing in current assets

What is the need and importance of investing in current assets?

Every organisation needs two forms of financial resources – long-term resources for investing and purchase of fixed assets and sustainability and short-term resources is to run the day-to-day operations like purchase of raw material, payments, etc. The capital which is required to operate routine business activities is termed as working capital. It deals with the short-term resources i.e. current assets and current liabilities [**Exhibit (TN)-I**]. The main reason behind people looking at balance sheet more keenly is to find out a company's working capital (or liquidity) position. It reveals more about the financial performance of a company in comparison to any other calculations. It discloses the financial position of a company, when it raises short-term loans to pay off its current obligations/liabilities.

Exhibit (TN)-I	
List of Current Assets and Current Liabilities	
Current Assets	Current Liabilities
• Cash in-hand and cash at bank	• Creditors (accounts payable)
• Short-term securities	• Bills payable
• Debtors (accounts receivable or book debts)	• Borrowings (from commercial banks and others financial institutions)
• Loans and advances (short-term)	• Provisions
• Bills receivables	• Bank overdraft/advances
• Inventory (Raw material, work-in-progress, finished goods)	• Outstanding expenses
• Prepaid expenses	• Income paid in advance.
• Accrued Income.	
Prepared by the author	

Adequate working capital will help in smooth functioning of business operations. Management of current asset is similar to the management of fixed asset as both are based on risk and return basis, in which firms analyse their effects on risk and return basis. However, current assets and fixed assets differ in three important ways:

1. **Time factor:** As fixed assets are the permanent assets of the company, time plays a vital role in fixed asset management. Hence discounting and compounding techniques are applied in the assessment and management of fixed assets. Where as, current assets are temporary assets of the company and can be converted into cash within a year's time and hence time is not an important factor in the management of current assets
2. **Risk-return trade off:** This is very crucial for the management of current assets, as large holding of current assets, especially cash, though strengthens the firm's liquidity position, lies idle. There is an opportunity cost associated with the amount of cash to be maintained by the company and a lot of risk involved if enough cash is not maintained. Whereas in case of fixed assets, there is no calculation of risk-return trade off as most of the fixed assets are used in the manufacturing process of the company
3. **Dependence on level of sales:** Both, current and fixed assets depend upon expected level of sales, but it is only current assets which are adjusted with sales fluctuations in the short run.

However, a business concern should ensure that it should have adequate working capital, because excess/redundant or inadequate/shortage working capital may prove disadvantageous to the enterprise [Exhibit (TN)-II].

Exhibit (TN)-II Disadvantages of Excessive or Inadequate Working Capital	
Disadvantages of Excess Working Capital	Disadvantages of Inadequate Working Capital
<ul style="list-style-type: none"> • Redundant working capital means idle funds which yield no profits for the business 	<ul style="list-style-type: none"> • Inadequate working capital means firm's inability to pay its short-term liabilities which may impact firm's reputation and may not be able to get good credit facilities
<ul style="list-style-type: none"> • Excess working capital may lead to unnecessary purchasing and accumulation of inventories causing more chance of theft, waste and losses 	<ul style="list-style-type: none"> • It cannot purchase its requirements in bulk and cannot avail discounts, rebates, etc.
<ul style="list-style-type: none"> • It implies that excess working capital results in excess debtors/receivables and defective credit policy which may result in higher incidence of bad debts 	<ul style="list-style-type: none"> • Due to lack of short-term assets, firms may fail to exploit favourable market conditions and undertake unprofitable projects
<ul style="list-style-type: none"> • It may cause overall inefficiency 	<ul style="list-style-type: none"> • Inappropriate working capital may cause inefficiencies which in turn increases costs and reduces the profits of the business
<ul style="list-style-type: none"> • Good relations with banks and other financial institutions may not be maintained 	<ul style="list-style-type: none"> • Shortage of liquid funds may also affect the effective utilisation of fixed assets
<ul style="list-style-type: none"> • Due to low rate of return on investments, the value of shares may also decline 	<ul style="list-style-type: none"> • Due to inadequate working capital, the rate of return on investment may also decline.
<ul style="list-style-type: none"> • Excess working capital gives rise to speculative transactions. 	
Prepared by the author	

What are the factors that determine the working capital requirements of a company and how should it be managed effectively?

There must be enough attention given to the working capital management. Many factors determine the working capital requirements, they are:

Factors determining the working capital requirements

1. **Nature or Character of the Business:** The working capital requirements of a firm basically depend upon the nature of the business. For instance, Public utility undertakings require small amount of working capital, while, trading and financial firms require relatively large amounts of working capital and manufacturing undertakings require sizable amount of working capital
2. **Size of the Business/Scale of Operations:** The working capital requirement of a company is directly influenced by its size of the business or scale of the operations. The larger the size of a business unit, greater is the amount of working capital required
3. **Production Policy:** The amount of working capital required also depends on the production policy of the company. If the policy is to keep steady flow of production by accumulating inventories, then it requires high amount of working capital
4. **Manufacturing Process/Length of Production Cycle:** In a manufacturing business, the amount of working capital increases in direct proportion to length of manufacturing process. Longer the manufacturing process, larger is the amount of working capital required
5. **Seasonal Variations:** In certain industries raw material is not available throughout the year. Generally, during the peak season, a firm requires larger working capital than in the slack season
6. **Working Capital Cycle:** The length of the operating cycle determines the working capital of a company. If the operating cycle is lengthy, then the amount of working capital required is large and vice versa
7. **Rate of Stock Turnover:** There is a high degree of inverse co-relationship between the quantum of working capital and the speed with which the sales are affected
8. **Credit Policy:** A concern that purchases its requirements on credit and sells its products/services on cash requires lesser amount of working capital as there is immediate cash generated from sales
9. **Business Cycles:** During the boom period, larger amount of working capital is required due to increase in sales, rise in prices, optimistic expansion of business, etc., and vice versa
10. **Earning Capacity and Dividend Policy:** Company with good earning capacity requires less working capital cash inflows. In case of high dividend paying firms more working capital is required, as dividends are always paid in cash to the shareholders resulting in cash outflows.

Management of Working Capital: Management of working capital is concerned with the problems that arise in the management of current assets, current liabilities and the inter-relationship that exists between them.

The basic goal of working capital management is to manage the current assets and current liabilities of a firm in such a way that a satisfactory level of working capital is maintained, i.e., it is neither inadequate nor excessive, throughout the operating cycle.

Working capital management policies of a firm have a great influence on the profitability, liquidity and structural health of the organisation. Working capital management is three dimensional in nature:

- (i) Dimension I – formulation of policies with regard to profitability, risk and liquidity
- (ii) Dimension II – decisions about the composition and level of current assets
- (iii) Dimension III – decisions about the composition and level of current liabilities.

II. Significance of Working Capital Management of Bajaj Auto

Explain the importance of working capital management and how it can be managed efficiently?

There are two concepts of working capital – gross working capital and net working capital. Gross working capital refers to the firm's investment in current assets (assets which can be converted into cash within an accounting year. For example, cash, short-term securities, debtors' bills receivable and stock). The difference between current assets and current liabilities can be termed as net working capital. There can be a negative working capital or positive working capital. A negative working capital occurs when a company's current liabilities exceed current assets or which means that the company is unable to clear off its current obligations on due date. When current assets exceed current liabilities, it can be termed as positive working capital.

For example, a biscuit manufacturing firm uses \$100 to build up its inventory of sugar, wheat, edible flavours, etc. A week later, it produces and ships it out and the customers may make payment (\$100) after a week. The \$100 has been blocked for 2 weeks is the company's working capital. Faster the company can sell its products, sooner it can purchase fresh raw material, which helps in running its production cycle. If the stock sits idle, cash is tied-up and can prove hurdle for business expansion. Therefore, excess or deficient working capital, both can prove risky to the business. Therefore better management of working capital leads to less borrowings for the company. Even firms with sufficient or excess cash flows need to manage their working capital effectively and ensure that surplus working capital is invested in better ways to generate maximum returns.

Working capital management refers to the management of all the components like – cash, marketable securities, receivables and payables, etc., which are short-term in nature. The main purpose of working capital is to determine the level and composition of current assets and to ensure that the current liabilities are paid off on time. As such, it depends on the nature of the industry and company's size as to what amount of working capital should be maintained by the company. However there are some ratios which can be used to estimate the working capital requirements [Exhibit (TN)-III].

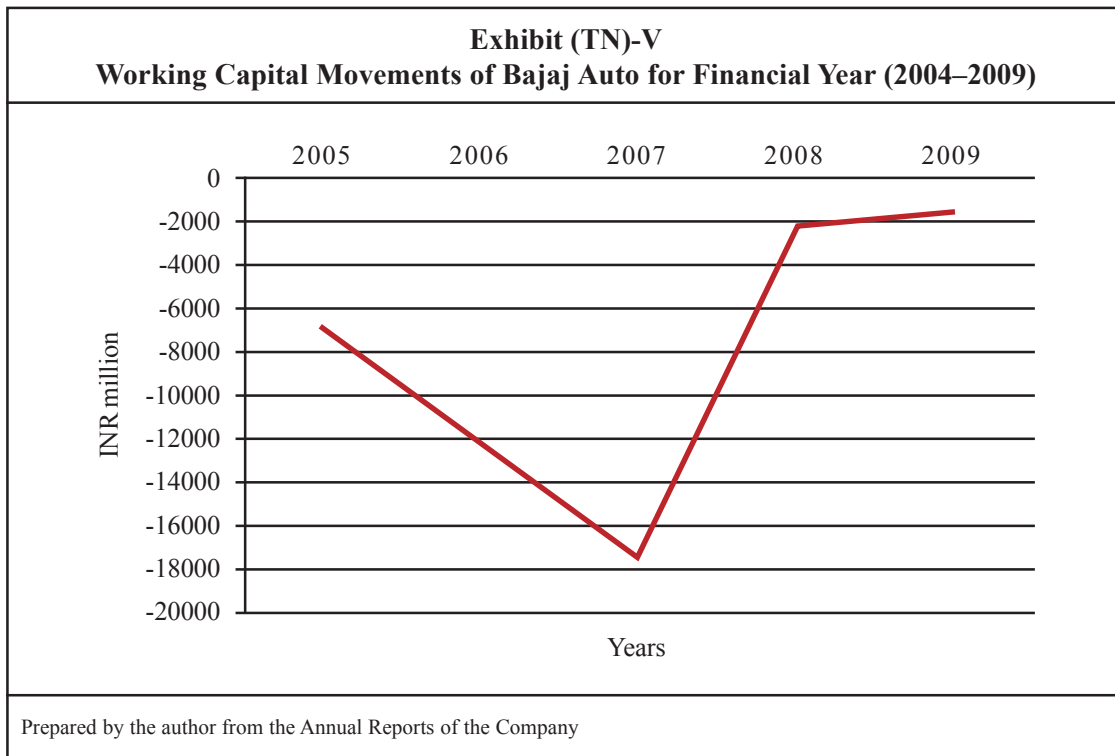
Using **Annexure II (b) of the case study**, analyse the working capital trends of Bajaj Auto Ltd.

On observing the working capital of Bajaj Auto Ltd., from 2005–2009 [Exhibits (TN)-IV and (TN)-V], it is evident that the company had a negative trend, i.e., (-6770) in 2005, (-12258.5) in 2006, (-17345) in 2007 and (-2157.8) in 2008) and in 2009, it showed (-1561.80).

Exhibit (TN)-III Key Working Capital Ratios			
Ratio	Formulae	Result	Interpretation
Stock Turnover (in days)	$\text{Average Stock} * 365 /$ $\text{Cost of Goods Sold}$	= x days	On average, you turn over the value of your entire stock every x days. You may need to break this down into product groups for effective stock management. Obsolete stock, slow moving lines will extend overall stock turnover days. Faster production, fewer product lines, just in time ordering will reduce average days.
Receivables Ratio (in days)	$\text{Debtors} * 365 / \text{Sales}$	= x days	It take you on average x days to collect monies due to you. If your official credit terms are 45 day and it takes you 65 days... why ? One or more large or slow debts can drag out the average days. Effective debtor management will minimize the days.
Payables Ratio (in days)	$\text{Creditors} * 365 / \text{Cost of Sales}$ (or Purchases)	= x days	On average, you pay your suppliers every x days. If you negotiate better credit terms this will increase. If you pay earlier, say, to get a discount this will decline. If you simply defer paying your suppliers (without agreement) this will also increase - but your reputation, the quality of service and any flexibility provided by your suppliers may suffer.
Current Ratio	$\text{Total Current Assets} /$ $\text{Total Current Liabilities}$	= x times	Current Assets are assets that you can readily turn in to cash or will do so within 12 months in the course of business. Current Liabilities are amount you are due to pay within the coming 12 months. For example, 1.5 times means that you should be able to lay your hands on \$1.50 for every \$1.00 you owe. Less than 1 times e.g. 0.75 means that you could have liquidity problems and be under pressure to generate sufficient cash to meet oncoming demands.
Quick Ratio	$(\text{Total Current Assets} - \text{Inventory}) /$ $\text{Total Current Liabilities}$	= x times	Similar to the Current Ratio but takes account of the fact that it may take time to convert inventory into cash.
Working Capital Ratio	$(\text{Inventory} + \text{Receivables} -$ $\text{Payables}) / \text{Sales}$	As % Sales	A high percentage means that working capital needs are high relative to your sales.

Source: "Business planning papers: Managing working capital", <http://www.planware.org/workingcapital.htm>

Exhibit (TN)-IV					
Working Capital Movement of Bajaj Auto for Financial Year (2002–2009)					
in INR million					
	2005	2006	2007	2008	2009
Current Assets					
Inventories	2,247	2,744.7	3173.7	3,661.3	3,717.6
Sundry Debtors	1,769.7	3,025.4	5,275.5	2,528.5	2,809.4
Cash and Bank Balances	2,668.8	4,764.8	7,554.5	712.4	1,426.4
Other Current Assets	1,225.3	2,606.9	1,704.8	799.5	1,256.8
Loans and Advances	20,428.7	21,899.5	29,399.4	8,978.8	13,809.0
Sub-Total (A)	28,339.5	35,041.3	47,107.9	16,680.5	23,019.2
Current Liabilities					
Liabilities	12,292.1	20,355.5	30,175.7	10,497.0	12,339.5
Provisions	22,817.4	26,944.3	34,277.2	8,341.3	12,241.5
Sub-Total (B)	35,109.5	47,299.8	64,452.9	18,838.3	24,581.0
Working capital (A) – (B)	(6770.00)	(12258.50)	(17345.00)	(2157.80)	(1561.80)
Compiled by the author from the Annual Reports of the Company					



Other players like Hero Honda and TVS Motors in the industry have also witnessed negative working capital over a period of time. Companies are able to manage the negative working capital through effective credit policy. These companies first sell their goods and later make payments on the raw material, which means they have greater credit payment period. The most critical factor of the working capital is inventory management. The Indian automobile industry has come a long way in inventory management and in the past 5 years (2004–2009), it has improved more than two times. The companies are making quick sales and investing the realised cash in short-term commercial papers and call money that earn good returns.

On the other hand, these companies place bulk orders with their suppliers on the condition of extended credit. As a result, they enjoy a significant gap in the number of days between cash receipts from debtors and creditor's payments. "Hero Honda has managed its working capital very efficiently and has been having negative working capital for the last six years. The inventory number of days has come down from 29 days in 1999 to 10 days in 2005 due to indigenous production. Imported inventory has reduced to about 30 days stock in the factory and similar stock is kept in transit due to long transportation time," commented Ravi Sud, CFO, Hero Honda.¹

III. Estimating Bajaj Auto Ltd.'s Working Capital Requirements

Using different approaches of estimating working capital, determine the working capital requirements of Bajaj Auto Ltd. and recommend suggestions.

Estimating working capital requirements

The basic formulae for calculating working capital is the difference between current assets and current liabilities (working capital = current assets – current liabilities) and a ratio of 2:1 is considered as ideal or standard i.e. for every 1 unit of current liability there should be 2 units of current assets. However, there are few approaches which have been successfully applied in practice.

1. **Current assets holding period:** To estimate working capital requirements on the basis of average holding period of current assets and relating them to costs based on the company's experience in the previous years. This method is essentially based on the operating cycle concept.
2. **Ratio to sales:** To estimate working capital requirement as a ratio of sales on the assumption that current assets change with sales.
3. **Ratio to fixed investment:** To estimate working capital needs as a percentage of fixed investment.²

Using the information from the case study, students are asked to calculate working capital requirement of Bajaj Auto Ltd. (2009) by means of the above three approaches.

Note: All the amounts are mentioned in INR million.

1. Current assets holding period:

Calculating the 12 months average holding period of current assets,

(a) Inventory:

- Raw material (one month's supply)
 - = Raw material consumed in a year (2009)/12
 - = $1,077.5/12 = 89.79$ or 90

¹ "Investing in working capital management", <http://www.financialexpress.com/news/investing-in-working-capital-management/152948/1>, April 2nd 2006

² Pandey I.M., "Financial Management", 9th Edition, ISBN 978-81-259-1658-1, Vikas Publishing House Pvt Ltd, 2009

- Work-in-progress (2009) (one month's supply)
= Work-in-progress/12
=120.3/12 = 10.025
- Finished goods³ (2009) (one month's supply)

Finished goods/12

$$= 2206.4/12 = 183.86$$

Total inventory needs are = 90 + 10.025 + 183.86 = 283.885

(b) Sundry Debtors (2009) (one month's sales):

$$= \text{Annual sales}/12$$

Sales (2008–2009) = 90,497

Therefore, 90,497/12 = 7,541.4

(c) Cash and bank balances (one month's total cost):

$$= \text{Total Product cost}^4/12$$

It is assumed that 50% of other expenses and depreciation are directly related to production,

$$= (64,615.7 + 6216.75 + 653.10)/12$$

$$= 71,485.55/12$$

$$= 5957.12$$

Therefore, by adding (a), (b) and (c), we get the working capital requirement

$$= 283.885 + 7541.4 + 5957.12$$

$$= 13,782.405$$

However, this method is subject to error if the business is prone to seasonal fluctuations.

2. **Ratio to Sales:** The average percentage is calculated based on the assumption that sales of next FY 2010 will grow by 4% [Exhibit (TN)-VI].

Exhibit (TN)-VI			
Average Percentage of Current Assets to Sales			
Particulars	FY 2009	FY 2008	FY 2007
Sales	90,497	96,900	106,061
Current assets	23,019.2	16,680.5	47,107.9
Percentage Current assets to Sales (%)	25	17.2	44
Average (%)	28.7 (or) 29		
Compiled by the author			

³ Finished goods include vehicles and auto spare parts, etc.

⁴ Here total product includes cost of material consumed, labour cost and factory and administrative costs.

It is assumed that in FY 2010, increase in sales is 4%. Hence, the sales in FY 2010 is $90,497 \times 104\% = \text{INR } 94,117$ million

$$\begin{aligned}\text{Average sales growth} &= \text{Sales growth rate over past three years/number of years} \\ &= [4.0 (\text{FY}2009) + (7.8) (2008) + 14.5 (2007)]/3 \\ &= 3.56 \text{ or } 4\%\end{aligned}$$

Therefore, the amount of working capital requirement is 29% of sales (2009), INR 94,117 million, which is INR 27,294 million.

This approach has limited reliability because it depends on the accuracy of sales estimation. In case of inaccurate sales estimation, the percentage calculation of current assets to sales will go wrong and hence the working capital requirement will also go wrong.

- 3. Working capital ratio of Fixed Investment:** This method is generally not used in practice as this method also depends on the level of accuracy of fixed investments calculation.

However, it is observed that every approach of estimating working capital requirements have some limitations. It depends on the nature of the industry and company's capability in managing current assets which determine the working capital requirements.

Annexure (TN)-I Teaching Plan		
Case Structure	Teaching Note Structure	What I want to Analyse?
<p>I. Introduction</p> <p>II. Indian Automobile Industry: An Overview</p> <p>III. Bajaj Auto's Working Capital Requirement: Is Negative Working Capital Positive?</p>	<p>Prerequisite Conceptual Understanding</p> <ul style="list-style-type: none"> To understand the importance of working capital management – Pandey I.M., “Principles of Working Capital Management”, <i>Financial Management</i>, 9th Edition, ISBN 978-81-259-1658-1, Vikas Publishing House Pvt Ltd, 2009 <p style="text-align: center;">The Big Picture</p> <ul style="list-style-type: none"> Does the nature of industry/business have any impact on the requirement of working capital? Does the changing level of WC affect the long-term profitability of the company? <p>Teaching Note Flow</p> <p>I. Need and Importance of investing in current assets and its implications on company's long-term profitability</p> <p>II. Identify the need of Working Capital Management and understanding the Working Capital Management of Bajaj Auto Ltd.</p> <p>III. Evaluate and determine the working capital requirement of Bajaj Auto Ltd.</p>	<p>Need and Importance Working Capital</p> <ul style="list-style-type: none"> Classification of assets and liabilities Need and significance of short-term assets and liabilities Importance and need of investing in current assets Components of working capital Gross working capital and net working capital. <p>Identify the need of Working Capital Management</p> <ul style="list-style-type: none"> What happens when a required level of working capital is not maintained? Trade-off between profitability and risk Effect of changes in current assets and current liabilities on working capital Is there any ideal mix of short-term and long-term financing for current assets History of Bajaj Auto Ltd. – past 5 years financial performance. <p>Determine the working capital requirement of Bajaj Auto Ltd.</p> <ul style="list-style-type: none"> Estimating the working capital needs Criteria for evaluating working capital requirements Working Capital trends of Bajaj Auto Ltd. Comment on the working capital requirement levels of the company and recommend the requirement of Working Capital.
		<i>Contd...</i>

Pedagogical Objective	Classroom Deliverables
To understand the need and importance of investing in current assets and its implication on company's long-term profitability	<ul style="list-style-type: none"> • Classification of assets – fixed and current assets • Significance of short-term financial requirements – current assets and current liabilities • Importance and need of investing in current assets • Components of working capital • Gross working capital vs net working capital.
To identify the necessity of Working Capital Management (WCM) and to understand the WCM of Bajaj Auto	<ul style="list-style-type: none"> • What happens when a required level of working capital is not maintained? • Trade-off between profitability and risk • Effect of change in current assets and current liabilities on working capital • Is there any ideal mix of short-term and long-term financing for current assets • History of Bajaj Auto – past 5 years financial performance.
To evaluate and determine the working capital requirement of Bajaj Auto using different approaches	<ul style="list-style-type: none"> • Estimating the working capital needs • Criteria for evaluating working capital requirements • Working Capital trends of Bajaj Auto • Comment on the working capital requirement levels of the company and recommend the requirement of Working Capital.
Prepared by the author	