

# “Working Capital Management practices of manufacturing sector companies in Sri Lanka: survey evidence”

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## Working capital management practices of manufacturing sector companies in Sri Lanka: survey evidence

### Abstract

This study focuses on working capital management (WCM) practices of manufacturing companies in Sri Lanka. The data for the study were gathered through a questionnaire and interviews with chief financial officers of a sample of listed and unlisted manufacturing companies. It is observed that most of the manufacturing companies in Sri Lanka have an informal policy related to working capital management. The finance manager takes the main responsibility to manage working capital components and the managing director plays a major role in formulating ad-hoc working capital policies. Lagging of credit payment and ageing schedule are the major techniques in disbursement float and controlling trade debtors, respectively. Perpetual Inventory Control System and Material Requirements Planning are primary tools of inventory management. Most of the sample companies use cash budget and current assets ratio as techniques to plan and control their working capital components. Finally, the sales growth and profitability are found to be the major determinants of WCM in Sri Lanka.

**Keywords:** working capital management, material requirements planning, Sri Lanka, manufacturing companies, Colombo Stock Exchange.

**JEL Classification:** G30, G31, G32.

### Introduction

In finance research, working capital management has not been accorded sufficient attention. According to some experts high business failures have occurred due to poor decision-making in the area of working capital management of companies (Smith, 1978). The researchers in the field of short-term finance also argue that theories of working capital management are not amenable to practical applications (Cohan and Pringale, 1978). Therefore, much had not been written on the subject until the sixties (Earnest, 1964). However, since the early 1970s, a plethora of research has been conducted in relation to working capital management (James, 1988). This indicates the importance of working capital management as a separate field of research.

Some researchers maintain that the management of short-term assets and liabilities is more important than the management of long-term investment and finance of manufacturing companies (Ned and William, 1995). In fact, current assets form a large proportion of total assets in both developed and developing countries. For example, in the USA, current assets are about one-third of the total assets. The practice of working capital management in developed countries such as the USA has reached a high level of sophistication. These practices are well documented (Smith and Shirley, 1978).

Evidence on working capital management practices in developing countries is scanty (Pradhan, 1986; Sishtla, 1992). Manufacturing companies play a major role in the economic development in Sri Lanka.

During the last three decades, the manufacturing sector has made a significant contribution to the national income as well as to the export income of the country. In spite of their contribution, manufacturing companies in Sri Lanka are still in a developing stage. They need more short and long-term investments and finance for expansion. Capital markets in Sri Lanka are still in a nascent stage compared to the markets of developed countries. Therefore, the flow of additional capital is slow. Managing the available capital is, thus, a real challenge for financial managers of Sri Lankan companies. Further, the optimum utilization of the existing capital by Sri Lankan companies is essential for sustaining and expanding their operations.

The purpose of this paper is to present the results of a survey of the working capital management practices of manufacturing companies in Sri Lanka. This is the first study investigating the working capital management practices of Sri Lankan companies. Through a survey we provide answers to a number of research questions. These research questions are given in the next Section.

This paper is organized as follows. Section 1 discusses the research design employed in the paper. Analysis of survey results is presented in Section 2. The final Section concludes the paper.

### 1. Objectives and research design

The main objective of this study is to find answers to certain research questions through a survey of listed and unlisted manufacturing companies in Sri Lanka. The research questions addressed in this study are as follows:

1. Is the sales growth independent of the overall working capital policy adopted?

2. Is the profitability of companies independent of the overall working capital policy adopted?
3. Is the sales growth independent of the specific working capital policy adopted?
4. Is the profitability of companies independent of the specific working capital policy adopted?
5. Who is responsible for formulating the working capital policy?
6. What are the practices related to the management of inventories, cash and debtors?
7. What are the practices related to financing of working capital?
8. Are regular and constant, cyclical, seasonal and non-spontaneous needs for working capital independent of sales growth and profitability?
9. Do companies in Sri Lanka prepare cash budgets (CB) as a tool of working capital management?
10. Does frequency of cash budget preparation affect sales growth and profitability of companies?
11. What is the major tool used by Sri Lanka's companies in managing working capital?
12. Do Sri Lanka's companies consider investment in working capital in evaluating long-term capital budgeting projects?

We answer questions (5) to (7), (9), (11) and (12) using survey data themselves and test the following hypotheses in relation to questions 1 to 4 (hypothesis 1), 8 (hypothesis 2) and 10 (hypothesis 3):

*Hypothesis 1: Sales growth and profitability are dependent on the overall and specific working capital policies adopted.*

*Hypothesis 2: Regular and constant, cyclical, seasonal and non-spontaneous needs for working capital are dependent of sales growth and profitability.*

*Hypothesis 3: Frequency of cash budget preparation affects growth and profitability of companies.*

The above hypotheses are tested using the Chi-square test. As this is a well-known test, its technical details are not discussed in this paper.

A sample was selected from the manufacturing sector companies quoted on the Colombo Stock Exchange (CSE) and unlisted manufacturing companies in Sri Lanka. In the year 2008, thirty-two manufacturing companies were listed for share trading on the CSE under the manufacturing sector. Out of these, two companies were not operating during the five years preceding 2008. Therefore, thirty listed manufacturing companies were selected for this study. In addition to these thirty companies, another ten unlisted manufacturing companies were randomly selected.

Data were gathered via a structured questionnaire from the sample companies. The questionnaire used by Pandey et al. (1997) was modified to suit the

present business environment in Sri Lanka. All forty companies responded to the survey resulting in a 100 per cent response rate. Sales growth and profitability are considered as important factors in working capital management practices of companies (DeLoof, 2003; Smith, 1978). Therefore, the results of the study are also analyzed according to sales growth and profitability. Profitability is measured in terms of return on total assets (ROTA). According to Table 1, more than fifty per cent of the sample manufacturing companies are low-growth companies whereas thirty percent of sample companies enjoy high profits.

## 2. Analysis of survey results

### 2.1. Overall and specific working capital policies.

Companies in practice may follow explicitly stated formal working capital policies. Some companies may not feel the need for having a formal policy; they may have an informal policy. Most of the manufacturing companies in Sri Lanka surveyed use an informal policy for working capital. Fifty eight per cent (23 out of 40 responding companies) of the sample companies have an informal policy for their working capital management; 32 per cent (13 out of 40 responding companies) have formal working capital policies, and the remaining companies do not have any policy for working capital management. Overall, 87.5 per cent (36 out of 40 responding companies) of the responding companies follow either a formal or an informal policy for working capital management.

Table 1. Breakdown of sample companies by sales growth and profitability

|                      | Criteria      | No | Percentage |
|----------------------|---------------|----|------------|
| Growth (sales)       |               |    |            |
| High                 | 15% and above | 17 | 43         |
| Low                  | Below 15%     | 23 | 57         |
| Total sample         |               | 40 | 100        |
| Profitability (ROTA) |               |    |            |
| High                 | 16% and above | 12 | 30         |
| Low                  | Below 16%     | 28 | 70         |
| Total sample         |               | 40 | 100        |

Note: ROTA – return on total assets.

Table 2 shows that there is a significant association between sales growth and overall working capital policy. A significant number of high sales growth companies follow more formal working capital policies than low growth companies do. Approximately 67 per cent of the high growth companies have a formal policy for working capital and 75 per cent of the low growth companies follow an informal policy for working capital. The relationship between company's profitability and overall policy does not seem to

be strong. But 69.85 per cent of the low profitable companies practice an informal working capital policy. Overall, there is no significant relationship between these two variables.

Table 2. Overall and specific working capital policies

| Policies               | Total sample (%) | Sales growth (%)           |      | Profitability (%)          |      |
|------------------------|------------------|----------------------------|------|----------------------------|------|
|                        |                  | High                       | Low  | High                       | Low  |
| Overall policy         |                  |                            |      |                            |      |
| Formal policy          | 32.0             | 66.7                       | 8.7  | 41.7                       | 28.0 |
| Informal policy        | 58.2             | 33.3                       | 75.3 | 33.3                       | 69.0 |
| No policy              | 9.8              | -                          | 16.0 | 25.0                       | 3.0  |
| Total responses        | 40               | 17                         | 23   | 12                         | 28   |
| Significance (p-value) |                  | <b>0.01143<sup>a</sup></b> |      | <b>0.64749</b>             |      |
| Specific policy        |                  |                            |      |                            |      |
| Conservative           | 20.0             | 11.8                       | 28.6 | 9.1                        | 25.9 |
| Aggressive             | 26.3             | 23.5                       | 28.6 | 72.7                       | 7.4  |
| Moderate               | 42.1             | 47.1                       | 38.1 | 18.2                       | 51.9 |
| Changes over time      | 11.6             | 17.6                       | 4.7  | -                          | 14.8 |
| Total responses        | 38               | 17                         | 21   | 11                         | 27   |
| Significance (p-value) |                  | <b>0.74353</b>             |      | <b>0.01132<sup>a</sup></b> |      |

Note: <sup>a</sup> implies statistical significance at the one per cent level.

Theoretically companies may have different approaches for overall working capital management. These approaches are known as specific working capital policies. Specific working capital policies are conservative, aggressive and moderate policies. Forty two per cent (i.e. 16 out of 38 companies) of the responding companies follow a moderate working capital policy and 26.32 per cent of the responding companies use an aggressive working capital policy. Twenty per cent of the responding companies follow a conservative working capital policy. A smaller number of responding companies change their specific working capital policy over time. Most of the manufacturing companies in Sri Lanka follow either a conservative or a moderate working capital policy. There is no significant relationship between sales growth and specific working capital policy. However, there is a significant relationship between specific working capital policy and company profitability. Table 2 shows that 72.72 per cent of the highly profitable companies follow a more aggressive working capital policy than the companies with low profitability do. More than 50 per cent of the low profitable companies practice a moderate or conservative working capital policy.

2.1.2. *Setting of working capital policy.* According to Table 3, working capital policies of 52.78 per cent (i.e. 19 out of 36 responding companies) of responding companies are formulated by the managing director (MD). The second (22.2 of responding companies) most important working capital policy

setter in the manufacturing companies in Sri Lanka is the finance manager (FM) or finance controller. The involvement of the board of directors in working capital policy setting is very low in Sri Lanka. In the Sri Lankan manufacturing sector, the managing director plays an important role in setting the overall and specific policies for working capital.

Table 3. Setting of working capital policy

| Policy setters               | Number of responses | Response rate (%) |
|------------------------------|---------------------|-------------------|
| Board of directors           | 4                   | 11.1              |
| Managing director            | 19                  | 52.8              |
| Finance manager & controller | 8                   | 22.2              |
| Others                       | 5                   | 13.9              |
| Total responses              | 36                  | 100.0             |

2.2. **Management of working capital.** In this Section, we examine the Sri Lankan manufacturing companies' practices on the management of working capital components and financing of working capital. According to this survey, the finance manager takes the sole responsibility for managing and financing working capital components. In some companies, however, the managing director takes the responsibility for working capital management.

2.2.1. *Management of inventory.* In more than 45 per cent of the responding companies in the manufacturing sector in Sri Lanka, the finance manager plays a major role in inventory management. In some companies, however, store manager, production manager, general manager or profit centre manager is responsible for managing inventory.

Table 4 shows that several techniques are used for the purchase and replacement of inventory by Sri Lankan manufacturing companies. Sixty per cent of the responding firms use material requirements planning (MRP) as their inventory planning technique. Industry guidelines and economic order quantity (EOQ) techniques are also used by 12 per cent of the responding companies. There is no significant relationship among sales growth, profitability and inventory planning technique. But high sales growth companies never take ad-hoc decisions on inventory management.

Table 4. Inventory planning and controlling techniques

| Techniques          | Total sample (%) | Sales growth (%) |      | Profitability (%) |      |
|---------------------|------------------|------------------|------|-------------------|------|
|                     |                  | High             | Low  | High              | Low  |
| Plan                |                  |                  |      |                   |      |
| Ad hoc decisions    | 9                | -                | 17.4 | 8.3               | 10.7 |
| Industry guidelines | 12               | 5.8              | 17.4 | 16.7              | 10.7 |
| EOQ                 | 12               | 23.8             | 4.3  | 8.3               | 14.3 |
| MRP                 | 60               | 64.7             | 56.5 | 66.7              | 57.1 |

Table 4 (cont.). Inventory planning and controlling techniques

| Techniques             | Total sample (%) | Sales growth (%) |      | Profitability (%) |      |
|------------------------|------------------|------------------|------|-------------------|------|
|                        |                  | High             | Low  | High              | Low  |
| Plan                   |                  |                  |      |                   |      |
| Other                  | 7                | 5.7              | 4.4  | -                 | 7.2  |
| Total responses        | 40               |                  |      |                   |      |
| Significance (p-value) |                  | 0.54374          |      | 0.43351           |      |
| Control                |                  |                  |      |                   |      |
| Inventory turnover     | 30               | 23.5             | 34.8 | 41.7              | 25.0 |
| ABC analysis           | 15               | 23.5             | 8.7  | 16.7              | 14.3 |
| PIC system             | 52               | 47.1             | 56.5 | 33.3              | 60.7 |
| Other                  | 3                | 5.9              | -    | 8.3               | -    |
| Total responses        | 40               | 17               | 23   | 12                | 28   |
| Significance (p-value) |                  | 0.67852          |      | 0.73891           |      |

Note: PIC – perpetual inventory control.

**2.2.2. Cash management.** Collection and disbursement of cash is the most critical aspect of cash management. In most Sri Lankan manufacturing companies (in more than 75 per cent of responding companies) cash management responsibility falls within the purview of the finance manager. High sales growth and high profitable companies use verbal or written requests for reducing negative float. Regional banking and cash discount come as the next important techniques for reducing cash float. The stretching of credit is the most important technique for increasing positive cash float in Sri Lanka. More than 90 per cent of the responding companies use this technique. More than 60 per cent of the sample companies have used depository transfer cheque to improve the internal flow of funds.

**2.2.3. Management of debtors.** Most of the manufacturing companies in Sri Lanka grant credit to their customers and the major reason behind this is the competition existing among companies. Seventy-eight per cent of the responding companies support this fact. Most of the manufacturing companies investigate characteristics of their customers. The main characteristics of the customer are capacity, capital, condition and character. More than 70 per cent of the companies monitor their debtors' payment behavior through ageing schedule. Collection period and collection experience are used as second important debtors payment monitoring technique.

**2.3. Working capital financing.** In the majority of the Sri Lankan companies surveyed, accounts payable and working capital funds are controlled by the finance manager. More than 75 per cent of the responding companies maintain less accounts payables than accounts receivables. According to this survey, the Sri Lankan manufacturing companies generally operate on a deficit-credit basis, and as a

consequence, they depend on non-spontaneous sources for financing their trade deficits.

Companies need their working capital to meet their regular, seasonal and cyclical needs. Table 5 shows that 60 per cent of the Sri Lankan manufacturing companies use working capital to meet their regular and constant needs. There is a significant relationship between working capital needs and profitability of the company. Most of the highly profitable companies use working capital funds for their regular and constant working capital needs and low profitable companies (more than 50 per cent) use their working capital funds to finance cyclical, seasonal and non-spontaneous needs. Bank financing is the major source of financing working capital needs in Sri Lanka. More than 80 per cent of the responding companies finance their short-term investment needs through bank financing sources such as bank overdrafts.

Table 5. Financing of different working capital needs

| Needs                  | Total sample (%) | Sales growth (%) |      | Profitability (%)    |      |
|------------------------|------------------|------------------|------|----------------------|------|
|                        |                  | High             | Low  | High                 | Low  |
| Regular & constant     | 60.0             | 52.9             | 65.2 | 83.3                 | 42.9 |
| Cyclical               | 20.0             | 29.4             | 13.0 | 8.3                  | 25.0 |
| Seasonal               | 17.5             | 17.7             | 17.4 | 8.4                  | 21.4 |
| Non-spontaneous        | 7.5              | -                | 13.0 | -                    | 10.7 |
| Total responses        | 40               | 17               | 23   | 12                   | 28   |
| Significance (p-value) |                  | 0.4393           |      | 0.01241 <sup>a</sup> |      |

Note: <sup>a</sup> implies statistical significance at the one per cent level.

**2.4. Planning and controlling of working capital.** This Section documents working capital planning and controlling techniques of Sri Lankan manufacturing companies such as cash budgeting, monitoring of working capital and consideration of working capital in the evaluation of long-term investment decisions.

**2.4.1. Cash budgeting.** Most of the manufacturing companies (i.e. 85 per cent of the responding companies) in Sri Lanka prepare a cash budget with a view to identifying future cash surpluses and short-ages. Forty five per cent of the sample companies prepare their cash budgets on a monthly basis. Table 6 shows that most of the companies that prepare daily cash budgets enjoy high growth rates in their sales. Companies that enjoy high growth rates in their sales do not prepare cash budgets on a quarterly basis. There is no significant relationship among sales growth, profitability and duration of the cash budgets.

2.4.2. *Monitoring of working capital.* More than 65 per cent of the responding companies use current ratio for monitoring working capital. Therefore, the most practiced technique for monitoring working capital in Sri Lanka is the current ratio. Other techniques used by Sri Lankan manufacturing companies are working capital turnover, working capital as a percentage of total assets, and sales.

2.4.3. *Working capital and long-term investment.* Only forty five per cent of the responding companies frequently consider initial working capital in evaluating their long term investment decisions. High sales growth companies always consider initial working capital requirement in their long-term investment decisions. More than 50 per cent of the responding firms always include changes in working capital components in long term investment decisions. There is no significant relationship between changes in working capital and sales growth and profitability. More than 55 per cent of the Sri Lankan companies evaluate their working capital changes using market interest rate as an opportunity cost or cost of capital.

Table 6. Duration of cash budget

| Duration               | Total sample (%) | Sales growth (%) |      | Profitability (%) |      |
|------------------------|------------------|------------------|------|-------------------|------|
|                        |                  | High             | Low  | High              | Low  |
| Daily                  | 25               | 41.2             | 13.0 | 25.0              | 25.0 |
| Weekly                 | 20               | 11.8             | 26.1 | 18.3              | 25.0 |
| Monthly                | 45               | 47.0             | 43.1 | 58.3              | 39.3 |
| Quarterly              | 10               | -                | 17.4 | 8.4               | 10.7 |
| Total responses        | 40               | 17               | 23   | 12                | 28   |
| Significance (p-value) |                  | 0.34285          |      | 0.58590           |      |

## Conclusion

The managing director plays an important role in formulating either formal or informal working capital policy of the company. Sales growth significantly influences the overall policy in relation to working capital whereas profitability of the com-

pany significantly influences the specific working capital policy of the company. High sales growth companies generally have a formal policy and low sales growth companies either have an informal policy or no policy for working capital. A significant number of highly profitable companies follow an aggressive working capital policy and low profitable companies practice conservative and moderate policies in managing their working capital.

The finance manager is responsible for managing working capital components. Stretching of credit payment and aging schedule are the primary tools for managing disbursement float and controlling debtors, respectively. Material requirements planning (MRP) and perpetual inventory control (PIC) systems are key techniques of inventory management. A number of highly profitable companies use MRP technique for inventory management and low profitable companies use EOQ techniques, industry guidelines and ad-hoc decisions. Company profitability influences the working capital financing decisions. High profitable companies always use commercial bank loans to finance their constant and regular part of the business cycle and low profitable companies use bank funds to finance their cyclical and non-spontaneous needs. Most of the working capital funds are obtained from commercial banks in the form of bank overdrafts.

Current assets ratio and cash budget are major techniques of working capital planning and controlling. Sales growth and profitability do not influence the method of working capital planning and controlling. Most of the companies preparing daily cash budgets enjoy high growth rates in sales and are highly profitable. Companies always consider working capital changes when they take decisions on long-term investments (capital budgeting decisions). Most of the manufacturing companies take interest rate as cost of capital or hurdle rate for evaluating working capital changes.

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