

Rise Advisors

Guide to Cash Management

Disclaimer

The information in this guide is general in nature; it discusses cash management and planning matters in a broad sense. Consult your Rise CPA office in order to receive specific advice appropriate to your specific situation.

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Welcome to the Rise Advisors Guide on Cash Management

Our mission at Rise Advisors is to guide you on your journey to absolute financial performance. Absolute financial performance can only be achieved through the design and execution of policies that create the highest leverage of your operations and competitive environment.

Our guide on Cash Management is dedicated to the development of high leverage cash management policies that are designed to achieve your highest return on equity and positive cash flow; two keys to absolute financial performance.

At Rise Advisors we serve thousands of owner managed companies. We draw on our 40 years of experience to help you design the high leverage cash management policies that you need to achieve your highest return on equity and cash flow.

Cash - the Life Blood of all Companies

The importance of cash to a company can not be overstated. A company can operate at a loss but as long they have cash they can keep going. On the other hand, a company can generate a profit but be out of cash, and when you are out of cash, you are out of business.

Cash is so important to a company that there is a financial statement dedicated to it – The Statement of Cash Flows. The Statement of Cash Flows discloses the Cash Flows from Operating Activities, Cash Flows from Investing Activities and the Cash Flows from Financing Activities.

These three categories of cash flow correspond to the Operating, Investing and Financial ratios that together give us the Return on Equity ratio.

The ultimate measure of a company's performance:

- $\text{Return on Equity} = \text{Operating Ratio} \times \text{Investing Ratio} \times \text{Finance Ratio}$
- $\text{Net Income} / \text{Sales} \times \text{Sales} / \text{Assets} \times \text{Assets} / \text{Equity}$

These key ratios are the gears that drive Return on Equity. The faster each of these gears turn the higher the Return on Equity.

It is easy to see that the more Net Income a company has relative to its Sales volume the more profit the company will make. It is also easy to see that generating more Sales with fewer Assets is positive for a company. The Operating Ratio and the Investing Ratio combined net out to Return on Assets = Net Income / Assets. The higher the Return on Assets the better.

The three ratios combined, net out to Return on Equity = Net Income / Equity.



Management's objective is to achieve the highest Net Income with the lowest Equity thereby generating the highest Return on Equity. The key ratios do not operate in isolation. They are like gears that mesh. Companies operate in unique competitive environments and managers need to understand how their key ratio gears mesh in their particular competitive environment. Equipped with this understanding, management's goal is to design and implement high leverage policies that will optimize the performance of the Operating, Investing and Finance Activities of the company and generate the highest Return on Equity. In addition, these same High Leverage Policies will also maximize positive cash flow.

Keep your focus on the key ratios and cash flow will take care of itself.

This appears to be counter intuitive, but you will see how the high leverage policies that you put in place to manage the key ratios also drive positive cash flow.

Cash Flow & Leverage Points

Leverage points in business are like gears on a bike. Gears allow the rider to take advantage of the "magic" of leverage. Riders can select the gear that makes it easy to get started and they can then select the gear that matches their pedal strength with the incline and wind conditions. They can choose the gear that makes the ride easier or they can choose the gear that achieves the highest speed when they pedal full out.

In the world of business, managers have the same opportunity to achieve leverage through gearing. Companies have asset, liability and equity categories. These are the "gears" that they leverage to turn a profit and maximize positive cash flow.

The various categories serve the same purpose as the gears on a bike. They provide the flexibility to manage different competitive situations. The asset categories are the larger gears on the bike that drive the smaller liability and equity gears. The liabilities and equity mesh with the assets to create the amount of leverage required in a particular competitive situation.

Consider a company where the only asset is cash. In this "one gear situation" there is no opportunity to leverage with liabilities to take advantage of opportunities that may present themselves in the market. In a cash only company, products are purchased and sold with cash. Accordingly, the company needs to keep enough cash on hand to purchase enough products to meet the demands of its next sales cycle. Then they need to have additional cash on hand to pay for larger product orders to meet a spike in sales demand. Then there needs to be even more cash on hand to pay for larger orders if product lead times increase.

All this cash needs to be liquid. It cannot be invested in GICs (*Guaranteed Investment Certificates*) and earn interest because it needs to be accessible immediately. The company foregoes the opportunity to earn interest income, and some of the cash earned that could have been distributed to owners, needs to remain in the company to fund the cash requirements.



Either way, the company's equity position and cash on hand are much higher than they would be if the company had the opportunity to employ non-cash asset categories and liability categories. But what are the types of asset, liability and equity categories that give companies the flexibility and leverage they need to take full advantage of different market opportunities.

Cash Flow & Asset, Liability & Equity Categories

When a company's only asset category is cash, they are required to carry a disproportionate amount of cash on hand to fund its operations. This requirement could be reduced significantly if the company got credit from its suppliers for the purchase of stock for resale and the purchase of its non-wage operating expenses. The company would carry less cash and have liabilities in the form of Accounts Payable to suppliers.

Supplier credit typically does not have an interest cost, so the company's operating ratio Net Income over Sales will not be affected. The cash that is no longer required can be returned to shareholders. This will reduce the equity that is required in the operation. With the same Net Income being earned with less equity, the company's Return on Equity will see an immediate improvement.

Now if our cash-only company knows that they can increase their customer base by selling on credit, they will add Accounts Receivable to the assets they carry. Unlike Accounts Payable, which has a positive impact on cash, Accounts Receivable has a negative impact on cash. However, if the Accounts Receivable are with credit worthy customers, they can be levered at a bank or other financial institution. Financial institutions will margin a percentage of the Accounts Receivable and provide an Operating Line of Credit equal to the margined amount. Say the margin percentage negotiated is 80%. The financial institution will provide an operating line of credit equal to 80% of the Accounts Receivable. This frees up a percentage of the cash that was needed to finance the Accounts Receivable. There is an interest cost to an operating line of credit, so there will be a negative impact on the company's Operating Ratio that should be more than offset by the increase in Sales by offering credit to customers.

Our cash-only company may also decide to carry a stock of Inventory for resale. With Inventory there are two leverage points: Accounts Payable to suppliers and Financial Institution Margining. The company may not need the additional liquidity. But if they do, they may be able to access an Operating Line of Credit.

Cash Management Dashboard Measures

Ratios are excellent dashboard measures because they are so easy to understand and relate to. Ratios are short so they do not take up much room on a dashboard. Thresholds can be set for Ratios so they can function as gauges like a tachometer, turbo boost, fuel gauge, or an oil pressure gauge in a car.

The ratios that are used to manage cash flow are the universal ratios that measure the interaction of your company's asset, liability and equity categories. These ratios are subsets of the key operating, investing and finance ratios. While the ratios are universal because the definitions apply to every company, the threshold rate of turnover is unique to a particular company.



Managers set the threshold rate of turnover and design the High Leverage policies required to meet or exceed the threshold rate of turnover for each ratio. Lenders to the company also have thresholds that they need to see the company achieve or exceed to stay within borrowing covenants.

The dashboard ratios we are talking about are:

- Debt to Equity = Liabilities / Equity (Share Capital, Contributed Surplus, Retained Earnings)
- Current Ratio = Current Assets / Current Liabilities
- Quick Ratio = Cash, Marketable Securities, A/R / Current Liabilities
- Accounts Receivable Days = Average Accounts Receivable / Annual Sales x 365 Days
- Inventory Days = Average Inventory / Annual Cost of Goods Sold x 365 Days
- Accounts Payable Days = Average Accounts Payable / Annual Purchases x 365 Days

These ratios are not daily dashboard measures as they are derived from financial statements which at best are produced monthly.

The ratios are a “Management by Exception” tool. You only need to investigate the ratios that are out of line. Say the Accounts Receivable Days are within an acceptable range but the Inventory days are climbing. The focus will be on why there is an increase in Inventory relative to Cost of Goods Sold.

Agreements with lenders will have ratio covenants. Say a 2 to 1 Debt to Equity Ratio and a 1.5 to 1 Current Ratio. The covenants are negotiable but in a good lending relationship the ratio thresholds agreed on are the same thresholds that the company would normally be operating at. There will be no cash leaks when all the ratios are in line with the turnover thresholds. Manage the ratios and cash flow will take care of itself.

Cash Management and Cash Patterns

Over time, cash flows form a pattern. The pattern formed corresponds to the dynamics of a company's business environment. Positive cash flow environments are those where the cash inflow from sales transactions always occurs ahead of the cash outflow for the costs of the sales. Negative cash flow environments are those where the costs associated with the sales transaction are paid before the customer payment for the sales transaction is received.

Companies with short sales cycles, when sales transactions start and finish throughout the day, who pay their expenses over a period of weeks or months have a positive cash pattern. Gas stations, restaurants and grocery stores are examples. Companies that provide services on a retainer basis also have a positive cash pattern.

Positive cash pattern companies can have fluctuations in their patterns due to seasonality or fluctuations in demand from one location to another. Positive cash pattern companies will show a build up of cash until funds are distributed to owners or used to expand the operation.



At the other end of the spectrum are companies like film producers and long-term project construction companies. These companies consume cash while they are ramping up projects. They don't bill their customers until they complete a percentage of their scope of work or reach an agreed-on milestone in the project. Billings are typically net of a holdback that is not collected until well after the project is completed.

Cash patterns are seldom smooth in a negative cash pattern operation. This is because the billings take time to prepare, there is no rhythm to them and customers are not quick to pay. In the meantime, workers, sub-contractors and suppliers are paid on a regular basis. Cash patterns can vary for different business units within a company. A supplier of residential building products may sell to both retail customers that pay cash and contractors who buy on credit.

Knowledge of a company's cash patterns makes for a better interpretation of dashboard measures. When all the ratios on the dashboard are in line, managers can be confident that the cash pattern will repeat. When a ratio or group of ratios are out of line, managers can use the variance to predict the effect on the cash pattern.

With the knowledge of their operation's cash pattern, managers are better equipped to adjust to a change in dynamics such as entering new markets, changes in product or service mix, changes in pricing, changes in customer mix, or changes in demand and required financing needs.

Cash Flow – The Cash Conversion Cycle

A simple and very informative use of turnover ratios for companies that sell on credit and carry inventory that is purchased with credit is the Cash Conversion Cycle. The Cash Conversion Cycle tells you how many days you need to wait for cash to become available to use in your business.

The lower the Cash Conversion Cycle, the faster cash is moving through your business. The faster cash moves through your business, the less cash you need to fund your current level of operations and the more cash you will have available to finance growth.

The formula for the Cash Conversion Cycle is:

- $\text{Accounts Receivable Days} + \text{Inventory Days} - \text{Accounts Payable Days} = \text{Cash Conversion Cycle}$

Consider these two scenarios:

105 Day Cash Conversion Cycle

- Inventory turns over 4 times per year: $365 \text{ days} / 4 \text{ turns} = 90 \text{ Days}$
- Accounts Receivable turns over 6 times per year: $365 \text{ days} / 6 \text{ turns} = 60 \text{ Days}$
- Accounts Payable turns over 8 times per year: $365 \text{ days} / 8 \text{ turns} = 45 \text{ Days}$

Cash Conversion Cycle is $90 \text{ days} + 60 \text{ days} - 45 \text{ days} = 105 \text{ days}$



When high leverage policies are put in place to increase both the Inventory and Accounts Receivable turn over the Cash Conversion Cycle is reduced to 60 days.

60 Day Cash Conversion Cycle

- Inventory turns over 6 times per year: $365 \text{ days} / 6 \text{ turns} = 60 \text{ Days}$
- Accounts Receivable turns over 8 times per year: $365 \text{ days} / 8 \text{ turns} = 45 \text{ Days}$
- Accounts Payable turns over 8 times per year: $365 \text{ days} / 8 \text{ turns} = 45 \text{ Days}$

Cash Conversion Cycle is $60 \text{ days} + 45 \text{ days} - 45 \text{ days} = 60 \text{ days}$

You can see in the 60-day Cash Conversion Cycle that the increase in Inventory turns from 4 to 6 per year made the biggest difference in cash conversion days. Of course, accelerating the Accounts Receivable turnover also brought more cash into the business.

It is tempting to stretch out payments to suppliers and thereby reduce the Accounts Payable turnover and increase your Average Accounts Payable Days. While this is another way to reduce your Cash Conversion Cycle, it is usually a low leverage policy given the damage that it is likely to cause to your relationships with suppliers.

Short Term Cash Flow Projections

Projecting a company's short term cash flow is a straight forward exercise. The accuracy of short term cash flow projections is generally better for companies with short transaction cycles and a low cash conversion cycle number.

Short term cash flow projections are less accurate for companies with long transaction cycles, high cash conversion numbers and large billings relative to their total sales. In these environments, it is hard to predict when billings will go out. The billings are usually complex and require levels of approval before a customer issues payment.

In cash projections the cash out flows are more predictable than cash inflows. The simple explanation being that a company has more control over the cash it spends than the cash that it earns.

The cash position at the end of a week is the shortest practical time interval for a short term cash flow projection. The categories of inflows and outflows will vary from company to company but the following template is a good representative of a short term projection format.



Short Term Cash Flow Projection

	Wk 1	Wk 2	Wk 3	Wk 4	Wk 5	Wk 6	Wk 7	Wk 8
Inflows								
Cash Sales	10,000	9,000	11,000	10,000	8,000	11,000	10,000	9,000
A/R Collections	40,000	42,000	41,000	45,000	44,000	42,000	43,000	40,000
Advances from Shareholders					5,000			
Total Inflows	50,000	51,000	52,000	55,000	57,000	53,000	53,000	49,000
Outflows								
Vendor payments for Inventory	23,000	22,500	23,200	24,000	23,000	23,500	23,300	23,500
Sub-contractor payments	3,000	3,200	1,000	1,500	1,000	1,300	1,200	1,000
Payroll		30,000		30,000		30,000		30,000
Payroll remittances			4,500		4,500		4,500	
Facility Rent	8,000				8,000			
Equipment lease payments		1,000				1,000		
Prepaid Insurance							500	
Other General & Administration			2,000				2,000	
Interest				700				
Corporate tax installments				3,000				
GST/ PST			2,500				3,000	
Asset purchases					4,000			
Advances to shareholders								
Total Outflows	34,000	56,700	33,200	59,200	40,500	55,800	34,500	54,500
Net Inflow (Outflow)	16,000	-5,700	18,800	-4,200	16,500	-2,800	18,500	-5,500
Opening Cash Balance	10,000	26,000	20,300	39,100	34,900	51,400	48,600	67,100
Closing Cash Balance	26,000	20,300	39,100	34,900	51,400	48,600	67,100	61,600

The projection is rolled forward on a weekly basis. It should be tested against the cash management dashboard ratios and the company's long-term finance model.



Cash Flow Modelling

Computer simulation models allow company managers to test ways to achieve more in their current environment, test resilience in the wake of changes, and test alternative plans, policies and procedures.

Dynamic models serve as management flight simulators in which management assumptions, decision and policy choices can be tested without fear of crashing the company.

Excel based models, while not as robust as coded models, are powerful simulation tools. With an Excel based model, a company's integrated financial statements can be simulated.

From a cash flow perspective, integrated financial statement modelling has many benefits. Rather than standing alone, the change in cash position is integrated with the related Income Statement and Balance Sheet. Because the three financial statements are replicated in an integrated model, the key operating, investing, and finance ratios along with the company's dashboard ratios can be calculated.

This means that when scenarios are run through the integrated model, managers can see the change in cash position and they can see the factors that contributed to the change. They see both the impact on the account balances in the three statements and they see the impact on their ratios. They will also see the impact on interest expense if the company is in a borrowing arrangement. This is the power of integrated modelling.

The DNA of a model is determined by the level of aggregation, the level of integration, and the assumptions that are used in the design and construction of the model.

Aggregation refers to the schedules and reports that feed into the integrated financial statement model. Say we have a company that works on projects and this company has a backlog of projects to be completed and a front log of projects that they are pursuing. The backlog of projects and the front log of projects being pursued can be aggregated with the company's integrated financial statement model. By using a factoring formula to model the probability of award, each project in the front log can be modelled. When the backlog and front log model is linked to the integrated financial statement model any changes in the backlog front log model will automatically update the financial statement model.

Not every account balance in an integrated income statement, cash flow, and balance sheet model should be integrated for the overall model to be effective. You may know that the scenarios that you are running through the model will not affect your Rent expense or your Prepaid Expenses. These accounts can be left static in the model.

Assumptions such as the Days to Collect Accounts Receivable, Days to Turn Over Inventory, and the Days to Pay Accounts Payable can be built into the model or they can be treated as drivers.

You can build in an assumption as to the Contribution Margin that will apply to your product / service offering or you can make this a driver in the model. Revenue is a universal driver in every model. Change the Revenue amounts in the model and the Income Statement, Cash Flow Statement and the Balance Sheet are automatically updated along with the ratio calculations. Interest rates on Operating Lines and



other loans, Contribution Margin percentage and Gross Profit percentage are also popular drivers in financial statement models. With Contribution Margin as a driver, modelers can test Pricing Strategies and Volume / Margin trade off scenarios.

The impact of investments in assets and cash distributions to shareholders are standard model inclusions.

Because a model replicates a company's financial statements, they are rolled forward at the end of each month after they are updated with actual results and reconciled to short term cash flow projections.

Models show managers when they will need cash and when cash is building up. Modelling is an indispensable tool for testing the leverage in policy decisions and it is the basis for borrowing decisions and cash investing decisions.

Cash Investing - Laddered GICs

When a company has a significant amount of cash on their balance sheet that they may or may not need to fund their future operations, they have a dilemma. They want the cash in liquid form in case they need it right away. But if it turns out that they don't need the cash for a period of time, the cash will sit on the balance sheet and not earn any interest. A resolution to this dilemma is a laddered GICs program.

With a Laddered GICs program, cash is available on a short-term basis and interest is earned on the cash reserves. Here is an example of a Laddered GICs program. The company in our example has \$360,000 in cash to put in a Laddered GICs program. The liquidity target is to have \$60,000 of cash available at the end of each month. To hit this target, they decide to ladder 6 GICs with 30 to 180-day terms over a period of 6 months. They purchase the 6 GICs for \$60,000 each at the beginning of Month 1.

GIC # & Term	Due End of Month 1	Due End of Month 2	Due End of Month 3	Due End of Month 4	Due End of Month 5	Due End of Month 6
GIC 1 30 Day	\$60,000					
GIC 2 60 Day		\$60,000				
GIC 3 90 Day			\$60,000			
GIC 4 120 Day				\$60,000		
GIC 5 150 Day					\$60,000	
GIC 6 180 day						\$60,000
Month End Cash Available	\$60,000	\$60,000	\$60,000	\$60,000	\$60,000	\$60,000

In this laddering program there is a \$60,000 GIC coming due every 30 days. When the 30-Day \$60,000 GIC 1 reaches maturity at the end of Month 1, the company has the option of buying another GIC or depositing the \$60,000 in their cash account. If they decide to buy another GIC, they can maintain the same 30-Day maturity cycle by purchasing another 180-day \$60,000 GIC.



Flexibility in GIC Laddering

At the end of Month 1, the company may project that they need \$120,000 in cash in 60 days at the end of Month 3. To meet this cash requirement, they use the cash from GIC 1 to buy GIC 7, a 60-day GIC. The Laddering Program will look like this.

GIC # & Term	Due End of Month 2	Due End of Month 3	Due End of Month 4	Due End of Month 5	Due End of Month 6
GIC 2 60 Day	\$60,000				
GIC 3 90 Day		\$60,000			
GIC 4 120 Day			\$60,000		
GIC 5 150 Day				\$60,000	
GIC 6 180 Day					\$60,000
GIC 7 60 Day		\$60,000			
Month End Cash Available	\$60,000	\$120,000	\$60,000	\$60,000	\$60,000

At the end of Month 2, GIC 2 matures. The company can use the \$60,000 in cash from GIC 2 to buy a 150-day GIC that will mature at the end of Month 7. This will maintain their 6-month laddering program and their policy of having \$60,000 in cash available at the end of each 30-day period.

Historically, interest rates are higher on longer term GICs. As the laddering program evolves, more 180-Day GICs will be purchased and the interest earned should be higher.



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