Working Capital Management

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Lecture - 05
Approaches of Working Capital Management – II

Welcome students. So in the last part of discussion we were talking about the different approaches of financing of current assets or say fulfilling the working capital requirement and we discussed 3 approaches under which the current assets can be financed. So these approaches were like conservative approach, aggressive approach and hedging or matching approach which is in between the two conservative and aggressive.

So we saw that the 2 approaches that is conservative and aggressive approach have 2 extremes. In one the cost is very high so profit is less. Risk is also low. In the second approach say aggressive approach cost is low, profit is high, but the risk is also very high. So we saw and we could understand that following either of the two approaches will take us to on the one extreme and that is not desirable, that is not required.

And we should try to avoid the extremes. So we have to find out the middle path and for the middle path I told you that we can follow the hedging or matching approach and that way if you do that, then the current assets will be pure current assets, that is a fluctuating current assets will be financed from the short term sources of funds and the permanent current assets as well as the fixed assets they will be financed from the long term sources of the funds.

So there is a complete hedging. There is a complete bifurcation as far as the assets are concerned and the sources of funding these assets are concerned. So that is the one thing in this case now we will be taking going further and when we go further we will be talking about that how to utilize these approaches effectively in the say day to day decision making and how different sources of the funds depending upon the their cost, their flexibility, risk, and some other factors is going to affect our financing decision.

As I told you in the previous class also that since we are talking about the short term finance, it is a management of the short term finance, it is a management of working capital. So if we are going to pay extra cost on managing the working capital or the current assets we are going to increase the cost of production because financial cost is going to increase. So total cost of production of the product is going to increase and the margins as well as the selling price will be affected in the market.

But if you are able to manage the financial cost by resorting to the say appropriate sources of the finances starting from the spontaneous finance and then short term finance and then if the need arises finally then we can say in very few cases we should go for the long term sources of the funds. In that case, whatever the saving on account of the financial cost we are able to have that will directly translate or that will add up to the increased profitability.

Immediately that adds to the increased profitability because there is no leakage of the whatever we have saved because time period is very short. We are talking about say days, weeks, fortnights and maximum months. So within a few months or within a few weeks or say fortnights the cost which is saved here that does not go here and there. We are able to save the cost and that cost directly adds to the profitability of the firm.

So now we will see that how it happens and how it works. So we will take a say an example a situation not example I would say it is a situation and then we would try to find out that if we are going to say save the cost, maybe we are going to have the funds from the optimum sources means without following any kind of extremes. Either we are following the conservative approach nor we are following the aggressive approach.

We are having a trade-off between the two that is in terms of the trade-off you can say trade-off in terms of the profitability and risk. So we can say that we are going to take the moderate risk and we are going to have the moderate profitability or the optimum profitability because by taking extreme risk you can increase the profits but the risk is going to spoil the firm if the firm is technically insolvent.

If they are not able to pay its obligations on time then what will happen that it will spoil the overall financial reputation of the firm. On the other side if we are not able to save up on the cost it means say we are resorting to the long term sources of funds. Cost is increasing then profit is going down maybe the risk is also going down, it is also decreasing. So now in this case we see that we have to go for a middle path or the middle approach and that is why we call it as the trade-off between the profitability and the risk.

When you call it as the trade-off between the profitability and the risk, so how to have that trade-off right? So let us see a situation I would discuss a case, small case or situation with you and before moving to that case or that situation we will have to assume certain things right? When we are talking about the management of working capital one thing I would like to share with you that working capital is largely required in the manufacturing organizations right.

We require the short term finance or management of working capital in the manufacturing firms because in the manufacturing firms only we require the working capital. Say for example you talk about the services sector. In the services sector we require working capital but not that much as we require in the manufacturing sector. So management is not that much required in the services sector. Say for example when we try to have a service from some service vendor or service provider we pay him part of that service in advance.

For example we want to book a say **say** a caterer for a particular function or maybe a tent house owner for a particular function or something like that. So in that case when we go to him for booking he would say okay on this date or something like that I will serve you, I will fulfill your requirements. So just to say have a you can call it as a confirmed order please give me say maybe 50% or maybe sometime 30, 40% in advance.

So he takes money in advance from us and that money which he takes advance from us he uses that as the working capital right. But in case of the manufacturing sector when we are going to buy a color TV or we are going to buy a refrigerator, we are going to buy a car or we are going to buy a computer, we are not going to provide as the buyer or as the customer. We are not going to provide the working capital to the firm.

No firm ask for that if you want to buy a computer you give me half of the money in advance and then remaining half of the money you can give me when the computer will be delivered. That does not happen. That product is readymade. It is available in the shop. Go there buy it and start using it. So you buy the product 100% and paid for the 100%. But during the manufacturing process the working capital is required along with the long term funds.

So in the services sector you do not need the working capital as such so we need the say working capital in the manufacturing sector right. So when you need the working capital in the manufacturing sector that is in the large amount so it means there is a need to manage the short term funds, the working capital as there is a need to manage the long term funds right. Now to discuss this case we will take 3 important assumptions.

First assumptions, first assumption is that we are dealing with a manufacturer, manufacturing firm. Means if you are studying the working capital management study it in the perspective of manufacturing industry. Second assumption we are going to take here is current assets are less profitable than the fixed assets. As I told you in the previous class I told you that current assets are less productive as compared to the long term assets or the fixed assets.

So we should invest as minimum as possible. We have seen in the previous classes or in the previous discussion that inventory is not producing anything, credit sales is not producing anything. So there is no return or very less return and there is a cost. So you can say that when you compare the say current assets or short term assets with the long term assets or with the fixed assets the current assets are less productive.

Either they are not at all productive or if they are productive they are less productive as compared to the fixed assets so this is the second assumption we are taking here and the third assumption we are taking here is that short term funds have less cost than the long term funds. So I have already told you that in India also we are following the term structure of interest rates and term structure is means term structure says that the interest on the loan is directly linked to the maturity period.

Longer the maturity period, you have to pay the higher rate of interest. Shorter the maturity you have to pay the lesser rate of interest. So since for fulfilling the working capital requirements or the short term funds requirements we are borrowing the funds for the shorter period, maybe for a few months or maybe sometimes for weeks even. In that case we are paying the lesser cost of the funds.

So it means this is our third assumption that short term funds are less costly as compared to the long term funds and in the working capital or to fulfill the working capital requirements we always use the short term funds or the funds from the short term sources, spontaneous sources and we hardly resort to the long term sources if means if it is possible to manage the show with the spontaneous and short term sources of funds is much better.

So we are taking the third assumption that we use the short term funds for meeting the working capital requirement and these funds are less costly as compared to the long term sources of the funds. So these are the 3 assumptions. On the basis of these 3 assumptions we will be discussing this case. So we have taken these 3 assumptions right and once we have taken these 3 assumptions so on the basis of 3 assumptions we will test a case.

And we will try to see that how the trade-off between the say long term and the short term sources helps us to manage the cost of funds, profitability, and the say the risk. Here now to understand this case properly and clearly we will start with say a ratio and this ratio will help us to understand the effect of the level of current assets on the profitability risk and a trade-off between the two right? So it means what should be the level of current assets?

As I told you the our assumption is that current assets are less productive as compared to the fixed assets. So it means lower the extent of current assets lesser the say magnitude of the current assets in the firm, more profitable the firm should be and more higher the magnitude of the current assets in the firm lesser profitable the firm should be or will be right.

So we will have to see now the effect that if you are given a certain level of current assets in the balance sheet then we will see what is the profitability of the firm, what is the liquidity position of the firm and what is the net working capital position of the firm. If we increase the level of current assets so it means when we are increasing given the level of total assets remaining the same if we increase in that total say amount of the current total assets if you have the given level of the current assets what is the profitability?

What is the net working capital? If you increase the level of current assets by not increasing the total assets then whether the profitability is going down or not; as per our assumption it should go down and if you decrease the level of current assets the profitability of the firm should go up. So whether it happens or it does not happen just to check this particular situation we have a case here and in this case we will start understanding this situation by working out a ratio and that ratio is the here we have to have this ratio which is given to you here and this ratio is the, the ratio of current asset to the ratio of current assets to total assets.

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This is the ratio of current assets to total assets. So what is the extent of current asset to total assets right? It may be possible that this ratio is say 0.5 is to 0 point out of the total assets so it 0.5:1. So if it is 0.5:1 it means you can say that 50% of your total assets is the current assets. This ratio can be say even 0.4:1. So it means 40% of the total assets are the current assets.

So depending upon and if it is say beginning is this and we are reducing it to this level or if you increase it to this level that is 0.6:1 so you can say that it will have a different situation. So ultimately you have in the beginning you have this ratio then we reduce the level of the current assets the profit should go up and when you increase the level of current assets profits should go down.

So studying the say impact of level of current assets on the profitability we will start or we will understand with the help of this particular ratio and this ratio is current asset to the total assets. Now if you understand this ratio then we will move further and let us take a situation that first of all we will study the effect of increase. We will we are given a level of current assets. Then we will increase the level of current assets. Then we see the impact on the profitability.

Then in the second case we reduce the level of current asset then we will see the impact on the profitability. We will keep the level of total assets same. Only we will change the proportion of current assets will increase, will decrease, and then we see how much impact it has on the profitability right. Now for example this is the balance sheet.

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How?

Balance Sheet of ABC Ltd.

Liabilities	Amount ($ millions)	Assets	Amount ($ millions)
Share Capital	6,000	Fixed Assets	8,600
L.T. Debt	4,800		
Current Liabilities	3,200	Current Assets	5,400
	14,000		14,000

(Company earns 2 p.c. on Current Assets and 12 p.c. on Fixed Assets)

In this balance sheet we are given the say two kind of the assets on the asset side. This is giving you the asset and the liability side. We have the liabilities like we have the share capital which is say 6000 million rupees you can say. Then it is a long term debt or the long term loans which is

4800 millions and then we have the current liabilities that is somewhere 3200. So it means total amount is 14000 million rupees millions that is the liabilities.

And in the asset side if you look at we have the fixed assets. We have the current assets, two components and fixed assets are 8600 million rupees and current assets are 5400 million rupees again making it as a total of the 14000 million rupees as the total asset. So the balance sheet is balanced right. Now let us take this assumption that company earns 2% on the current assets and company earns 12% on the fixed assets right.

Company earns 2% on the current assets and company earns 12% on the fixed assets because current assets are less productive as compared to the fixed assets so we have the we have assumed this much rate of return because even the company in the real sense in the real scenario the company has not even earned 2%. As we have seen in the previous discussion how much companies are earning on inventory. How much companies are earning on credit sales.

How much companies are earning on the advance payments. Companies are earning only on the marketable securities. Companies are not earning even on the cash but still we are taking the assumption that current assets are helping us to earn 2% and fixed assets are giving the return of 12%. Now this is the case so now we will see that on the balance sheet which we had, look at this balance sheet.

On the basis of the extent of current and fixed assets and on the basis of the rate of return there we have you see that now what the company is earning and what is the ratio of current asset to total assets and what is the net working capital situation. So if you see here in this the ratio of the current asset to the current assets are here 5400 and total assets are 14000 so this way if you calculate the ratio this works out as say 38.6%. The ratio of current asset to fixed assets is 38.6%.

We have calculated the ratio. We will begin with calculating of the ratio of the current asset to the total asset, that is 38.6% and on the basis of the rate of return which we assume 2% and 12% if you work our the profit company's profit on the total assets we have worked out the company's

profit on the total assets and that profit is say 1140 million rupees or dollars whatever you call it as. So this is 1140 millions.

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Solution

- Company's profit on Total Assets =
  [(.02 X $ 5,400) + (0.12 X $ 8,600)]
  =$ 1,140 million

C.A. to T.A. Ratio = 5,400/14,000 = 38.6%

N.W.C. = 5,400 – 3,200 = $ 2,200 million

Now this is the ratio 38.6%. This is the company's profit 1140 millions and net working capital is 2200 million dollars. Net working capital is 2200 million dollars. So it means we have the total situation is clear to us that we have this much level of current assets and fixed asset. Total is 14000, earning is 2%, 12% and then we have calculated 3 things that is the profit on the total asset 1140 million dollars.

Then current asset to total asset ratio is 38.6% and the net working capital now. Net working capital means because how we calculate the net working capital? We have seen is that is the net working capital is equal to current assets minus current liabilities. Now in this case current assets minus current liabilities. We have seen the current asset level is 5400 and current liabilities level is 3200. So it is 5400 and it is 3200. So the net working capital is dollar 2200 millions.

This is the net working capital. It means to finance the total level of current assets that is to the extent of to the tune of 5400 this much amount is coming from the spontaneous as well as the short term sources of finance and remaining means we are fully exhausted spontaneous finance we have fully exhausted the short term sources of finance. It means the remaining amount that is to the tune of 2200 million dollars will come from the long term sources of the funds.

Net working capital means it is the it is synonymous to net working capital means that the long term sources of the funds. How much funds are coming from the long term sources that is called as the net working capital. If the net working capital is zero so you can say current assets are equal to current liabilities. If the net working capital is negative so you can say current assets are less than the current liabilities.

But when the current assets are more than the current liabilities so it means current liabilities that is spontaneous and short term finance will provide certain amount to fund the total current assets and remaining balance if still required that will come from the long term sources. So we have seen this situation and we are here without making any changes to the balance sheet having the composition of the current asset that is 5400 million dollars and fixed assets 8600 million dollars and this is the profitability.

This is our net working capital and this is the ratio of the current asset to total assets. Now we make a change to the current assets. When you make a change to the current assets we add in the current assets some amount of 600 million from the fixed assets. We change the composition. We are keeping the total as the same and the total is that is 14000.

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So it means now what we are doing we are increasing the level of current asset from the 5400 to 6000 by adding up 600 million dollars more. So it means what will happen now? The current assets will become here if you talk about the current assets will become now 6000 and the long term assets will come down to 8000, total remaining the same and now the ratio will change. If you now see the ratio sorry total assets will remain the same.

It is not 8000 but 14000 means this is the fixed asset is 8000. So the total asset is 14000. So it is the ratio between 6000 and the 14000 and if you find out the ratio works out as how much that is 42.9%. This is the new ratio that is the 42.9% is the new ratio. We have changed the level of current assets and current assets are now 6000 and total assets remaining 14000. The balance is the fixed assets. Earlier it was 5400 and 8600. Now it is 6000 and 8000.

Total remaining the same as 14000. Now you look at now you have changed the ratio between the current asset to total assets extent of the current assets has been increased. Now look at the impact up on the profitability. The profitability which was say earlier some you can see that the what was the profitability earlier? This was 1140 million dollars and now the profitability has come down to 1080 million dollars but the net working capital has improved.

Earlier the net working capital was 2200 million dollars. Now it has become 2800 million dollars. So our net working has improved. Liquidity has improved but the impact of this increased liquidity is that your profit has come down. Risk has also come down. Profit has come down. Liquidity has improved and ultimately it is impacting your profitability. So it means because of the change in the this ratio your net working capital has also increased.

Earlier only this 2200 was coming from the long term sources. Now the contribution of long term sources to meet the short term requirement of the current assets the requirement has gone up by 600 million dollars and this has now become 2800 million dollars which will come form the long term sources. It means when you are increasing the proportion of long term sources it means you are increasing the cost. When the cost is increasing ultimately the profit will go down.

We have seen in this case the profit has come down from the 1140 million dollar to 1080 million dollar however this liquidity has improved. So choice is ours. Now in this case if you reduce the now the ratio say from 6000 it was 5400, we increased to 6000. Now you can bring it down by 600. If you bring it down by 600 so what will be the level of your current assets here? The level of current assets will be 4000. Total assets remaining same. It will be 4800.

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So 4800 divided by the 14000 now the ratio will change. If you change the ratio, so the new ratio will be here if the new ratio will be 34.3%.

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For example the level of current assets decreased by $600, thereby increase in fixed assets by the same amount.

Effect of Change will be:

	Initial Value	Value After Inc.	Value After Dec.
Ratio of C.A.s to T.A.s	38.6%	42.9%	34.3%
Profit on Total Assets	$1,140	$1,080	$1,200
NWC	$2,200	$2,800	$1,600

Now this is the new ratio and if you change this ratio this is this ratio is 34 point we have already calculated this ratio, 34.3%. This is the new ratio 34.3%. So earlier it was the ratio, after increase this is the ratio and after decrease this is the ratio. Once you have decreased the level of current assets in the total assets or in the total basket of the assets so it means current assets being less productive, less profitable your profit should go up but the net working capital will go down.

Earlier the net working capital was 2200 means 2800. It was 2200. We increased it to 2800 and now we are going to decrease it and when you are going to decrease it, it means you have reduced the level of current assets by 600. So it is going to reduce by the same amount and your now net working capital is going to be 1600 million dollars. So what is happening? Liquidity is going to go down. Liquidity is going down it means the risk is increasing.

When the risk is increasing so ultimately the profit should also increase and if you look at the profit certainly we have seen, we have calculated if you it is calculated there. So it means the profit has gone up and the profit here is that is which was initially 1140 million dollars. It had come down when we increased the level of current asset. It had come down to 1080. But once we have increased, decreased the level of current assets it means now the profit has gone up and the say extent of the profit on the total assets is 1200 dollars.

So it means you can easily find out that if you increase the proportion of costly assets your profit will go down but risk will also go down. Net working capital increasing so risk will go down. But if you decrease the say the extent of costly assets in that case your profit will increase but the risk will also increase. So we have seen the situation in the balance sheet. Initial value we had seen that the net working capital was 2200.

We increased the net working capital to 2800 and then we decreased to 1600. Our profit which was initially 1140 million dollars that went down when we increased the current asset to 1080 million dollars and it has gone up when we decreased the extent of current asset and the profit has increased to 1200 million dollars. So by changing the ratio of current asset to total asset you can see that profit is increasing and decreasing.

Net working capital is increasing and decreasing consequently decreasing or increasing the liquidity and at the same time your risk is also going up and going down because net working capital is getting changed. So this is how the extent of the proportion of the current assets impact the profitability of the firm and since it is a very short period of time so any saving which we make on account of the financial cost does not going to drain or say to be misused on any front.

Directly you are going to add up into the increased profitability of the firm because time period is very short and there is no possibility of any leakage. Now we see the next part that is the say change in the your current liabilities level. I told you that change in the current liabilities level when you increase the level of or change the current liabilities level we have seen that current liability or the funds coming from the short term sources they are less productive sorry less costly.

Not productive I would say productive is the relative to assets. So funds coming from the short term sources or the from say spontaneous and short term sources they are less costly as compared to the funds coming from the long term sources because in India as I am repeating that we have the term structure of interest rates. So because of that reason now we will see that if you have more funds from the short term sources in that case your profit will increase because cost of the funds will go down, your financial cost will go down.

But if the funds from long term sources is coming more in that case your profit will go down and ultimately it will impact many things. Risk will also be impacted, the profit will also be impacted, and the other things will also be impacted. So we will see that how it happens. So till now we have seen it from the perspective of the current assets and now we will see it from the perspective of the current liabilities.

And when you see it from the perspective of the current liabilities an increase and decrease in the proportion of the sources of funds; if more funds are coming from short term sources say we have seen the aggressive approach. By using the funds from short term sources we are using the say short term funds to fulfill the even sometime the long term requirements and when you are doing this we are saving a lot on the cost of the funds.

When you are reducing the cost of the funds ultimately your profitability is going to increase but the say you can call it as by product of that is that the risk is also going to decrease because sorry risk is going to increase because you have to be very careful because short term sources of the funds become due to be repaid back to the source very quickly. So we will have to maintain the sufficient liquidity also.

And if you are not able to maintain the liquidity we would not be able to make the payment of these short term funds on the due date and the firm may default and that will be called as the technical insolvency for the firm. But as we have seen in case of the current assets they are less productive. So it means if you reduce the extent of current assets in the total asset the profit is going to increase.

Now we will see the reverse is going to happen in case of the current liabilities. Short term funds are less expensive as compared to long term funds and when you increase the extent of the short term funds into the say funding of the total assets so you will see that the cost of funds will go down. Financial cost will go down and the profitability of the firm will increase and if you increase the component or sorry if you decrease the proportion of the short term funds into the total funds required for the firm so in that case what will happen.

Your cost will increase because more funds are coming from long term sources and long term sources being more expensive more costly impact the profitability of the firm. So now how it will happen we will see by changing the proportion of or the contribution of the funds coming from the different sources and in this case we will have to do means do the same case means same balance sheet, the balance sheet which we had.

The balance sheet is the initial balance sheet we had and the same balance sheet we will be using. Till now we have seen the impact of change in the current assets. Now we will see the impact of change in the say current liabilities especially the sources of funds and then we see that how the profitability of the firm is impacted. But this all we will discuss in the next class. Thank you very much.