Chapter 5  Efficacy of Working Capital Management & Short Term Debt

Working capital management has a crucial impact on a company’s return on capital employed (RoCE) and operating cash flows and hence its credit quality. The key items of working capital, inventory and receivables are part of current assets while supplier payables are part of current liabilities of a company’s balance sheet. Working capital cycle is measured by adding the number of days of inventory to the number of days of customer receivables and subtracting the number of days of payables.

The inventory days, as a first approximation, can be obtained by calculating the ratio of the inventory to cost of production and multiplying the ratio by 365, the number of days of a year. This first approximation assumes all inventory is finished goods. To be more precise, the raw material inventory should be divided by annual raw material purchase, and the resulting ratio multiplied by 365. The finished goods inventory can be calculated from the finished goods inventory and the annual cost of goods produced. The work in progress inventory days can be calculated by dividing the work in progress inventory by the average of annual raw material costs and annual cost of goods produced, and multiplying the resultant ratio by 365. The total inventory days is obtained from the sum of the raw material inventory days, work in progress inventory days and the finished goods inventory days. In summary,

Raw material inventory days = (Raw material inventory/Annual raw material consumption)*365

Work in progress inventory days = (Work in progress/0.5*(Annual raw material consumption + annual cost of goods produced)))*365

Finished goods inventory days = (Finished goods inventory/Annual cost of goods produced)*365
Total inventory days = Raw material inventory days + Work in progress inventory days + Finished goods inventory days

The number of days of customer receivables is calculated by dividing the receivables amount by the annual sales and multiplying the ratio by 365. The number of days of supplier payables is obtained by dividing the payables item in the current liabilities section (including all accrued expenses) of the balance sheet by annual usage of supplier goods and services, and multiplying the ratio by 365. Hence,

Receivables days = (Receivables/ Sales)*365
Payable days = (Payables/ Annual supplier purchases)*365

Putting it all together,

Number of days of working capital = Inventory days+ receivables days – payable days

Obviously, the aim of any corporation would be to keep the days of working capital at the lowest possible level to reduce the cost of financing the working capital requirements. Some companies even manage negative working capital days- which is wonderful if the company is a profitable one. For non profit making entities, negative working capital leads to fear among suppliers that there would not be adequate cash to meet the payable obligations once the inventory of the company gets converted to cash (negative working capital companies typically do not have the normal working capital cycle of conversion of inventory to receivables to cash to payment of payables, but skip the receivables stage).

As supply chains get globalized, these chains can get very fragile on account of companies resorting to just in time inventory management to prevent resources being stuck in working capital financing. When the reliance is on a single supplier or a few suppliers in the same country, any disruption in the supply chain coupled with the company having low levels of
inventory can cause serious disruption in the production chain. Credit analysts must fully understand the supply chain of the companies they are financing, its fragility or strength and its ability to withstand shocks in the global economy.

**Importance of Working Capital Management to Credit Quality**

The credit analyst’s thoughts are on the drivers of return on capital employed (RoCE) (to be discussed in detail in chapter 7), for that is the key factor in the ability of an entity to generate cash to pay for its fixed obligations. Working capital management has a key role in this. Consider the business at a typical love hotel in Tokyo. Guests pay “rest charges” for the usage of a room for a few hours. They pay in cash. There are no receivables. There is no unsold inventory. Every morning, finished goods inventory (of room and services) is made available, which if not sold, has to be written down to zero at the end the day. There are some payables on account of salaries to be paid in arrears. So, every day, on a sustained basis, the company generates cash flow which can be quickly used to pay down the debt taken for creating the facility. There is no need for short term funding to buy inventory or finance receivables. The number of days of working capital is zero or negative on a sustainable basis. And because the same room is used several times over the course of a day, the capital resources are not idle and hence the RoCE shoots up.

Now consider an automobile company in Detroit, USA. Long before the company closes the sale of a car, it must buy steel (“raw material inventory”), bash the metal into a car (“work in progress inventory”) and store the car (“finished goods inventory”) for a few days before moving it to its dealers’ parking lot. The suppliers of steel and other ancillaries would give the automobile maker some time to make the payments (creating the “number of days of payables”). In turn, the automobile maker provides the dealers some time to pay for the
finished goods (creating the “receivable days”). At every stage in the process, there is risk to the creditworthiness of the automobile enterprise. Because the automobile company must buy the raw material, pay wages to convert the raw material into a finished product before it can sell the goods and get cash from the dealer, the enterprise needs working capital financing for the period between procurement of raw material and realization of cash. True, the supplier has provided some time to make the payment for the raw materials - but this benefit is nullified by the time provided to the dealer to pay for the inventory of cars.

In addition, if the supplier is in another part of the world, the automobile company might want to buy and store additional raw material inventory in excess of what he needs for immediate production as a buffer against stoppage of production should there be disruption at the supplier’s end. Stoppage of production can be very costly in some industries - so the purchase and maintenance of additional raw material inventory as an insurance against disruption of global supply chains might be worth it. In fact, the credit analyst analyzing companies where stoppages can be costly should worry if the company is maintaining ultra low inventory to release cash and justifies it under some management jargon.

Contract structures can cause high inventory and high working capital needs - Detroit car makers signed contracts with unions in the 1990s which paid workers whether they worked or not. This ensured that fixed costs were high. The only way to reduce unit cost was to increase volume of production. This increased production had to be offloaded at high discounts to rent-a-car companies. High volume of non-profitable sales lead to further need for unproductive working capital financing, besides leading to the destruction of residual value of the company’s vehicles (which the car makers also guaranteed in some lease agreements through their finance arms).
It is in the area of work in progress inventory that good companies set themselves apart from the rest. In 2008, Honda took less number of hours to produce a car than General Motors. That translates to several days lower work in progress inventory. In the finished goods arena, if the dealers are not able to push car sales, they would be slow to demand fresh finished goods inventory from the car maker, translating into higher finished goods inventory at the producer’s end. Of course, as the technologies for managing supply chains have improved, the car maker would be aware on a real time basis about the sales at the dealers’ end and hence make adjustments to his production schedule and purchase orders for fresh raw material inventory, thus reducing idle raw material inventory days. So, over time, productivity improvement technologies can reduce working capital days and lead to better management of short term resources. This however cannot compensate for longer term loss of competitiveness of a company’s products and associated lower sales.

In the early 1990s it was fashionable to be called a cost cutter who would squeeze suppliers to the very bone by demanding aggressive pricing and payment terms. That would increase the number of days of payables and reduce the short term debt required for working capital financing. Aggressive cost cutters drove their suppliers into bankruptcy. Japanese manufacturers who worked closely with their suppliers were able to manage sustainable increase in working capital efficiencies. In the late 1990s Toyota got into trouble when it forgot its core philosophy of working with suppliers and instead started squeezing them for cost savings- even if those savings were achieved through cutting corners.

Yes, working capital days need to be kept to a bare minimum to the extent that prevalent supply chain technology can permit. Once at the efficiency frontier, any further attempt to squeeze cash out of the chain would be counterproductive and result in loss of long term competitiveness. At the efficient frontier, while keeping an eye on working capital
management for possible further improvements, management’s attention should be focused more on product quality. Excessive focus on working capital management at the efficiency frontier is the first cousin of financial engineering and diverts attention from real engineering.

The credit analyst should worry if working capital days are out of sync with industry norms both on the positive and on the negative side. On the negative side, the issue is obvious- the company’s high working capital days would translate into higher financing requirements and higher interest costs. On the positive side, the analyst must really put a finger on how a company is managing lower working capital days- else the analyst would be in for a shock at some point in the future when the supply chain snaps and grievous costs have to be borne.

**LIFO, FIFO and valuation of Inventory**

As per accounting standards of most countries, inventories can be valued on a first-in first-out (FIFO) basis or on a last in first out (LIFO) basis. FIFO valuation of inventory overstates earnings during periods of high inflation, particularly for companies in the commodity businesses, because the cost of inventory purchased earlier is lower than the inventory purchased later. That lowers the cost of goods produced and inflates the earnings before interest and tax. LIFO accounting is more conservative at it reflects current costs, whether high or low. But it requires write down in value of inventory during periods of falling prices.

Over a period of time, as long as a company is consistent in its inventory valuation methodology, it does not really matter, as a credit analyst is supposed to worry about return on capital employed over a business cycle and not at a single point of time. But an analyst should wonder when a company changes its accounting policy from LIFO to FIFO. The reason is not the consequent overstatement of earnings (though the analyst should estimate that), but the
unhealthy attitude of management towards reported earnings, which might result in nastier outcomes in times to come.

Inventory valuation can get more confusing—leading Aluminum maker Alcoa values its US and Canadian inventory (which accounted for 39% of the total inventory in 2008) using the LIFO method, while it values other inventory using the average cost method.

**Receivables Management**

Receivables management usually takes a back seat compared to inventory management. For credit and equity researchers, two facets about receivables management would be of interest. First, are sales being achieved through promising favorable terms of payment (longer credit periods) which are out of whack with industry norms? Second, what is the quality of the receivables—are they likely to be recovered in full as per terms of payment or is one likely to witness write-offs?

**Channel Stuffing and Receivables Valuation at Sunbeam, Coca Cola and McAfee**

Companies resort to channel stuffing when real sales are not growing and shareholders demand action. Marketing managers, when under intensive pressure, force dealers to accept inventory higher than their requirement so that the company can book additional revenue in a quarter. The dealer might put up with this forced sale because he is offered cash incentives or sharp discounts on his purchase. Else, he might be arm-twisted into taking the supply on account of low bargaining power. Either way, such a business practice is not sustainable. Weakening the financial strength of a dealer is harmful for long term sales as the dealer might go out of business. And if a lot of incentives have been offered for securing the movement of goods to the warehouse of the dealer, it weakens the financials of the company.
Credit analysts should spot possible channel stuffing early, because when the channel stuffing is revealed, the negative energy around the company’s financials and doubts about everything in the reported financials can cause various stakeholders to back out at the same time, potentially causing a default. Channel stuffing is a fraud and can expose a company to regulatory sanctions and fines.

Bankrupt maker of household products, Sunbeam Corporation was involved in channel stuffing among other accounting wrong doings. The company gave financial incentives to dealers in 1997 to take supply of goods before they were needed to meet customer demand. Its wholesalers agreed to hold Sunbeam merchandise over a quarter-end without accepting any of the risks of ownership. The company’s agreement with the wholesaler stated that he could return all merchandise to Sunbeam if he could not sell it and that Sunbeam would reimburse to and fro shipment expenses and other costs such as insurance expenses. The wholesalers actually returned the goods a quarter later. So, the increased revenue disclosed was achieved through wasteful costs such as incentives and cost of shipping the goods. The sharp increase in receivables beyond normal levels resulted in increase in debt to finance those receivables and should have been a pointer to the credit analyst on the suspicious nature of the sales.

Even companies like Coca Cola have been alleged to have been involved in channel stuffing. The company was alleged to have boosted its reported revenues in 1999 (particularly in the Japanese market) by enticing bottlers to take on concentrates beyond what was required. In 2008 the company settled a related lawsuit for $137.5 million without admitting any wrong doing. And channel stuffing can extend beyond physical goods. Between 1998 and 2000, IT security vendor McAfee overstated revenues by $622 million and understated losses by $353 million. The company offered sharp discounts to those distributors willing to hold inventory. When those inventories had to be ultimately returned, the company used its own subsidiary,
Net Tools, to repurchase the inventory (an added reason why one has to look at the consolidated financials of an entity). The company had a partner in crime in IT distributor Ingram Micro, whose profit margins were artificially boosted by its dealings with McAfee. The case was settled with McAfee paying a fine of $50 million and Ingram Micro paying a fine of $15 million. Pharmaceutical major Bristol Myers Squibb inflated its 2001 revenue by $1.5 billion through channel stuffing.

Allied to channel stuffing is the practice of “bill and hold” in which the seller, who has not shipped the goods, books the revenues because the buyer has agreed to take the goods but wants to hold off shipping. At least, this practice does not result in wasteful to and fro shipping costs.

**Payables Management- do no harm**

Creditors should be wary of companies that get into continuous disputes with their suppliers and burn their bridges during such fights. It is not possible for companies to survive at the cost of their suppliers. Because of their bargaining power, companies might be tempted to arm twist their suppliers into accepting unreasonably low margins (which do not generate the required return on capital employed) or extended payment terms. When the supplier gets into financial trouble on account of such disputes, the whole supply chain is drastically weakened. Creditors have to understand that a supply chain survives on the strength of the consolidated financials of the whole chain as well as how the profitability of the supply chain is distributed.

Understanding the credit story of the whole supply chain is fundamental to analyzing its future prospects. If the profitability at the top of the chain is achieved through stealing from the intermediate stages, it will not last. Short cut approaches to cost cutting by tearing up long term supplier contracts look impressive at first sight. But the long term effects are seldom positive.
How much better it is for all stakeholders if supplier prices are brought down by a process of collaboration and supplier involvement in designs rather than through diktats. Creditors need to start worrying when returns on capital targets are achieved through ever nastier disputes with suppliers on operating margin issues and unwarranted increase in payable periods.

The differential supply chain management of General Motors and Toyota is a good example. In the early 1990s, General Motors had an aggressive purchasing manager, Ignazio Lopez, who would get into slanging matches with suppliers by threatening to tear existing contracts and demanding huge discounts. General Motors achieved nothing substantial or lasting through those encounters. Toyota’s relationship with its suppliers took the company from strength to strength. Lopez defected to Volkswagen, but not before GM accused the purchasing manager of giving away trade secrets to Volkswagen. Aggressive cost cutting by Detroit’s carmakers drove suppliers like Visteon, Lear and Delphi into bankruptcy, which imperiled the companies themselves. Toyota got into trouble later when it let go of its collaborative approach in its dealings with suppliers in markets outside Japan. Before it could develop a collaborative relationship with suppliers in countries such as the US, the company took its eye off the ball and focused on growth and market share at all costs.

From a credit point of view, one likes to see increased operating margins coming from increased sale prices, not based on ever decreasing supplier costs. And increase in payable periods, unless it is an industry wide phenomenon, has to be looked upon warily. Suppliers include lessors such as lessors of commercial property as well as equipment.

Prepaid Items in Current Assets and Current Liabilities

Prepaid items on the liabilities side of a company’s balance sheet are generally good for a company. The reverse is true for prepaid items on the asset side. That is because, in the case of
prepaid liabilities, the customer is then providing cash upfront for a portion of his purchases. This implies customer commitment as well as zero cost financing for the company. Customer advances are common in businesses where the time for delivery is far from the consummation of the purchase contract. Industries where one sees customer advances include ship building, construction and real estate. It reduces the risk to the company if the customer gets into financial difficulties after awarding the contract and a portion of the work has been completed. Payments made in advance like a magazine subscription should not be booked immediately but over the life of the subscription. There have been many instances of prepaid items being recorded fully in the income statement immediately.

**How should Working Capital be financed?**

Obviously one cannot have the entire working capital requirements financed by short term debt. It would not give comfort to creditors, particularly if the company is not financially very strong.

For a financially challenged company (we are not referring to a distressed company here), suppliers rely on conversion of inventory to receivables into cash for payment of their obligations. And the suppliers and financiers of working capital need adequate allowance for slippage such as destruction in value of inventory, either due to price falls or obsolescence and non-collectability of some of the receivables.

In the case of strong companies, though theoretically the suppliers and short term lenders rely on liquidation of receivables for payment, money being fungible, it does not matter if the supplier and short term creditors are paid out of overall corporate profitability (the overall profitability it self means that there is cash available after payments to suppliers). In such a case, the short term creditors and suppliers need not worry if the entire working capital requirements are funded with short term debt. Wal-Mart can finance its working capital thus without worry
creases developing on the forehead of the short term creditors and suppliers. In 2009, Amazon’s suppliers did not have to worry about the negative working capital levels of the company (in fact it is a positive bonus which contributed to overall corporate profitability, lower leverage ratios and lower capital employed). But a decade ago, when Amazon was a start up making operating losses, the company was lucky to have a stock market bubble on, which ensured forbearance of all suppliers to its negative working capital situation.

Do not draw comfort from lines of credit- they might be pulled out when you really need them under the garb of some material adverse change clause. Prior to the crisis in the auto industry in 2007, Ford drew its lines of credit and kept it in the form of cash – hence it lived to fight another day. The only way for creditors to invest in such touch and go companies is through convertible instruments where they get a portion of the upside if things turn out alright (so that there is adequate compensation for taking on venture risk).

**Inventory Management in the Mining and Ore Processing Industries**

The mantra for success of a metal producer’s operation is the managing of inventory efficiently through reduction in production volume in a timely manner in response to lower demand. The best study in this occurred during 2008 and the first quarter of 2009. During the first three quarters of 2008, commodity prices were hitting all time highs. During the next two quarters, demand collapsed in response to the global financial crisis and prices is some cases fell by more than 50%. In the United States, steel demand in Q1 of 2009 was 49% below that in Q1 of 2008. When prices fall drastically, the inventory held by the metal producers sharply looses value. If you calculated finished goods inventory days at that point, it would be meaningless due to the sharp fall in value of the inventory. The cost of goods calculated on a trailing basis would not bear much relationship with what will happen in the future- as unit costs would fall as would
volume of sales. This is particularly true for metal producers in developed countries. In addition, during these periods, the quality of the receivables falls sharply as end users retrench.

When demand falls and inventory goes up, metal producers have to cut production. When production happens at less than full capacity, the fixed cost of production would have to be shared by fewer tones of production, causing production cost per unit to go up. How the metal producer can respond to this crisis impacts his credit quality. A company with multiple units spread across the world can respond to the crisis by operating some units at 100% capacity while keeping other units in hot idle condition. Because of this, the company’s fixed cost per tone goes up much lower than that for a single unit producer which operates at less than 100% capacity. Single unit producers get tremendous scale advantages when the economy is performing well and are better for shareholders as they capitalize on shared services. But for creditors, multiple units are better because the creditor is interested in what happens in the down scenario and not in the up scenario.

In the case of ore producers, rather than inventory and working capital, the biggest risk is reserve estimate, which can overstate or understate profitability. Actual reserves of ores might be much different from estimates. If reserves are overstated, the “depreciation and depletion” account in the income statement might be understated, thus overestimating profitability. Also, extraction costs go up as reserves deplete- in other words, last year’s cost structure might not be a good indicator of next year’s costs if most of the mines of the producer are ageing. In addition, such companies have to be involved in exploration to replenish reserves, which is a highly speculative activity.

If the expenses of a company in exploration activities are a high percentage of total costs, the company might not be suitable for credit investments. In such companies, it might be better to
ring fence the exploration activities in a separate SPV whose maximum possible liabilities can be quantified by the equity investments made by the parent mining company. The parent company can issue low coupon bonds which also provide potential upside by giving rights on the shares of the exploration SPV. If the exploration activities are successful, the investor gets the upside- if not, his principal is protected. A model for this is the so called shareholder debentures issued by Brazilian company Companhia Vale Do Ro Doce (“Vale”). Vale is the largest producer of iron ore in the world and the second largest nickel producer. The company was founded by the Brazilian government in 1942. It was privatized in 1997. When it was privatized, Vale issued shareholder’s debenture to the Brazilian government, which could then participate in the potential future benefits derived from exploiting certain mineral resources that were not taken into account in determining the purchase price of shares during privatization. Based on this, the debenture holders have the right to receive semi-annual payments equal to a certain percentage of revenues from identified mineral resources. This could also be a model that can be followed by other governments for privatizing resource rich companies/infrastructure assets, the true potential of whose resources/assets are not fully known, so as to avoid controversies that national resources were sold for a song.

A credit investor in a company like Vale should look closely at the head “capitalized mine development costs”. This has to be written down over the useful life of the mine. There is a lot of uncertainty in the life of a mine as mentioned earlier. So creditors would do well to stress test the useful life of the mine and then check for the company’s ability to service its debt. At the end of 2008, Vale had $ 16 billion of capitalized mine development costs on its balance sheet and railroads to those mines were capitalized to the extent of $ 5.8 billion. If the useful life of the mine is less than projected, these carrying values have to be written down over a shorter period of time.
**ArcelorMittal: Well positioned to handle downturn in Steel Prices after the Credit Crisis**

During the long rally in commodity prices till the middle of 2008, many companies went on a debt financed acquisition binge. ArcelorMittal, the world’s largest producer of steel came into existence from the combination in 2006 of Mittal Steel and Luxemburg based Arcelor (at that time the world’s largest and second largest steel companies by production volume). How Mittal Steel came into existence, through the consolidation of distressed steel assets spread across the world over a three decade period, is a story in its own right. ArcelorMittal makes a range of high quality steel, semi finished carbon steel products and stainless steel products.

Because ArcelorMittal has predominantly been involved in acquiring existing assets as an industry consolidator, and not as a creator of new assets, risks emanate not from project execution but, from the creditor view point, overpaying for assets, thus splattering the asset side of the balance sheet with goodwill which is prone to being written down.

As was the case with other metal producers, in 2008, ArcelorMittal had entered into several forward purchase agreements for buying ores at fixed prices for a few years into the future. The company did not seem to be hedging finished products price risk. When demand fell precipitously, these contracts caused raw material inventory to go up. Because of this ArcelorMittal’s raw material inventory went up from $6.7 billion at the end of 2007 to $9.7 billion at the end of 2008. The volume impact is understated because the priced crashed- so the jump in volume of raw material inventory was more than 50%. If finished goods were sold forward, the drop in demand would not have caused finished goods inventory to go up. The added advantage, from a creditor’s shoes, is when prices fall, the company would have marked to market gains on its forward sale contracts, which because of producer margin, would be higher than losses from forward purchase contracts for ores.
ArcelorMittal, from its 2008 annual report, seemed to have had forward purchase agreements for raw materials, freight, energy and emission rights and no forward sale agreements on its products. Hence the volume of its finished goods inventory sharply rose - the inventory fell in value to a small extent from $8.1 billion at the end of 2007 to $7.8 billion even as unit prices fell sharply. The effect is exacerbated when one considers that the company had taken a write down in value of inventory of $3.04 billion. The company seemed to have been convinced that commodity prices would continue to go up, hence the desire to benefit from higher finished goods prices and meeting the demand with lower raw materials prices. Of course, this calculation turned wrong - so in 2008, the marked to market losses on its forward purchase agreements of raw materials was $721 million. Had the company hedged finished goods prices or sold forward finished goods, the effect would not have been so precipitous. At the end of 2008, the company had purchase agreements that amounted to $29.7 billion.

From a credit analyst’s perspective, after a period of rising commodity prices (say four years), it would be wise to assess the impact of all forward purchase and sale agreements should prices and costs fall by as much as 50%. Likewise after a period of falling prices, it makes sense to assess the impact on account of forward sale and purchase agreements should there be a 50% jump in prices. Of course, a technical analyst, who believes what happened yesterday, is likely to happen tomorrow, would scoff at this cautionary analysis, but we can live with that.

Inventory adjustments can be extremely brutal in the commodities business. In the first quarter of 2008, ArcelorMittal had an operating income of $3.6 billion. This dropped to a loss of $4.4 billion in the last quarter of 2008. As the adjustments were coming to an end, the operating loss in the first quarter of 2009 was only $1.5 billion. In 2007, the company produced 116 MT of steel. This dropped to 103 MT in 2008. Things would have been far worse had it not been for
the excellent performance during the first three quarters of 2008. In the first quarter of 2009, the company took a further write down of inventory value of $1.2 billion.

At the end of 2008, ArcelorMittal had receivables of $6.7 billion. Though it was comforting that no single entity contributed heavily to the receivables, the fact that $4.3 billion of the receivables were from entities operating out of the slow moving economies of Europe would not have been comforting.

The company had a preponderance of floating rate debt over fixed rate debt ($22.6 billion of floating rate obligations versus $6.9 billion of fixed rate obligations) like most commodity players- we discuss in the section on Anglo American below why that is not always a sound strategy from a creditor’s perspective. However, the company reduced the risk of default by refinancing short dated obligations in the first half of 2009 with long dated obligations. The company also issued convertible bonds with a face value of $2 billion in 2009. In June 2009, ArcelorMittal issued €1.5 billion notes due 2013 and €1 billion notes due 2016. These liability management measures along with drastic restructuring should ensure that the company is around in decent shape to tell the tale when the notes due in 2016 mature.

**Anglo American’s Funding Policy and Hedging Policy are risky for Creditors**

Mining giant Anglo American was founded in South Africa as a gold mining company in 1917. Currently it is headquartered in London. The company is involved in the extraction of base metals, coal, diamonds (through its 45% stake in De Beers), iron ore and platinum.

Anglo American has a couple of policies which are worrisome for creditors. Firstly, the company does not hedge commodity price risk. This might be sensible for shareholders and even for creditors provided the company has a low gearing. Unfortunately that was not so for Anglo American. At the end of 2008, the company had $21.7 billion equity supporting $49.7 billion of
assets. So, drastic fall in commodity prices can have a very profound impact on the company’s debt servicing metrics. In a delayed action S&P downgraded Anglo American by two notches in the first half of 2009 from A- to BBB. Definitely the downgrade should have happened earlier when there was a sharp run up in commodity prices- such sharp run ups are inevitably followed by busts.

Secondly, the company has a policy of borrowing at floating rates based on its thesis that this is a natural hedge against commodity price movements. The thinking is, if economic growth slows down, commodity prices would fall, impacting the top line. However, the impact would be dampened because interest rates too should fall in response to an economic slowdown. The risk here comes from the fact that this hypothesis is not always true. Interest rates can fall in response to economic slowdown, but credit spreads can go up as happened during the later part of 2008. Floating rate borrowing based on the thesis “low economic growth- low interest rates” works if the borrowing costs are linked to policy rates or yields on government securities. If the floating rate base is one with credit risk such as LIBOR, the thesis might fail when credit spreads go up. This is particularly likely if the banking system is a participant in the bust.

In 2008, Anglo American had a working capital gap of $0.9 billion. Yet it had short term debt of $6.7 billion out of a total net debt of $11.34 billion. Clearly the company was using short term debt, not for working capital financing, but for procurement of long dated assets. This was not a one-off event. In 2007, despite having a negative working capital gap, the company had short term debt of $5.9 billion. Other mining companies’ balance sheets, particularly those with fondness for M&A transactions, also had a short term debt flavor. Australian mining company Rio Tinto, on the back of acquisitions and other financing, had short term debt far in excess of working capital needs and is very vulnerable to any fall in commodity prices. The acquisitions were made in the go-go years, such as the acquisition of Canadian Aluminum major Alcan.
London based mining player Vedanta has been more circumspect in its acquisitions- it kept its powder dry and was sitting on cash at the end of 2009, which if used in a few years would result in sound RoCE. It got out sensibly from the takeover attempt of Mexican copper company Asarco from the bankruptcy court (in bankruptcy because of asbestos claims). Asarco was finally taken over by Grupo Mexico. Vedanta’s credit story is almost entirely dependent on how intelligently/foolishly it deploys its cash pile.

Other players in the mining sector had been more adept at reducing their short term debt in response to falling working capital needs as commodity prices and demand collapsed in the third quarter of 2008. Zug, Switzerland headquartered copper, coal and nickel producer Xstrata reduced its short term debt from $1.1 billion in 2007 to $794 million in 2008 in response to its net working capital falling from $3.65 billion to $2.73 billion. However, in 2008, Xstrata became a riskier company as the company’s long term debt drastically shot up and its debt equity ratio rose from 0.51 to 0.68. Still, Xstrata should survive the medium term tough times ahead for commodities. We don’t belong to the camp that believes commodities will thrive the moment western economies recover from the credit crisis, because fundamental demand will be hit there as household debt adjusts to “new normal” levels. For instance, the US consumed 25% of global crude oil production, while China consumed 11% and India 4% in 2008. A sizeable fraction of Chinese demand was linked to production of trinkets for the US. So, if the US demand fell by 10% and those of India and China each rose by 10%, (ignoring the US component of Chinese demand), the net result would be lower demand for crude. When one factors degrowth in Western Europe and Japan, the effect would be more pronounced. The same would be the story for base metals, notwithstanding the short term run-up in commodity prices in response to the continuing folly of easy money policies in many countries in 2009-2010.
Where Inventory gains value with Time: the big Liquor Companies

The amount of inventory of a spirits major is linked to how much non-beer related products are part of the product portfolio. For instance, Asahi Breweries, Japan’s number one beer company which supplies more than 50% of the domestic market, has comparatively low inventory. For the year ended March 31\(^{st}\) 2009, the company had an inventory of $1.06 billion (of total assets of $14.2 billion), that too mostly in finished goods inventory and raw material inventory. UK listed global spirits major Diageo (the owner of brands such as Captain Morgan rum, Smirnoff vodka etc) carried inventory of £3.16 billion out of total assets of £18 billion at the end of June 2009, mostly in work in progress inventory. This work in progress inventory, also referred to as maturing inventories of whisky, rum and wines, was valued at £2.27 billion, while finished goods inventory was valued only at £0.5 billion. Since these inventories are carried at lower of cost or realizable value, creditors have a source of comfort. As long as the brand strength of the liquor is preserved, the actual value of the maturing inventory is much higher than cost. French spirits leader Pernod Ricard (which took over Allied Domecq in 2005) recorded work in progress inventory of €2.9 billion (out of total inventory of €3.7 billion) as on 30\(^{th}\) June 2009. The company carried total assets of €18.43 billion. The maturing inventories were predominantly for use in whisky and cognac products.

There is a strong correlation between brand value and real valuation (and not stated valuation) of maturing inventories. The day the brands lose value, the maturing inventories would have a value close to cost. And creditors’ cushion will go for a toss. Considering the leveraged balance sheet of the leading players, creditors need every bit of cushion they can find. The biggest worry is as households of countries like US and UK repair their balance sheets, they might be less and less inclined to pay a premium for Captain Morgan rum. Diageo carried the value of its brands at £4.6 billion for the year ended 30\(^{th}\) June 2009. The company had an operating profit
of £2.4 billion on net sales of £9.3 billion - a clear testimony to the company’s brand strength. Pernod Ricard, which owns brands such as Chivas Regal, had an operating profit of €1.76 billion on sales of €7.2 billion - again indicating brand strength. The company’s intangible assets shot up from €7.1 billion to €11.3 billion from June 2008 to June 2009 thanks to acquisition of brands. The total assets of the firm were €18.4 billion.

**Receivables are preferable to Inventory in the Fashion Retail Industry**

The quicker the obsolescence in an industry, the faster the inventory must be sold off to prevent sharp write-down in its value. And there are few industries that are as prone to obsolescence as the high fashion industry. If the inventory is not sold off by the end of the season, the retailer has to take a sharp bath in terms of realized value. And selling the inventory at sharply reduced prices at the end of the season does not do the brand any good. In such industries, it is far better to get the inventory converted into receivables as soon as possible, even if the receivables are not exactly of pristine quality. Fashion product maker Liz Claiborne, supplier to luxury retailers such as Macy’s referred to this inventory valuation in its 2008 Form 10K in the following circumlocutory way –“…..maximizing inventory productivity by tightening assortments to develop SKU efficiencies and sharpening our price points to maximize inventory turns for both wholesale and retail operations”. Fashion high priest, Abercrombie and Fitch put it as follows “the company attempts to balance in-stock levels and inventory turnover and to take mark downs when required to keep merchandise fresh and current with fashion trends”. The company creates an inventory shrink reserve to take into account the inventory markdowns required and treats it as a part of the cost of doing this business.

Sales returns can be treated like inventory markdown, because the effect on the company’s profitability is similar. Companies in this industry typically create a sales return reserve. It is
better to entice the buyer to buy the products even if there is no certainty that the customer will be satisfied and not return that product. Perhaps once the good is sold, sheer lethargy might induce the customer not to return the product- a far better thing to hope for than wait till the end of the season and take a markdown in value of the unsold inventory. In beauty products, sales returns can be higher. Estee Lauder, one of the more famous players in the space had sales returns around 4.5% in the three years up to 2009.

Because of the sharp speed at which things can change in this business, it makes sense to have as little debt as possible so as to have the maximum financial flexibility during hard times, when discretionary businesses such as this are most affected. Abercrombie and Fitch has one of the few right capital structures for the business- it has a fairly low level of debt as does the other biggie in the fashion business Polo Ralph Lauren.

Most players use the FIFO method of accounting for valuing inventory. Most of the inventory is finished goods inventory. Since the first created inventory is losing value rapidly compared to later inventory, in this industry that is the right way to value inventories. The optimal method is to value raw material inventory using the LIFO method and finished goods using the FIFO method. Since finished goods dominate, a credit analyst needs to focus only on that. For example, Spanish luxury dress maker Grupo Inditex, the owner of brands such as Zara, had at the end of 2008, € 991 million in finished goods inventory out of a total inventory of €1.05 billion. Because this is measured at lower of cost (FIFO) and realizable value, there could be delays in management recognizing lower realizable values. Inditex has had a hugely successful model of quick inventory turns- this has resulted in the company, unlike its other counterparts, having negative working capital requirements recently.
Unredeemed Gift Vouchers- a valuable Revenue Stream

An interesting source of revenue for the fashion retail industry is unredeemed gift vouchers. Upon the purchase of a gift voucher, the retailer establishes a liability for its cash value. The vouchers that are likely to be redeemed within a year are recorded as current liabilities. The liability is removed and income earned as net sales upon redemption by a customer. Not all vouchers are redeemed by the owners of those vouchers- it is a function of the state of the economy. This non redemption of vouchers is referred to as breakage. Usually, the certificates have an expiry date- if they are not redeemed by then, the retailer can book it as “other income”. Unredeemed gifts vouchers can be a substantial amount- for leading fashion retailer GAP, it fell from $319 million for the year ending January 2008 to $ 255 million for the year ending January 2009, in keeping with the deteriorating economy which would have caused lesser gift giving and quicker redemption. In 2008, redemption was higher than issuance of fresh gift cards as opposed to 2007 when the reverse situation prevailed. Even if all the vouchers were to be redeemed, it is an excellent source of short term financing which cuts the need for short term borrowings.

Marketing Costs cannot be sacrificed

The credit story of fashion retailers is closely linked to people playing a one-upmanship game in their social circle. It is telling their acquaintances that they can afford to pay for those goods and less linked to the intrinsic value of those goods. In such a state of affairs, marketing expenses are pivotal for a retailer to keep up the illusion of desirability of his products. If your neighbor does not know about Versace, the consensus reality value of its products, irrespective of quality and intrinsic merit, falls. If the neighbor does not know Versace, he does not know that the company produces expensive accoutrement and the whole purpose of buying the
Versace dress goes for a toss. So, the onus is on the high fashion retailer to market the product in appropriate forums, not accessed by the average person, to let people know that the product exists, that it is exclusive and that it is not cheap (“everyday low prices” cannot be the marketing slogan here). Obviously, marketing is the key to the companies’ credit story as much as research and development are part of Intel’s investment story. You can’t cut marketing expenses in times of economic slowdown to boost short term profitability. Any fashion retailer cutting his marketing costs is signaling to creditors to get out.

GAP reduced its marketing expenses by $97 million in 2007 and by $41 million in 2008. Liz Claiborne cut its marketing expenses from $205 million in 2007 to $135 million in 2008. Abercombie and Fitch, sensibly, based on a clear understanding of what it was selling, cut its marketing expenses by only 2%. Estee Lauder actually increased its sales and promotion expenses during the tough times.

One should be worried about the future of fashion retailers, as conspicuous consumption, not only becomes less affordable in an environment of high household debt, it itself might become less fashionable. What if, after the two decade consumption binge, thrift becomes the new chic? What if some very rich people start flying economy class on airplanes instead of chartering them? What if Angelina Jolie announces to the world that she shops for her lingerie at Wal-Mart? What would that do to the credit quality of Limited Brands, the maker of the Victoria Secret brand of lingerie? In a flash, the consensus reality on the value of its products would shift to reset mode. And creditors might not have the time to get out in the ensuing stampede. Already a string of luxury retailers such as Christian Lacroix and Escada AG have filed for bankruptcy and others such as Saks are perilously close. Despite the flight away from conspicuous consumption, retailers such as French company LVMH, whose products also represent value and durability should survive.
Limited Brands, at the end of 2008, had inventories worth $1.2 billion and it carried goodwill of $1.4 billion from acquisitions, particularly from the acquisition of Canadian lingerie maker La Senza (the $1.4 billion goodwill carried is post the $215 million goodwill impairment charge that the company took on the La Senza acquisition in 2008). The total assets of the company were $7 billion and shareholder equity was $1.87 billion. The correlation between the inventory valuation and the valuation of goodwill in this case is particularly potent and can lead to the wipe out of a substantial portion of shareholders’ equity. And the fashion business is literally a graveyard for goodwill emanating from acquisitions made in rosy times. 

Private equity shop Permira bought fashion house Valentino for €5.3 billion in 2007 at the height of the bubble. By mid 2009 the value of the investment was written down by half. Liz Claiborne had shareholders’ equity of $2.1 billion at the end of 2006. By the end of 2008, the shareholder equity had plunged to $503 million on the back of, among other things, write down of goodwill and trade mark of $487 million in 2007 and $693 million in 2008. The debt equity ratio was racing towards 1.5 and higher. At the end of 2008, “the dressmaker for the professional woman”, Ann Taylor, wrote off the entire $286 million goodwill on its balance sheet. Because it did not have a leveraged balance sheet, the company could face up to the new reality faster than others with more indebted books of accounts.

**Franchise Model drives Working Capital needs in the Restaurant Business**

Typically restaurant chains get their revenues from three sources- company owned restaurants, franchise revenues (royalty as a percentage of sales and fees) and property income from space leased to franchisees. The nature of the business mix determines the nature of working capital requirements. A company that owns all its restaurants is required to employ considerably more capital (more capital expenditure) but it usually enjoys negative working capital requirements. Customers usually pay by cash. Suppliers extend credit periods. Inventory cannot be too high in
the business as the food needs to be fresh. However, if a company gets the bulk of its revenues from franchisees, that is not likely to be the case as franchisees ship a percentage of sales as royalty to the company after a certain period. If property rentals are paid in advance by franchisees, it reduces working capital requirements.

Anyway, companies with the franchisee based business model are likely to have receivables close to their payables and the inventory requirements push the working capital needs into the positive zone. For instance, at the end of 2008, Burger King Holdings, the owner of the company that sells the Whopper, had 90% of its restaurants franchised. The company had receivables of $130 million and payables $127 million. Inventory, shown in the balance sheet as prepaid and other current assets, showed a balance of $86 million. The franchisee model has the disadvantage that if a particular franchisee does not have the financial resources for remodeling the restaurant and for other essential expenses, it can hurt the brand as a whole. If a customer has had a bad experience at one Burger King joint, he is likely to refrain from visiting a restaurant of that chain anywhere in the world. So, franchisees in distress need to be supported to prevent them from killing the value of the brand. As on 30th of June 2009, the company’s potential exposure from having to support such franchisees stood at $9.9 million- a figure that is likely to go up until US household debt levels comes back to reasonable levels. In addition, the company had guaranteed $74 million of lease rental payments of franchisees, effectively reducing the benefit from the franchisee model of lower capital deployment requirements.

Restaurant chain Yum Brands operates or licenses under famous brands such as Taco Bell (Mexican food), KFC (earlier known as Kentucky Fried Chicken), Pizza Hut, Long John Silver and other restaurants worldwide. For sheer number of restaurants owned or franchised, Yum Brands is the largest restaurant operator. Because the company relies less on franchisees than Burger King, the company had negative working capital requirements. At the end of 2008, the
company had payables of $1.47 billion while the sum of its inventories and receivables was $664 million.

The Wendy’s Arby’s group was formed in 2008 through the merger of two restaurant chains- Wendy’s and Arby’s. In that year itself, the company took a goodwill impairment charge of $460 million in connection with the acquisition of Arby’s. The group had a fairly high proportion of owned restaurants (particularly the Arby’s bit of the business). Current liabilities in the form of payables and accrued expenses were much higher than the current assets from inventories, prepaid assets as well as receivables.

Manila headquarterd restaurant chain Jollibee Foods Corporation is the largest Filipino fast food company with several branches in the US and other parts of the world. The company operates its chains through brands such as Jollibee and Chowking. Because of its franchisee model, the company had positive working capital requirements- the company had, for the year ended December 2008, inventories of 2.5 billion pesos, receivables of 1.9 billion pesos and other prepaid items to suppliers of 1.5 billion pesos. Its payables amounted to 3.6 billion pesos.

Ultimately, a company and its franchisees are part of the same consolidated chain- it is not possible for one to prosper at the cost of the other over extended periods of time. So, if the working capital financing cost is borne by the franchisor, the fact has to be factored in the royalty payments due to the franchisor.

**Working Capital Management: the key to Survival in the Construction Industry**

Working capital management is the cornerstone of the construction industry. This, as discussed in chapter 3, is a low margin business, where the margins can get wiped out fairly fast if the projects are not executed on time and to requisite quality. The working capital requirements flow from the fact that the contractor has to show considerable progress in project execution
before he can bill his client. And once the bill is raised, the client does get some time before he has to pay up.

Construction contracts are of two types: cost plus contract and fixed price contract. In a cost plus contract, the contractor is reimbursed for permitted costs (permitted as per the construction contract) plus a percentage of those costs or a fixed fee. These contracts are typically awarded for projects in which it is very difficult for the owner of the project as well as the contractor to estimate project costs upfront. This is typically the case for one-off projects or projects where the scope of work cannot be defined clearly upfront. In a fixed price contract, the contractor agrees to a fixed contract price and bears the risk of cost over runs. Typically, these projects are awarded by the owner by inviting a few chosen contractors to bid for constructing the project, after clearly describing the scope of work, the expected performance of the completed project etc. Usually the owner awards the project for execution to the contractor who bids the lowest price. Needless to say, considering the higher risks to the contractor than from fixed price contracts, they yield higher margins if the project is executed flawlessly.

In a fixed price contract, once the contract is awarded, the contract price becomes sacrosanct and few escalations are allowed. The contractor agrees to pay liquidated damages to the owner for any delay in project execution. These damages could be structured as penalty per day’s delay, with or without an upper cap on the extent of damages. Damages would also have to be paid should the delivered project fall short on performance grounds. Even at the bidding stage for a project, the bidders would have to post bid bonds in the form of bank guarantees in favor of the project owner. This is to assure the owner that the bidder is serious in his bid. If a contractor is awarded the project, but tries to back out of entering into a firm contract, the project owner can cash in the bid bond. Once a project is completed, before the contractor gets
his final payment, he has to post a performance guarantee bond in favor of the owner, which the owner can cash in if the project does not perform to requisite specifications. As a part of their business, contractors have to factor in bank guarantee expenses for bid bonds and performance bonds. Liquidated damages and performance bonds create contingent liabilities which will be discussed in a later chapter.

Contractors typically have more receivables than inventory (as work in progress projects are referred to in some parts of the world). Basically, the work in progress bit is the revenue the company has booked in its income statement along with associated costs, but has not billed the client for. The moment the contractor bills the client, the work-in-progress head gets converted into receivables. Because of the way the contractors book revenue on multi year projects (see Accounting Box: The Quirks of the Percentage of Completion Method Accounting), credit analysts should be wary when the work in progress head gets large, and possibly bigger than the receivables head. It could imply that the company is overbooking revenue, which it is in no position to bill on account of slow execution. Of course, it could be legitimate too- if the billing milestones of the contracts undertaken by the contractor are few and far between, it causes considerable accrual of the work in progress head in the balance sheet. In that case, the contractor would require considerable amount of short term debt to fund the big working capital gap. That would cause expending funds for short term interest payment, which should be fine as long as it is priced into the contract.

The moment a project owner awards a project to a contractor, he pays the contractor a certain amount as customer advance. This is recognized as a current liability under the head customer advances. As the contractor starts executing the project and recognizing revenue, he writes down the customer advance. This can be an excellent source of financing for the contractors at the early stage of a project.
**Accounting Box: The Quirks of Percentage of Completion Method Accounting**

Construction companies, shipbuilders and home builders use the percentage completion method of accounting to recognize revenues, costs and profits. While this is a sensible method of contract accounting, the differential knowledge and information between the contractor and an auditor can make this method vulnerable to being abused. That is particularly true when a contractor executes a number of fixed price contracts and a small overstatement of revenues on each contract could translate into a large sum.

The percentage completion method works as follows: A contractor agrees to complete a big project (say a power station) for an owner for $300 million. While bidding for the project, the contractor estimated his cost to be $270 million. So, the contractor’s estimate of project profits at the beginning of the project was $30 million. Let us say, the project is expected to be completed in 3 years. Let us further assume, in the first year, the company has spent $ 90 million on the project- that is one-third of the estimated total project cost. So, the contractor books as revenue one-third of the total project revenue- $ 100 million and the expenditure of $90 million. This results in the contractor booking $10 million of profit before tax from the project in the first year. This is perfectly the right way of booking revenues and costs provided the contractor is executing the project without any cost over-run. What if the project contractor has incurred a cost of $90 million at the end of the first year, but due to cost and time-overrun has completed only 25% of the project?

IAS 11, which deals with contract accounting, is very clear what the contractor should do. The contractor, once he knows that the contract cost is likely to exceed revenue, is required to recognize the expected loss from the contract immediately as an expense. So, if it took the contractor $90 million to finish a quarter of project, the full project cost can be expected to be
$360 million. Since only $300 can be billed to the client, the contractor must recognize a loss of $60 million immediately. But the contractor can get away if he books $100 million in revenues and $90 in costs. It is not possible for an analyst to know what is happening in each project. In several countries, particularly those where contractors get most of their revenues from fixed price contracts, many contractors take advantage of this to overstate revenues. It works in the short run and has the potential to trap a creditor to the contractor.

As contracting is getting more and more competitive, contractors are bidding at wafer thin margins to win bids. These contracts can be executed on cost and on time only if the execution is absolutely flawless. But several events happen to militate against everything going as planned. There is however a way for analysts to catch any overbooking of revenue and under‐booking of costs. In the example given earlier, if a contractor has completed only 25% of the project, he cannot bill more than $75 million, as a knowledgeable client is likely to object. So, a contractor bent on overbooking revenues (that is $90 million) will show $15 million in the current assets under the head “work in progress inventory”. Now there is a genuine reason for having work in progress inventory- a contractor cannot bill a client everyday for progress in construction. Perhaps he bills the client once a month or on attainment of key milestones. But he is entitled to book revenues on the progress he has made. However, when the number of days of work in progress inventory starts hitting levels not normally encountered in the contracting business of a country, one has to suspect hanky panky.

A genuine progress in a project results in work in progress inventory getting converted into receivables. An analyst needs to keep track of receivables from big projects in case they take too long in getting converted into cash. But the biggest worry is work-in-progress inventory. When a contractor is on a high growth path, the activities on the new projects can mask problems in projects having execution problems for quite a while. And for some time, customer
advances from new projects can fund the work in progress inventory without creating liquidity problems. But the solvency issue is just around the corner when work in progress inventory piles up on account of poor project execution.

In many countries, real estate developers and home builders use (or rather abuse) the percentage completion method of accounting for booking revenues. They use this method for booking revenues on development projects even when they have not yet sold the residential apartments they have constructed. There are many known unknowns here. Will the developer be able to find buyers at the price he is booking revenues? Will he be able to complete the project to cost? The first objection is the most critical one. In 2008, most real estate developers in India were reporting huge profits using the percentage completion method of accounting for revenues even as they were defaulting on their debt obligations. The projects from which revenues were being booked had not been sold to home buyers yet - thus they were sucking liquidity and needed added debt for project completion in anticipation of sales post completion. They got into a terrible solvency crisis (not a liquidity one because there was uncertainty in the value at which the apartments would be sold). The balance sheet of most developers came under control by mid 2009 through new equity issues. But analysts in India at that time did not find the use of the percentage completion method of accounting odd.

In the US, as per SFAS 66, “Accounting for Sales of Real Estate” revenue and costs can be recognized using the percentage completion method of accounting only when the construction is beyond early stages, the buyer of the project is committed to the extent of being unable to ask for a refund (except in the case of failure of the developer to deliver), sufficient units of the project have been sold, the sales proceeds are collectible and the aggregate sales proceeds and the total project costs can be reasonably be estimated. So, for most projects, home builders in the US use the completed contract method of accounting. Revenue, expenses and profit are
deferred until the completion of the contract. No revenue is recognized in the income statement- all costs and billings are recognized in the balance sheet.

**India’s Construction Company Larsen & Toubro: Great Company but not a topnotch Credit**

Larsen & Toubro (referred to locally as L&T) is India’s top engineering and construction company. The company has been responsible for building prominent infrastructure projects in India. It is also a player in the construction sector of the Middle-East. In the first half of financial year 2010 (year ending March 31 2010), the company secured 85% of its revenues from the engineering and construction sector. A local credit rating agency in India rates L&T triple-A for local currency debt. The company is gradually going the way of European BOT operators such as Vinci and Ferrovial by taking big stakes in infrastructure projects that it executes. That has caused the company’s debt equity ratio to increase over the last few years. That, if nothing else, should imply that L&T is not a triple-A company despite its engineering prowess. At the end of financial year 2009, the company had shareholders’ equity of Indian Rupees (INR) 139 billion and debt of INR 184 billion. By the end of financial year 2010, the debt equity ratio is likely to be skewed further towards debt. The debt equity ratio was less than 1 in 2007.

When a contractor is on a high growth path, it is very difficult for the credit analyst to tell if projects are being executed well on account of the percentage of completion method accounting. L&T’s top line in 2009 was almost 250% of that in 2006- an amazing growth as the company is best positioned to take advantage of the India infrastructure story (the construction sector has been growing 1.5 times the GDP growth). If a high growth contractor is experiencing delays and cost overruns on his projects, it is very difficult for an auditor to spot if the revenues that are being booked have really accrued and that the costs do not have a cost overrun component. If the average tenure of execution of projects is 3 years and the contractor’s top
line growth is greater than 33%, it is practically impossible to assure oneself that there is no overbooking of revenue. Some analysts rely on faith to do their credit assessment in those cases (such as the faith based valuation of Level 3 assets of banks in the pre-credit crisis era) - definitely not a happy place to be in. The analyst can get around this by asking the contractor what the frequency of billing for typical projects is. While there might be difference between work in progress and receivables on individual projects, when agglomerated over many projects under execution, the number of days of work in progress inventory should not be more than the average number of days between billing. If the work in progress inventory is too high, growth could be masking cost overruns and overbooking of profits. Even in cost plus contracts, the project owner is not responsible for cost overruns due to poor execution.

As on 31<sup>st</sup> March 2009, L&T had about 49 days of work in progress inventory on its construction projects. Typically, this should not be more than 30 days. That excess 19 days translates to almost INR 18 billion in revenues. An added point that must be kept in mind by creditors of construction companies is to take a close look at receivables greater than 90 days. It could be because the customers have not acknowledged that work has been completed on the ground to justify the billing- which means that the revenues booked are suspect. It is no one’s case that the project owner is always right. But a credit analyst would do well to assume that is indeed the case. It could also be because the project owner is experiencing financial stress and wants to delay payment- which is not good news for the contractor’s creditors. Unfortunately, Indian contractors do not report in their annual reports receivables more than 90 days. They report receivables which have been due for more than 180 days. L&T had INR 24 billion of receivables more than 180 days which it considered collectible. When one adds the “excess work in progress” inventory to receivables due for more than 180 days (90 days should be the correct metric, but that number is not disclosed), one gets INR 42 billion. L&T’s operating profit in
financial year 2009 was INR 55.5 billion, while its shareholder equity was INR 139 billion.

Because these contracts pertain to multi year transactions, one should not deduct the possible excessive revenue booking from the operating profit but from shareholder equity. When one reworks the debt equity ratio post this adjustment, the debt equity ratio, already unflattering, looks even uglier. This does not mean L&T is in danger of defaulting on its debt. The company does have an impressive track record of project execution on schedule and without cost overruns. But analysts, over the next few years, should pay close attention to the company’s revenue booking and burgeoning leverage. The business in India for contracting will get more competitive in the years to come, as western contractors, with very little business opportunities in their home terrains will crowd in. Being leveraged, and hence having low financial flexibility might not be the best place to be in to meet this coming challenge.

The scale of overbooking of revenues in the Indian construction industry among lesser contractors, over the last few years, seems high. Credit analysts should closely question the managements of construction companies such as Hindustan Construction (HCC), Punj Lloyd and Nagarjuna Construction on their work in progress inventory, billing cycles and receivables greater than 90 days. Auditors have already passed qualifying remarks on Punj Lloyd’s earnings. The situation gets even murkier on account of the fact that many contractors have real estate arms, where the opacity of accounting gets worse.

**Flour’s reliance on Cost-plus Contracts impacts Margins but is good for the Credit**

US based Fluor Corporation is one of the world’s largest engineering, procurement and construction (EPC) companies. It traces its origins to 1912. The company gets a chunk of its revenues from projects in the oil and gas sector as well as the industrial and infrastructure sectors. The only area of concern regarding the company is its low presence in the Asia Pacific
region which would be the region where most of the construction contracts are going to be awarded in the medium term. Its biggest competitors in the US market for mega projects include privately held Bechtel, Foster Wheeler, Jacobs Engineering and Black & Veatch.

Fluor is one of the strongest construction companies financially. It carries low debt on its balance sheet. Because of the way the company has been managing its working capital, it has no need for short term funds. The advances that the company receives from customers and other current liabilities exceed the sum of work in progress inventory and receivables. Additionally, the company has a healthy cash balance for managing short term contingencies. The company’s contract work in progress inventory has been fluctuating between 16 to 20 days recently. It also collects its receivables fairly soon after billing- in 2008, the company collected its bills within 20 days of billing. This rules out the possibility that the company is overbooking revenues.

What are the risks in this company over the medium term? 76% of the company’s contracts are cost reimbursable, while 24% are fixed price contracts. In the former contracts, payments are made to the contractor on achieving milestones. As long as the execution of the contract is alright, there are no risks from miscalculating contract costs. Many contracts, particularly government contracts are “indefinite delivery, indefinite quantity” (IDIQ) contracts- where the contractor works closely with the project owner to scope the contract. Cost plus contracts have lower margins than fixed price ones, but the risks too are far lower. From a creditor standpoint, they are superior. The only unknown in Fluor is contingent liabilities from posting performance guarantees on completed projects. Contingent liabilities to many US contractors have come from violating the US Foreign Corrupt Practices Act, 1977. Houston based contractor Kellog, Brown & Root had to pay a $403 million criminal fine for bribing Nigerian authorities to secure an EPC contract. Fluor has never had such a problem. A small added risk is on account
of the company’s professional liability insurance coverage being on a “claims made” basis which covers only claims made during the insurance contract period and not events which occur during the period. Extended period of slow growth in developed countries will not affect Fluor too much on account of the company’s low debt servicing requirements and flexible cost structure (a sizeable portion of employees work on an hourly basis).

**Correct Inventory valuation determines Shareholders’ Equity at Toll Brothers & KB Homes**

The biggest risk carried by US homebuilders like Toll Brothers and KB Homes is the inventory of homes carried on their balance sheet. In times of rising home prices, the risk is usually underestimated by all market players. Likewise, after a period of falling home prices, the risk is overestimated. In reality, the risk is misstated in both cases. A credit analyst should be more comfortable with inventory valuation after a few years of home price correction than after a few years into a period of sharply rising home prices. A gaze at societal debt ratio would provide some warning signs on home prices hitting dangerous levels. It is not for a creditor to bet on home prices, so when the warning signs are there, it is better for the creditor to pare his exposures rather than try to predict when the downturn in home prices will arrive.

Post a period of sharply rising prices, home prices in the US started stabilizing in 2006 and falling from 2007. A creditor should feel more comfortable with stated inventory value in the 2011 annual report than the value stated in the 2009 annual report. A home owner who has bought a home in a project of luxury home builder Toll Brothers pays only a fraction of the project cost at the beginning. The customer retains the right to cancel the booking for the home. The customer might have to forfeit his initial deposit (which is good for creditors because it can be used for asset impairment charges if the home is sold later at a lower price), but in many cases, the customer can secure a refund of the deposits based on state laws or because of failure to
secure financing. When home cancellation rates rise and inventory of unsold homes goes up, it puts further pressure on home prices.

Toll Brothers designs, builds and sells single family luxury homes. Inventory of homes is the biggest item on the asset side of its balance sheet. In 2007, inventory was carried at $5.57 billion when total assets were $7.2 billion. In 2008, the inventory value and total assets fell respectively to $4.13 billion and $6.6 billion. The company took inventory impairment charges of $688 million in 2007 and $849 million in 2008. The sensitivity of the company’s business to home prices is evident on the earnings and business front as well. The value of new contracts signed in 2008 declined by 47% versus 2007 on account of a 34% decrease in number of contracts and a 19% decrease in the average value of the contracts signed. So, not only does the balance sheet weaken, the earnings profile also deteriorates at the same time. A comforting feature of the accounting of real estate players in the United States is that they predominantly use the completed contract method of accounting as opposed to the percentage completion method prevailing in many countries (see the Accounting Box: The Quirks of Percentage of Completion Method Accounting). The credit analyst needs to focus only on the inventory carried value and not worry about adjustments in the income statement.

Toll Brothers’ backlog of orders fell from $2.85 billion in 2007 to $1.33 billion in 2008. Between 2005 and 2007, the cancellation of the backlog was around 20%. The good thing about the Toll Brothers’ balance sheet is that it is not too leveraged- at the end of 2008, the company had $3.3 billion of equity supporting $6.6 billion in assets. So, the company did have some headroom for further inventory write down. Also, the company had room to adjust its cost structure in line with likely far lower revenues in the next many years. Customized home builder KB Homes does not have such a luxury. At the end of 2008, post asset impairment charges, the company had $830 million of equity supporting a $4 billion balance sheet. Inventories, which were around
50% of the company’s balance sheet, seemed ripe for further write down. The company had already taken inventory impairment charges of $1.1 billion and $565 million in 2007 and 2008 respectively. Creditors might want to look at the financials at the end of 2010 before they take a further credit call on the company.

**Korean Ship Builders and the Art of managing Working Capital**

Shipbuilding is like construction contracting in some respects. The projects get executed over several years. So, ship builders, like contractors, book revenue using the percentage of completion method accounting. However, there are some critical differences as well. Since the last downturn in the industry beginning in 2003, when cancellations of orders under execution put the shipbuilders in a pickle, ship builders now insist on substantial advance payments and payments in fewer installments. Moreover, if ship owners cancel their orders in between, vessels such as VLCC, Aframax, Panamax, are fungible and can be sold easily to a third party. If a contractor is building a refinery for a owner in a god forsaken place in the middle of nowhere and the project owner goes bust, and is unable to pay for past execution, the half built project cannot be sold to a third party readily.

The ship building industry is gradually becoming an Asia-centric industry, with South Korea, Japan and China dominating the field. At the very low end of the shipbuilding industry, cheap labor is the only thing that matters- hence it will be difficult for other countries to compete with China. According to leading shipping services company Clarksons, for the period ending September 2008, China had a market share of 48% in the construction of low end bulk carriers. Korea and Japan each had a market share of 22%. As per the same source, in the area of tankers, South Korea had a 51% share while China had a share of 27%. In the area of container vessels, South Korea was overwhelmingly dominant with a 60% global market share. European ship
builders such as German shipbuilder HDW can compete only by being the BMW segment of the business by producing innovative high quality products. This occurs in the areas of luxury cruise liners and vessels used by the defense industry such as submarines. But they must continuously watch out for shipbuilders from Korea attacking them from the bottom up.

In the mid segment it is very difficult to see a disciplined people like the Koreans, who work long shifts, thus driving down project execution times (which is a key benefit for customers who can quickly take advantage when the Baltic dry index goes up) facing competition from countries where people clamor for 35 hour work weeks. Also, since the skills required are substantial, it can’t be supplanted by a prison work force on low wages.

At the other end of the spectrum, it seems that Japanese shipbuilders, with a rich and illustrious past are going to fade into the sunset, squeezed from all sides. Kawasaki Heavy Industries, founded in 1878 is in a parlous condition. Because shipbuilding constitutes a smaller percentage of sales, they do not have the trim capital structures of the Korean shipbuilders. Kawasaki’s debt equity ratio was 119% in financial year ended April 2006. During the next few years, due to the global bubble economy, Kawasaki was able to generate free cash flows to bring down its debt equity ratio to 75% for the year ended April 2008. At the first whiff of trouble, the company’s operating cash flows disappeared and the debt equity ratio climbed to 123% for the year ended April 2009. Hitachi Zosen sensibly sold its ship building operations to a joint venture with NKK Corporation called Universal Shipping Corporation. Mitsubishi Heavy Industries is also not likely to last in this business for much longer. The company, which has been building ships since 1884 in a previous avatar, is plagued by deteriorating financials.
Would Hyundai Heavy Industries be affected by the slowdown in Demand?

Hyundai Heavy Industries was established in 1973. At the beginning of 2009, shipbuilding, along with its allied industry, off-shore engineering, contributed 62% of the total sales of the company. The company has a unique capital structure. At the end of the first quarter of 2009, the company had a debt equity ratio of only 9.5%. But it had a liability to equity ratio of 354%. These huge liabilities were not some horrid stuff like pension liabilities that plague a lot of firms, but “good liability” in the form of customer advances, which overwhelmingly dominates the balance sheet. Of the total assets of 27 trillion Korean Won (KRW), the company’s current assets at 13.7 trillion KRW were almost 50% of the balance sheet. The company’s current liabilities amounted to 17.8 trillion KRW on account of customer advances of 10.2 trillion KRW. Receivables and Inventory amounted to 6.7 trillion won- so the cash flow generated from this negative working capital can be deployed productively. Of course, if new orders slacken, the customer advances would slacken more than slackening of inventories and receivables- creating the need for debt.

Because of the float generated by customer advances, the company’s debt equity ratio fell from 4.3% in 2006 to 0.1% in 2008. The liability ratio on the other hand jumped from 200% in 2006 to 352% in 2008, on the back of increased orders and customer advances as well as, in 2008, due to the sharp deterioration in the value of the KRW.

Clearly, in this business, cash flows improve and debt goes down in an upturn (opposite of normal industries in their expansion cycle due to the negative working capital intensity of the business). Operating margins fell from 11.2% in Q1 2008 to 8.6% in Q1 2009. Samsung Heavy Industries had a similar albeit slightly inferior credit profile. On the back of customer advances, the company’s debt equity ratio remained low around 7% from 2006 to 2008. At the end of
2008, its customer advances were 8.6 trillion KRW as against inventories and receivables of around 5 trillion KRW. Hanjin Heavy Industries, because of the fact the company gets a chunk of its revenues from construction, had a positive working capital gap. Shipbuilders get speculative orders during upturns which get cancelled during the downturn, thus increasing liabilities from hedging contracts such as foreign exchange forward liabilities.

On a separate matter, the ship breaking industry, unlike the ship building industry, is completely driven by two factors- abundance of cheap labor which is indifferent to its health, and poor implementation of environmental standards. Both these factors are met in the Indian state of Gujarat, the location of several hazardous chemical industries and the location of some of the most polluted spots on the face of the earth. It is hence no surprise that the largest ship breaking yard in the world is located at Alang in Gujarat.

**Inventory Management in Industries with short Inventory Shelf Life**

A hotel room and an airline seat are fast perishable inventory- if not converted into receivables/cash during the course of a day, they loose all their value. In response to low demand, airlines can cancel flights but hotels do not have the luxury of moth balling their operations for a day. Flights can be cancelled to remove inventory without incurring variable costs- fixed costs remain. In the case of a hotel nothing can be removed- capacity cannot be temporarily killed.

The owners of high end hotel chains face a great dilemma- if they do not generate any revenue from a hotel room by the evening, the potential revenue would be lost forever. From a short term perspective, the hotel owners might be better off resorting to sharp discounting, as any revenue generated above the negligible variable costs would be useful- but that can hurt long
term brand equity. The owners of budget hotels, who do not have to give an arm or a leg to protect their brand, can resort to such last minute discounting.

Since many of the high end hotel chains are resorting to an asset light strategy, wherein they rely more on brand value and fees generated thereof, they cannot afford to have indiscriminate price reductions to off load inventory at sharply reduced prices. For Hotel Intercontinental, the owner of brands such as Intercontinental, Crowne Plaza, Holiday Inn etc, at end of 2008, 75% of the group’s rooms were franchises, 24% were managed and properties owned or leased amounted to only 1%. So the value of the company to shareholders rested strongly on its brand valuation, which helps to generate franchise fees and management fees. Starwood, owner of luxury brands such as St. Regis and upper scale hotel brands such as Sheraton and Le Meridien is also moving in the direction of an asset light strategy. At the end of 2004, the company owned 56% of its hotels. By 2008, the percentage of owned hotels dropped to 33%. The company’s vision was to get this number to less than 20%.

Does the asset light strategy make sense? Gradual commoditization of rooms through internet booking and increase in the relative importance of personal travel as opposed to business travel might see forced correction in average room rents in the years to come. The value of the brands, under such a scenario, would come under stress.

**The Impact of the Vacation Timeshare Business Inventory on Hotel Industry Credit Quality**

In the hotel industry, while considerable attention is paid to the inventory of hotel rooms available daily, sufficient attention is not paid to the “time sharing/ fractional ownership” business of the hotel chains. This has grown to be fairly important for hotel chain financial analysis over the last two decades. Because a considerable amount of debt financing is involved in the timeshare business, it is no surprise that the business’ prosperity in the United States
coincided with the sharp increase in household debt. In 1983, US household debt was 46% of GDP - this jumped to more than 100% a quarter of century later. The number of timeshare resorts of the Marriot group jumped from one resort in 1984 to 67 resorts over the next 25 years.

The time share business model confers part ownership or right to the use of a property, typically a vacation home or a facility in a resort. In the case of Starwood’s vacation ownership business, a buyer is typically entitled to buy ownership of a fully furnished resort unit for a one week period annually, and in the case of fractional ownership interests, for three or more weeks. Multiple parties hold rights to use the property and each part owner is allotted a period of time during the year in which he may use the property. The timeshare rights can be resold. Over a period of time, the big hotel chains such as Starwood, Hilton and Marriott became big players in the time share business. Because the big chains have adopted an asset light strategy by not owning the hotel properties that they manage, time share property building constitutes a big chunk of their capital invested. For instance, Marriott owned less than 1% of the hotels it manages or franchises. Marriott recorded timeshare assets on its balance sheet of $3.6 billion out of total assets of $8.9 billion in 2009 - around the same as the previous year. At Starwood, vacation ownership inventory was carried at $729 million out of total assets of $9.7 billion.

Since the sale of timeshare and fractional ownership follows the percentage completion method of accounting, soft demand and delinquencies are not reflected in the business results of this segment until later accounting periods. In times of economic stress, there are delays in projects hitting revenue recognition thresholds on account of the low customer interest or slowdown and delays in construction. Most timeshare operators recognize sales when they have received a certain minimum amount of the purchase price (usually 10%), the purchaser’s right to refund has expired (though the purchaser’s right to default on the loan he has taken from the time
share operator does not expire- the risk merely becomes smaller over time as the timeshare owner builds equity in the asset) and the project has reached a certain minimum implementation level. Marriott in 2008 recorded $324 million less timeshare revenue than 2007 in a deteriorating economic environment (in 2008, out of the company’s approximately $12.9 billion in revenues, $1.75 billion came from timeshare options. At Starwood, the fraction was $749 million out of $5.9 billion). This inventory stands the risk of loosing value and facing write down. There could also be a charge on account of reduced valuation of residual interests in sold timeshare projects. Additionally, during stress periods, even in projects that have crossed revenue thresholds, there is lower revenue because of client cancellations. Decrease in real estate and vacation home prices reduces profits on sales (there could even be a loss). During slowdowns, the inventory does not move fast and increases carrying costs for the timeshare operator. Inventory of unsold timeshare properties drag down earnings another way- they continue to consume cash for maintenance. A timeshare operator also records a contract cancellation allowance in anticipation that a portion of contract revenue booked under the percentage completion method accounting would not be realized due to contract cancellations before closing. And decisions not to develop planned timeshare projects could also be costly- Starwood took an impairment charge of $75 million in 2008 because of its decision not to develop two timeshare projects in a worsening economic environment.

Timeshare operators incur considerable marketing costs to sell time shares, a portion of which is expensed as incurred and another portion is deferred. Marriott had deferred costs of $7 million at the end of 2008, which it recorded as part of current assets. Starwood capitalizes direct costs attributable to the sale of its timeshare assets until the sales are recognized. If a contract is cancelled, the company charges the unrecoverable direct selling and marketing costs to expenses and records the forfeited deposits for the purchase as income.
The time share business involves providing financing to customers. Loans outstanding to timeshare owners at Marriott amounted to $607 million in 2008, up from $408 million in 2007. That is what generates the sales. Marriott had estimated the losses on such loans at $35 million and $19 million respectively in 2008 and 2007. This number is expected to go up in the coming years as households clean up their balance sheets and creditors write down receivables.

Starwood estimated a default rate of 7.9% on its vacation ownership assets at the end of 2008. The company estimated that a 0.1% change in this estimate would have a $3 million impact. So the outcome might not be a happy picture if there is a precipitous increase in delinquencies. At the end of 2008, the company had receivables of $581 million, of which $91 million was deemed unrecoverable.

Companies are supposed to deduct from their revenue any uncollectible loans that they had given to buyers of timeshare facilities the moment they start recognizing revenues. The companies sell the timeshare loans in the securitization market. When the securitization markets freeze, it inhibits the financing of the timeshare ownership, which in turn impacts sales. Additionally, companies use interest rate derivatives to hedge the risk from the residual interests (Marriott recorded the fair vale of its retained interests at the end of 2008 at $221 million) retained by the timeshare originator, which adds to the risk of the product if the hedging has not been done correctly. In 2008, Starwood recorded an impairment charge of $22 million related to the fall in the value of retained interests.

As hotel operators adopt the asset light strategy of not owning the hotels they manage or franchise, asset creation has recently happened in the area of timeshares. These assets include loans to customers for buying timeshare properties. Because these assets are becoming a bigger and bigger portion of the balance sheet of those companies, any change in the valuation of unsold inventory of timeshare property as well as any increase in timeshare loan write down
can cause sudden jump in the debt equity ratios of those companies on account of the thin sliver of shareholders’ equity present in most hotel company balance sheets.

**Liabilities from Customer Programs should be viewed as Current Liabilities for Credit Analysis**

Almost all the leading hotel chains have loyalty programs through which customers earn loyalty points every time they stay at the hotel. The conditions attached to redemption of these points vary from hotel chain to chain. In some cases, the points are redeemable while using services of third parties such as airlines. Irrespective of the terms and conditions of loyalty programs, they create liabilities on a hotel chain’s balance sheet.

The liabilities from the loyalty program is recognized, through actuarial estimate, by taking into account factors such as timing of redemption (based on past redemption pattern) and breakage (i.e. points that are never redeemed thanks to customer laxity). A portion of these liabilities sits under the current liabilities section (basically, the costs that are likely to be incurred due to redemption of points within a year of the date of the financial statement) and the balance under the head “Non current liabilities”.

Loyalty programs have the same effect as offering a discount on room tariffs but they have a few advantages over room tariff discounting. They would usually achieve the aim of the program by binding a customer to a particular hotel chain. Secondly, offering discounts on room tariff, to clear the unsold inventory of vacant rooms can destroy the brand value of leading chains.

Since many of the hotel chains are not exactly in prime credit condition, frequent travelers should be aware that there is a goodish chance that a bankruptcy court in future could cancel these liabilities. But from the perspective of a credit analyst, these liabilities themselves can be quite onerous and can drive a chain into fiscal trouble. Even short term creditors need to look
at the liabilities from this program wholly, and should not think that they can get away with looking at the current liabilities portion. There is always the risk that should a hotel chain display signs of financial stress, the customers holding loyalty points which would normally have been redeemed over a period of time, rushing to cash out, thus precipitating a downward spiral earlier than expected. So, what was actuarially deemed to be a non current liability might end up becoming one. Should creditors draw comfort from the airline industry where there was no mad rush to redeem frequent flier points as the airlines were heading to bankruptcy? It is hard to say.

Consider Starwood hotels- at the end of 2008, the total liabilities from the loyalty program amounted to $662 million. Of this, $232 million were included in current liabilities. This was a fairly sizeable portion of shareholder equity which amounted to $1.6 billion. Hotel Intercontinental had practically wiped out its shareholder equity by the end of 2008. But it still had $471 million of loyalty liabilities. Marriotts’ balance sheet was more interesting. It just had $1.4 billion in equity supporting a balance sheet of $8.9 billion. Liabilities from the guest loyalty program amounted to more than $1.5 billion.

**The Real Inventory of the Airline Industry**

Every day, at midnight, an airline has the capacity (from owned and leased aircraft) to fly a certain number of passengers for a certain number of kilometers without compromising customer safety or customer experience. By midnight next day, any plane that did not fly an optimal number of hours, or, for the hours it flew, did not have a plane load of passengers, would have forever seen a write-down of inventory from the previous midnight. At midnight on the previous day, the airline had a certain number of seat kilometers available (number of passenger seats available multiplied by the maximum possible kilometers the planes could have
flown on their routes). This is referred to as available seat kilometers - the real inventory that an airline has – not the sundry details it reveals in its balance sheet in the form of airplane spares, fuel inventory etc. By midnight the following day, this available seat kilometers (ASM) per day needs to be converted into hard revenue. Else, the available passenger seat kilometers would have to be written off for good.

Of course, if demand is abundant, the airline can load up the planes to the maximum extent and charge the customer what the market can bear. What if demand is less than abundant? Decisions on whether to cancel flights will have to be taken. The decision is governed by whether through flying the passengers who are willing to fly, the airline can cover its variable costs - fuel costs, variable portion of crew pay etc. If the airline cuts the ticket price, more people would be willing to fly, causing the revenue, the product of passenger ticket and number of passengers to go up. There is a certain price level at which the revenues can be optimized. The airline, if worried about long term brand value, might choose not to maximize short term revenue. Whether the airline flies an airplane on a given day or not, fixed prices connected with the airplane such as capital costs would continue to be incurred. So, the aim of airline management is not only to increase passenger load factor, but also revenue. In the medium term, capacities might have to be permanently withdrawn by returning airplanes on operating lease. For instance, in its annual report of 2008, Southwest Airlines, the only investment grade US airline, planned a 4% reduction in average passenger mile during 2009. That would result in a concomitant reduction in fixed costs and a greater likelihood that the airline would make better use of its daily available seat-mile inventory. As operating expenses per seat mile go up, the minimum revenue required from passengers for a flight to be viable goes up, i.e. break even passenger load factor goes up. Ultimately optimal use of the airline seat-mile inventory over time is what optimizes the return on capital employed for an airline.
**Singapore Airlines’ superb Working Capital management brings down its Gearing**

It is well known that Singapore Airlines is one of the best run airlines in the world. In an industry inhabited by companies which either have no clue about operational excellence or ravaged by union intransigence or managements confused about their business models, Singapore Airlines comes out as a shining beacon.

The company’s operational excellence translates into high profitability. When this profitability is combined with its negative working capital requirements, it is a recipe for ever lower amount of capital to be deployed vis-à-vis the scale of operations. Airlines typically have negative working capital requirements because customers pay for their travel before fuel suppliers have to be paid. But this benefit does not accrue to airlines which are not profitable. They get into a vicious cycle. These airlines have to service their airplane lease rentals (because of their weak profitability, no one would provide financing to these airlines for buying planes) and other fixed expenses before resources are available to ensure customer satisfaction. Suppliers of fuel would be wary of providing credit to those airlines for extended periods. In the extreme case, fuel suppliers would require letters of credit or other risk mitigants before they supply fuel. That results in added costs and forgoing of the benefit that accrues from having to pay for fuel later. This in turn requires short term financing (in ever increasing amounts) until bankruptcy puts those companies out of their misery.

Singapore Airlines does not have any short term debt. At the end of March 31st 2004, the company had a debt equity ratio of 0.2. At the end of March 31st 2008, this ratio had fallen to almost 0.1. The company had current liabilities of Singapore Dollar (SGD) 5.96 billion. It had current assets of SGD 8.3 billion, but when cash and marketable securities were deducted from those assets, the effective current assets were only SGD 2.7 billion. Fuel suppliers to Singapore
Airlines are in fact providing short term financing to the company for free. This virtuous working capital cycle will come to an end only when Singapore Airlines takes its eye of the ball and resorts to financial engineering as opposed to excellent customer service. Only then would fuel suppliers be worried about its credit standing and the virtuous cycle would turn vicious.

**Accounting Box: Does the Cash Flow Statement tell the Analyst anything new?**

The fetish for the cash flow statement displayed by a number of credit analysts is difficult to comprehend. It might be useful to the equity researcher for his discounted cash flow analysis (DCF), if you believe DCF is a meaningful pursuit. Sustainable competitive advantage can be gleaned from the credit/equity story and the income statement and balance sheet (in terms of return on capital employed). The cash flow seems like an entertaining diversion. We wonder if equity analysts ever revisit their cash flow forecasts for DCF analysis a year later to check if the actual free cash flow had any semblance to their projected free cash flow. And the further out into the future these cash flows are projected (to the end of time, or so the theory goes), the more stark the departure from reality.

Anyway, for a credit analyst, the cash flow does not tell him anything new if he has grasped the income statement, the balance sheet and has tied the two statements to the credit story. And if he has not grasped the message from those statements, he will not be able to glean much from the cash flow statement. After all, the cash flow is derived from balance sheet and the income statement, and is a reconciliation statement between of cash in a balance sheet at the end of the previous year to the cash at the end of the current year. The operating margins, gleaned from the income statement, give one an idea of the competitiveness of the company vis-à-vis its competitors. The balance sheet lets an analyst know of the capital efficiency in securing the returns. Capital efficiency means using as little long term sources of capital (implying efficiency
of capital expenditure) and as little short term debt as possible (implying efficient working capital management).

The theory that the cash flow statement is useful because it permits “comparability of the reporting of operating performance by different entities because it eliminates the effects of using different accounting treatments for the same transactions and events” is dubious. An analyst who has understood the underlying credit story would automatically be able to handle the different accounting treatments (anyway, the world is gradually moving towards reconciling the different accounting standards). And if you are just going to look at the financial statements without having understood the prose and poetry of the credit story, there is a real danger, at some point in time in the near future, your job might be taken over by a trained monkey or a computer program.

However, there is no harm in having a quick glance at the cash flow statement, particularly if the cash flow statement has been presented using the direct method. Both IAS 7 and SFAS 95 encourage the usage of the direct method, wherein major classes of gross cash receipts and gross cash payments are disclosed. Unfortunately, most companies report their cash flows using the indirect method which merely adjusts the income statement for non cash transactions. When presented using the direct method, all an analyst needs to do to get operational cash flows is to subtract from cash received from customers the sum of cash paid to suppliers and the interest paid on working capital loans. The interest paid on long term loans should be considered in financing cash flows, unless the interest is paid by the financing arm of a manufacturing company. Then the interest paid on long term debt is also part of operational cash flows. The investing cash flows are basically increase/decrease in non current assets and the financing cash flows are the increase/decrease in non current liabilities.
Another dangerous notion often talked about is, if operational cash flows are good, all is well.
In industries where high capital spending is initially done, the year after capital expenditure is completed, high operating cash flows might occur because of higher sales. Sales might not cover full costs (depreciation costs etc.). When sales do not result in full return on capital, debt servicing over a period of time is not assured, despite operational cash flows.

In some circles, particularly where a lot of fee based incomes are at stake based on fructifying lending transactions, Earnings before Interest Tax and Depreciation (EBITDA) is considered as a proxy for operational cash flows. If this metric is used by anyone other than rascals trying to make a quick buck, one has to wonder if the user of such metric has any idea about fundamental business realities. It ignores the fundamental tenet that a company can earn its way to bankruptcy if it does not collect its receivables, replace depreciated assets or pay the payables before cash is available for interest servicing. If EBITDA is nonsense, so is any ratio derived using it such as Debt to EBITDA. This lesson has not been learnt even though it has been almost four decades since the bankruptcy of US railroad company Penn Central. Penn Central conserved cash by not doing the necessary capital expenditure. Because of this, its tracks deteriorated and the trains had to run at reduced speeds. This delayed shipments and caused personnel to work overtime- further bloating costs. Derailments and train wrecks occurred frequently. Penn Central also used short term debt to finance long term assets. But thanks to low capital expenditure, for a while, its EBITDA was strong.

Key Takeaways from this Chapter

A high return on capital employed is an illusion if it is accompanied by inefficient or fraudulent working capital management. If receivables or inventory keep going up disproportionately with growth in sales, ever increasing amount of capital would have to be deployed for financing this
working capital requirement. When the increased capital requirement comes from higher and higher amounts of short term debt, trouble could loom in the horizon.

If receivables of a company are going up relative to sales, it could imply one of three things. Firstly, it could be because the company is extending longer periods of credit to its customers in order to secure sales. That could be on account of the company’s products not being that exciting vis-à-vis the products of competitors and hence needs to extend longer periods of credit to push sales. In that case a credit analyst needs to ask himself if the company’s credit story is over. Secondly, it could be because the company’s customers are experiencing financial stress and are unable to pay up on time. That is also not good news because it could require write down of receivables and fall in future sales. Finally, the rise in receivables could on account of fraudulent sales being booked to overstate reported revenues and earnings, either to keep financial markets happy or to satisfy some loan covenant linked to EBITDA (why lenders link their covenants to an eminently malleable number such as the EBITDA is a separate tale).

Raw material inventory levels are coming down across industries on account of efficient supply chain management. However, the credit analyst should check and convince himself that the supply chain is not too stretched. Also, it needs to be verified that the company’s profitability has not been secured by arm twisting suppliers, whose falling into bad times due of this can put the company at peril. LIFO accounting of raw material inventory is more conservative than FIFO accounting in times of high inflation. As manufacturing processes get more efficient, the work in progress inventory has been coming down. An analyst should verify that work in progress inventory in industries using the percentage completion method accounting is not an artifice for overstating revenues. Finished goods inventory should be low, particularly in industries such as fashion retailing because the inventory can loose value fairly sharply in response to changing
fashion tastes. In those industries, it might be better to convert inventory into receivables of questionable quality rather than carry it as inventory.

In the case of payables management, the cardinal rule is do no harm. Delaying or stretching payments to suppliers is not a sustainable way to manage cash flows. Payable days out of sync with industry norms should be clearly explained. In industries with negative working capital days, the credit analyst should understand that while this is a good position to be in, it might not be sustainable for a loss making company. In the case of negative working capital industries, the cycle of conversion of inventory to receivables to cash for paying the supplier does not exist. The supplier draws comfort from the overall profitability of the company he is a supplier to. The moment that is called to question, supplier forbearance cannot be taken for granted.