

### Chapter 3 Consolidated Financials and Consolidated Risk

Towards the end of 2009, when Moody's had a high investment grade rating on Dubai, and the Emirates' ability to service its debt was appearing decidedly wobbly, the rating agency got markedly nervous. Moody's started making murmuring noises about the limited availability of data on the debt outstanding of the different entities of the Dubai government. If they did not have the consolidated debt data, what was Moody's doing by assigning a credit rating to country's debt in the first place? It was a bit late in the day to announce that they did not have the data when several classes of investors had relied on the rating for their investment decision. In fact, the incident was merely one (and not likely to be the last) in a chain of wrong sovereign ratings assigned by one or the other of the international rating agencies, always followed-up by some sorry excuse instead of introspection and constructive problem solving. One of the sure fire ways of loosing money over the last couple of decades has been to base credit and equity investment decisions on the sovereign ratings assigned by credit rating agencies. It would rank in the same league as investing in Bernie Madoff's investment funds based on the audit report of dubious auditors.

The reason for accident prone sovereign ratings is due to the fatally flawed methodology of the rating agencies. At the core of the methodology is a disproportionate importance given to the income statement of a sovereign (through the fiscal /revenue deficit numbers) and its balance sheet (through calculation of sovereign debt as a percentage of GDP) while ignoring the debt structure of the society at large- including the household income statement (the savings rate), the household balance sheet (household debt/GDP), the corporate sector income statement (return on capital employed) and the corporate sector balance sheet (average corporate debt equity ratio). Despite the error of their methodology being repeatedly exposed when sovereign

crisis were not forecast, the agencies have not re-looked at their analytical framework. As the book of Proverbs in chapter 17 put it: a rebuke impresses a man of discernment more than a hundred lashes a fool.

It is impossible to look at sovereign financials without a clear understanding of the private sector financials. In fact, the correct metric for looking at sovereign debt is societal debt ratio which we define as the ratio of the sum of government debt, corporate debt and household debt of a society to its GDP. Whenever we talk about government debt, we also include the assets of the central bank which are denominated in the domestic currency. It is consolidated financials that give a clear picture about the sustainability of sovereign financial strength or the likely persistence of current financial weakness. Society's consolidated financials, in short, are leading indicators of sovereign fundamentals. By 2007, households and many companies in the West were levered to the hilt. And when they started defaulting, they ignited a credit crisis which by early 2009 had caused governments to inject more than \$400 billion in new bank capital and guarantee bank debts of almost \$ 5 trillion. In effect, the household and corporate debt was transferred to the government's balance sheet. Government holdings became substantial in banks such as Citigroup, Royal Bank of Scotland, Lloyds Banking Group, Bank of America, and Commerzbank etc. Carmen Reinhart and Ken Rogoff estimated that public debt rises by an average of 86% in real terms in the periods subsequent to a big financial bust. These busts would usually have been due to corporations or households overextending themselves- so looking at government financials on a standalone basis is plain silly.

We will discuss in later sections why societal debt is the only way to analyze sovereigns and why all bloomers committed by rating agencies in sovereign analysis can be laid at the door of looking at stand alone financials and not the consolidated financials or just paying lip service to household and corporate sector fundamentals. Consolidated financials are also necessary to

negate the effect of transfer payments which might cause sovereign debt to go up in the short run but can cause higher tax receipts over the medium term on account of taxes collected from the increased productive activity on account of the transfer. Whether the transfer payment was productive or unproductive can be assessed from the consolidated financials and societal output as we will see later. When societal debt ratio is high, it is only a matter of time before governments resort to accounting artifices such as paying their employees a day late so that the expenses show up in next year's financials (an accounting subterfuge that the state of California did indeed take refuge in).

What is true for sovereigns is also true for corporate credit analysis. Stand alone corporate numbers can lead to grievous errors of analysis. This is particularly true of manufacturing companies like General Motors, Ford, General Electric, Caterpillar, Tata Motors etc which have financing arms. Even otherwise, diversion of cash flows from stronger to weaker entities within a group or among entities with the same dominant shareholder would make standalone financial analysis less than useful. While one can talk about theoretical concepts such as "ring fencing of cash flows", these are very difficult to implement in practice. In 2005, a consolidated analysis would have helped an investor spot trouble at derivatives dealer Refco, which was able to hide \$430 million debt by disclosing it as receivables in transactions with a private company owned by the Refco CEO.

Looking at consolidated financials extends to clusters of companies such as an industrial cluster. It is pointless to analyze the credit prospects of an auto ancillary which gets a chunk of its revenues from a single OEM without analyzing the credit prospects of that OEM. Quite similar to a cluster are Japan's *kieretsus*, which we discuss later. Also, credit analysts tend to split the full recourse and non recourse debt of companies such engineering contractors who own stakes in big infrastructure projects which they help construct. The debt at the project level is

regarded as without recourse to the contractor. If, for analysis, one assumes that the contractor can cut loose his non recourse debt, one should also assume that the value of the contractor's investments in those projects to be zero.

Even in a country where the household debt and corporate debt are under control, a sovereign is exposed to risk if its banking system is poorly regulated and it takes on credit risk in other countries where the household and corporate debt are high. When this banking system runs into trouble, as for example, the German banking system did when it took on US sub prime mortgage risk, the sovereign is in the dock, despite the fact that Germany's public and private sector debt is tolerable.

In this chapter, whenever we use the expression consolidated debt, we refer both to funded and unfunded debt exposures. Unfunded exposures emanate chiefly from providing guarantees for another entity's borrowing. So, in the case of corporations, one has to consider not only the debt of an associated entity but also guarantees for debt which have not been appropriately consolidated. In the case of banks, this could originate from of liquidity support to structured investment vehicles (SIVs), which potentially get converted into credit risk of the SIV investments when push comes to shove.

### **Standalone Sovereign Financials and the Six Blind Men of Hindustan**

For those not aware of the plot of the poem "The Blind Men and the Elephant" by the poet John Godfrey Saxe, here is a synopsis of the tale- the six blind men of Hindustan touched various parts of an elephant and assumed that they knew how an elephant looked like. For instance, the fellow from Hindustan who touched the elephant's tail concluded that the elephant was very like a rope. Each and every one of the blind men missed the elephant in the room. As the poet concluded- "though each was partly in the right, all were in the wrong". A credit analyst

analyzing sovereign financial health by looking at the government's fiscal surplus and Debt to GDP ratio should have the poem dedicated to him. Of course, rating agency analysts do not look only at those two ratios- there are a lots of miscellaneous diversionary issues they "analyze" such as unemployment rate in a country by age and sex.

It is possible for a sovereign to have very healthy financials on the back of weakening household and corporate financials. When households satiate their appetite for consumption through increased debt and lower savings, demand for goods and services in an economy shoot up. This process is usually ignited under the gaze of a benign central bank's easy money policy. To meet this demand, corporations might go for a spot of debt funded capital expenditure, taking corporate leverage to new levels. Even the outstanding debt of financial firms go up as they fund consumption directly or indirectly. Between 1998 and 2008, the debt of American financial firms jumped from 39% of GDP to 111% of GDP.

Jump in consumption will cause increase in tax collection on the back of higher sales tax and excise generation. Corporations would pay more taxes due to increased profitability. This would result in re-rating of the stock market multiples. Aggressive P/E multiples applied to supercharged earnings cause stock prices to zoom and fill the government coffers with capital gains taxes. Household animal spirits might make them aspire for a second and a third house, igniting a property bubble and a jump in property tax and property sector capital gains tax collection. Due to this, the government's tax income shot up. Because of exclusive focus on a government's finances for sovereign credit rating, which looks good in an environment of high tax collection, upgrades of sovereign debt by the rating agencies exceeded downgrades in every year between 1999 and 2007. The situation drastically reversed in the next two years.

Obviously even in a benign interest rate environment there is a limit to how much debt households and corporations can pile up before earnings are not adequate to meet basic needs and debt servicing demands. At some point even an indulgent central bank lead by a maestro needs to raise interest rates before red hot demand pushes a society into inflationary anarchy. In some cases, besides debt for capital expenditure, “visionary CEOs” hell bent on transforming their industries might have gone on a debt financed acquisition spree. So, corporate leverage can hit unhealthy proportions during periods of high household debt.

When society is leveraged to the gills, banks start coming out of the woodwork to announce they are witnessing a jump in non performing assets (NPAs). If the bubble did not last long, the NPAs might be manageable after a few “systemically unimportant banks” go down under. If the boom lasted too long, some systemically important banks start begging for government support causing government debts to soar and fiscal deficits to rise. Government revenues through tax collection would now go into reverse, causing countries overnight to plunge from models of fiscal prudence to banana republics or kingdoms.

There is also a correlation between future unfunded state of public pensions and high private sector debt. High private sector debt will lay the foundation of a future stock market crash. When the inevitable crash happens, public pensions invested in stock markets might become unfunded. When companies with underfunded pensions go belly up, the onus of pension servicing falls on state agencies such as the Pension Benefit Guaranty Corporation. This too causes governmental debt to go up. When governments provide social security and health care at old age, it encourages consumption as citizens need not save for their own retirement. The increased current consumption caused by lack of current household savings also increases current tax collection but it comes at the cost of increased governmental liabilities in the future. This Ponzi game ends when the population in a country ages.

When households and companies quench their thirst for debt in foreign markets, it lays the foundation of a sovereign currency crisis. In such cases, the analyst needs to know not only the quanta of foreign exchange reserves of the country, but its structure (how much of the reserves is linked to hot money inflows etc). If the country that has borrowings abroad is also running a current account deficit linked to excessive consumption (not a deficit linked to capital expenditure of a developing country) a currency crisis is on the anvil unless the country is very attractive to foreigners and it draws in considerable amount of foreign direct investment.

So, to assess sovereign debt, you need to start your study by analyzing trends in the following ratio:

$$\text{Societal Debt Ratio (SDR)} = (\text{Government debt} + \text{Household debt} + \text{Corporate debt})/\text{GDP}$$

Government debt should include all guarantees given by the government, the debt and guarantees issued by sub-sovereign agencies like export credit agencies, the domestic currency financial assets of the central bank (the size of the US central bank's balance sheet went up from \$850 billion in mid 2007 to \$2.3 trillion in mid 2010 on the back of purchase of questionable "assets" in billion dollar lot sizes during the credit crisis period) and the present value of the unfunded portion of liabilities such as Social Security and Medicare.

You need to ignore the following rating agency metrics to avoid taking your eye of the ball:

-Per capita GDP: Per capita GDP is no more useful to judge a society's ability to repay its debt than a householder's income is useful to judge whether he will be able to pay off his car loan. For a car owner, income to installment ratio measures his ability to service debt and loan to value (LTV) ratio measures the cushion available to the lender, should the borrower's income cease. An absolute value of the car owner's income is not necessary for the analysis.

- Institutional strength: Nice to have, but it must be viewed purely as an optional extra. In tough times, institutional frameworks get seriously brittle- so you need to assess the likelihood of tough times befalling rather than relying on institutional strength to bail you out once bad times set in. The arm twisting of creditors during the General Motors and Chrysler bankruptcies indicate to what extent institutional mechanisms and rule of law can fail when the going gets tough and populism reigns supreme. The relentless bastardization of the coin of the realm by the Federal Reserve also indicates that institutions that look rock solid during good times are more malleable during tough times. The same can be said about the European Central Bank post the bailout of weak countries with a rash of rash measures. Also, politicians can resort to populism if they think it will help them in an election- witness the new tax on mining companies debated by the Australian government in early 2010. The increased revenue collected from the tax was to be, among other things, funneled into pension funds of Australian workers, thus enticing them to vote for the ruling party.

And you need to look at the following items, which find scant mention in rating methodologies (Refer Text Box- Sovereign Rating Methodology of Credit Rating Agencies) of rating agencies:

- Household and corporate savings
- Quality of foreign exchange (forex) reserves- Reserves stored in currencies of countries whose best days are behind them might not be prudent
- Net lending/borrowing of households as percent of disposable income

### **The $V_{\text{Gap}}$ and Society's Illegitimate Debt**

Let us consider a country with a GDP in year 1 and year 2 of  $GDP_1$  and  $GDP_2$  respectively. In those years, the societal debt was  $D_1$  and  $D_2$ . Let the weighted average cost of societal debt be  $K$ .

Between year 1 and 2, the GDP of the country grew by  $\alpha\%$



$$\text{So, } GDP_2 = GDP_1 (1 + \alpha)$$

Let the Societal Debt Ratio (SDR) for year 1 and 2 be denoted by  $SDR_1$  and  $SDR_2$  i.e.,  $SDR_1 = D_1/GDP_1$  and  $SDR_2 = D_2/GDP_2$

Society's Marginal Productivity of Debt (MPD) is defined below as

$$\frac{\Delta GDP}{\Delta Debt} = \frac{(1 + \alpha)GDP_1 - GDP_1}{(1 + \alpha)SDR_2 GDP_1 - SDR_1 GDP_1}$$

$$\frac{\Delta GDP}{\Delta Debt} = \frac{\alpha}{(1 + \alpha)SDR_2 - SDR_1}$$

Define the  $V_{Gap}$  as

$$V_{Gap} = MPD - K.$$

If the  $V_{Gap}$  is positive, society's aggregate debt is legitimate (it does not mean each and every debt is legitimate) and income accrued from deploying debt can be used to service the debt. The more MPD is greater than K, the faster society's debt can be paid off. On the other hand, if MPD is less than K, society will require more debt to service current debt or sell assets. It would be misleading if one looks at a single point MPD value and draw conclusions. There might be some timing mismatch between resources being deployed and income accruing due to factors such as construction period etc. It is safe to use trailing 3 year averages of MPD and K. If this average shows an ever widening negative  $V_{Gap}$ , it is sensible to wonder if the society and the government's finances are heading for trouble, irrespective of what a credit rating agency proclaims from its ivory towers. The Soviet empire was doomed because it required ever increasing resources to generate a unit of GDP growth.

Obviously, a society which is using its savings instead of debt to generate income is likely to witness positive  $V_{\text{Gap}}$  on account of lower cost of debt financing. Low MPD would cause higher inflation, higher interest rates and in times of high global liquidity, make the country a recipient of “carry trade” money. That drives the country’s currency up when it should be depreciating on account of low productivity.

If you are a short term credit investor in a country and you see a negative  $V_{\text{Gap}}$ , you should check if the government has some liquid resources to pay your obligations and obligations of similar tenure before disaster strikes. But that is a risky call, because once disaster strikes, things might not go as per script, with government officials running around like headless chickens as they are wont to do.

If you are an equity investor, you should certainly not be scouting around for opportunities in a society with a negative  $V_{\text{Gap}}$ . Governments in such societies are likely to have large unfunded future commitments such as retiral and healthcare benefits and these obligations could be senior to debt (at least in the minds of politicians if not in a court of law). The only way the government in such a position would be able to extricate itself is by reneging on some obligations. It is not the creditor’s business to speculate on which obligations the government would renege on.

### **Does Tenure of the Consolidated Societal Debt Matter?**

If all goes as planned, one of the easiest ways for a hedge fund to make money is in the “carry trade”, wherein the fund takes advantage of a steeply upward sloping yield curve to borrow for short tenure (say for 6 months) at 5% and lend it for longer tenure (say for 10 years) at 8%.

Hedge funds would probably complicate matters by borrowing in one currency short tenure and deploying the funds in long tenured assets of another currency, thus taking the risk of two yield

curve shapes in addition to currency risk. However, that complication need not detain us for the present and we will focus on borrowing short and investing long.

Does the tenure composition of societal debt matter when calculating  $V_{\text{Gap}}$ ? In other words, is it possible for society at large to participate in a carry trade? The short answer is that it is not possible at the consolidated level. If everyone in society borrows short in the domestic currency, including the government, corporate and household sectors, demand for short term debt will push up the cost of short term borrowing, removing the benefit of borrowing short. While it is possible for individual components of society to play the carry trade, for society at large it is not possible. This would cause borrowers to borrow for the tenure that makes most sense for them- corporations financing long term projects borrowing medium term and households borrowing short term for consumer finance. The shape of the yield curve might hit "conundrum" proportions if a foreign or domestic lender deploys funds for tenures that might not make sense from purely commercial considerations. If society at large tries to participate in a carry trade by buying long dated assets with short term borrowing, the short term rates will rise and the trade will disappear- but might leave some bankrupted household/corporate in its wake as they need higher and higher cost funds to meet their financing requirements. In such a period, there would be a rush to liquidate long dated assets- which will drive their value further down.

It is however possible for corporations and governments (Hungarian and Estonian households having Swiss Franc denominated mortgages) to participate in a carry trade in a foreign currency for an extended period of time. But sharp tenure and currency mismatches always carry the threat of insolvency as East European households found out to their cost.

**Societal Inefficiency is a Cushion for Creditors**

A society that is operating at the efficiency frontier cannot generate additional cash by improving productivity. A society is said to be functioning at the efficiency frontier if there is no scope for cutting its energy consumption without impacting its gross domestic product. A government department that is employing too many people can cut its energy consumption by letting some people go without impacting the quality and quantity of goods and services provided by that department. Now a creditor ideally does not like to see his borrower operating in a zone of low productivity. But if all things are the same between two countries, the more inefficient society, paradoxically, offers more comfort to a creditor because there is room for cutting costs by improving productivity. In short, there is room for enhancing the sovereign's cash flow without putting at peril its tax base.

**Household and Corporate Savings are relevant for assessing Sovereign Risk**

Peering at household and corporate debt will help assess to what extent the sovereign debt can go up in future. If households and corporations of a country are under leveraged, they will not impact sovereign debt, because they are neither likely to put the banking system at peril nor are they going to create a deep recession which require government bailouts and stimulus packages and which sharply impact government income- whether in the form of reduced income tax, corporate tax, property tax, sales tax or capital gains tax.

The other dimension to sovereign debt analysis is household and corporate savings. Ignoring this is sheer idiocy that rating agencies recklessly participate in, because when households and corporations (particularly households) are great savers, the financial flexibility available to the sovereign increases leaps and bounds. The savings of corporations such as Cisco, Microsoft and Google, which invest part of their savings in US government securities, provides flexibility to the

US government. Few countries can survive at sovereign debt levels close to 200% of GDP- but Japan has, thanks to the savings of its household. When these households, due to an ageing population, reduce their savings, the Japanese government is going to have a tough time servicing debt. To date, more than 90% of Japanese government debt is held by domestic institutions which rely on the high household savings of the country. But creditors need to start worrying as the household savings rate of Japanese households has fallen from 15% in 1992 to less than 3% now. Thanks to the savings of its population, the Chinese government (household savings rate of 38%) has been able to get away with funding low return projects. Now this might have the flavor of a Ponzi scheme- using abundant bank deposits to fund bad projects- but in the short term, this affords great luxury to the government, which can boost employment and tax collection. The Chinese government can boost growth anytime when it forces the banks to lend those deposits. China's bank debt funded model through financing of state owned enterprises at low rates is viable only because of the high savings of the Chinese households. Obviously the governments in Spain or Ireland or the UK do not have this leeway. Yet the rating agencies rate those countries higher than China and Japan.

### **Societal Assets matter**

If sovereign resources can be sold without embarrassment, societal assets are also a source of comfort to creditors. This is what a number of US states have been doing- selling off bridges and highways to private entities under the so-called public private partnership model and permitting the private entities to charge a toll. Obviously, a government which owns such highways and bridges that can be sold is in a better position than a government which never got around to building those roads and bridges in the first place. Likewise, government holdings in profit making enterprises must be given a positive weightage in the sovereign risk analysis. Holdings in loss making units which require continuous cash infusion must have a negative weightage

because chances are there would be no buyers for such assets and such firms cannot be shut down without political consequences.

The financial analyst must remember that not all assets can be sold off. Similarly, not all liabilities can be wished away, though some, such as health care might be reduced through cutting corners and hoping voters might not note the difference in service quality. The sensitivity of asset sales and liability shaving varies from country to country and from asset/liability type to asset/liability type. It is unlikely (at least in the near future), the United States will auction off the Seventh Fleet or pension off its pension liabilities. So, when analyzing a country's sovereign debt, the gross debt figure overstates the liabilities. One must subtract the value of assets that can be sold off without much quandary, so that the debt figures of different sovereigns can be brought to the same level for ready comparison.

## Stories in Sovereign Credit Analysis

### **There was something Moody in Iceland**

Iceland, since the early part of the 21<sup>st</sup> century was clearly a society living beyond its means. And it provided a playground to Moody's sovereign rating analysts to fulfill their karmic destiny of making priceless fools of themselves. S&P and Fitch, in this case, looked marginally smarter. Between 2002 and 2005, the SDR of Iceland jumped from 247.9% to 346.2%. Clearly, by the end of 2005, Iceland was rushing like the Gaderene swine to acquire the status of a banana republic. Because of the debt funded excesses of the corporate and household sectors, the government's budget surplus was around 5% of GDP in 2005. The SDR further worsened in 2006 and in 2007 even as the budget surplus hit 5.5% of GDP in 2007. Two years later, the deficit was to hit 13% but that comes later in the story. The limited point being made is that deficits and surpluses can swing either way fairly rapidly when corporate and household debt jump up or the

debt is deployed in unproductive avenues. Hence tracking a government's budget deficit and surplus is a mug's game.

In mid 2005, in its annual credit surveillance report of Iceland, Moody's justified the country's Aaa rating by citing the "government's low debt" and "the economy's unusual financing flexibility" (!!). The agency did make a passing reference to the country's high current account deficit and a credit driven consumer boom, but it did not bother Moody's sufficiently to take a re-look at the country's credit rating. Au contraire, the agency felt that the Aaa rating was secure on account of "the government's modest debt, high labor force participation and a well funded pension system".

Because the general government debt was just 36% of GDP at the end of 2004, to Moody's, all other issues were irrelevant. This intellectually weak analytical framework ensured that Moody's had egg all over its face in 3 years. If only the rating agency had looked at the deteriorating SDR in domestic and foreign currencies as well as worsening  $V_{Gap}$ , it would have saved itself and investors using its credit ratings as oracular revelation a lot of blushes. Private credit growth, year on year, was 64.5% in 2005, after an already torrid growth of 39.6% in 2004.

Digging itself deeper in the hole of intellectual inadequacy, in April 2006, Moody's concluded that Iceland's Aaa rating "is not experiencing undue risk to solvency or liquidity as result of recent volatility in the nation's business and financial cycles". Moody's felt these concerns "have been exaggerated". Moody's Iceland credit czarina concluded, in a last dash of rushing where angels fear to tread, "Iceland is well positioned to deal with any potential claims on government resources that might emanate from a systemic problem in any sector of the economy". And yet, in two years....Agh!!!

On January 1 2008, Moody's still had a Aaa credit rating on Iceland. On the 5<sup>th</sup> of March, the outlook on Iceland's government bond ratings was changed to negative by the agency. On the 20<sup>th</sup> of May, the long term foreign currency obligations were reduced, tepidly, by one notch, to Aa1. At the end of the third quarter of 2008, total household debt reached 115% of GDP and corporate debt a whopping 316% of GDP. On the 8<sup>th</sup> of October, after all the horses had bolted, Iceland's rating was downgraded by a further 3 notches to A1. In less than two months, on the 4<sup>th</sup> of December, Moody's downgraded Iceland by a further 3 notches to Baa1. In the 12 months of 2008, after eulogizing the virtues of Iceland's government debt management in the prior 3 years, Moody's downgraded the credit rating of the hapless country by 7 notches. And the outlook continued to be negative!! For some unknown reason, Moody's sovereign credit team still had their jobs in January 2009 and lent their names to the Iceland credit analysis report of the same month. It seems job security at the agency is higher than that at the governments of the countries the agency purports to rate.

Moody's credit analysis report of Iceland in January 2009 was excruciatingly funny but also poignant. Instead of acknowledging the deep flaws in its analytical framework, it talks about the risks to the Icelandic economy emanating from the problems with the fishing stock of the country. The agency praised the "high degree of social consensus in the country". Besides the philosophical question whether a high social consensus is a source or sink of societal creativity and productivity, its relevance to a government's ability to service its debt are, at best, of a marginal and peripheral nature. Moody's continued to have as high an opinion of the "country's institutional strength" as it had 3 years back. Of what use is a parameter for forecasting credit quality if it did not change well before a crisis thus pointing its moving finger in the direction of trouble ahead? A leaf which flutters after the wind has passed through is useless for predicting the likely arrival of the wind. And the color of the butterfly sitting on the



leaf is even more useless for predicting the wind. You can get the right answer even after asking the wrong question only if you were lucky to have encountered a Type III error. In Finance, that happens only during times of abundant liquidity. Unfortunately for Moody's, it had no such luck with its Iceland credit rating as global liquidity had dried up in the post Lehman world. While removing such spurious parameters from its analytical framework would make it simpler and more relevant, it would also remove the halo from its army of economists and political analysts and the *raison d'être* of a sovereign rating team.

Moody's estimated that in 2009 Iceland's government debt would hit 145.3% of GDP (remember it was only 36% of GDP at the end of 2004). That was slightly more than the debt of war hit Lebanon which sported a B3 rating from Moody's at the beginning of 2009. Debt of 45% of GDP was on account of guarantee of foreign currency bank depositors, which the country, at the beginning of 2010 looks likely to renege on (so much for "institutional strength"! ). An interesting proposition that some mediocre credit analysts put forth is that countries with disproportionately large banking system vis-à-vis their economies are not responsible for their banking systems' debt to foreigners. Short of aspiring to be another Zimbabwe (or another Iceland), it is not a reasonable proposition. When the banking system is bailed out, it has to be done in one shot- you can't guarantee only domestic depositors and expect not to be an international pariah. In Iceland's case additional resources were needed to recapitalize the central bank and the commercial banks. And that ignores corporate and household debt.

Moody's expected government revenues to decline by 16% and the budget deficit was expected to hit 13%. Even these could turn out to be too optimistic.

At the end of the 2009 report, Moody's calculated or presented 51 parameters as indicators of Iceland's credit quality. Alas, the relevant parameters – the SDR and the  $V_{\text{Gap}}$  were still not calculated, thus ensuring more credit accidents are likely to emanate from Moody's stable in the

future. We just hope investors (credit and equity) have understood the risk from tracking sovereign ratings and have put in place analytical processes for protecting themselves. We certainly hope that the herd of European banks, investors and hedge funds, which invested in Iceland based on Moody's credit rating, has learnt its lesson and in future holds sovereign rating opinions with minimum high regard.

### **Fitch "Analyzes" Irish and Indian Sovereign Credit Risk**

There was a time when Ireland had real growth, but by 2004, growth had given way to a debt financed bubble. The country thought it had a competitive advantage vis-à-vis vastly superior economies such as Germany when it attracted multinationals on the back of its low tax regime. Competitive advantage flows from the innovative and entrepreneurial spirit of the citizens of a country and the extent to which the government does not shackle that spirit, not from being a tax haven or indulging in unproductive speculation in real estate and other low yielding assets. Besides, Ireland was a mouse in a room filled with dancing elephants- the country was not fully a master of its own destiny like Germany.

Fitch, the number three rating agency in the three-horse race, both from market share as well as intellectual firepower view point, was strangely untroubled when the gross debt of Ireland jumped from € 504 billion in 2002 to €1670 billion in 2008. That marked a 231% jump in debt. During that period, the Irish GDP went up by 30%. The MPD was thus horrifyingly low and the negative  $V_{\text{Gap}}$  was a pointer to the fact that Irish society was deploying debt for unproductive purposes.

The report accompanying Fitch's 2005 affirmation of Ireland's triple-A credit rating borders positively on the asinine. The report harps on productivity growth, when in fact, Ireland's use of resources was shockingly appalling. Of course, if you measure productivity by unit labor cost

and not based on return on capital employed you are doomed to wrong conclusions. A society which employs a considerable amount of debt to secure growth can easily overstate labor productivity. When dollops of debt are strewn around, average productivity, on the back of temporary output surge would seem high.

The 2005 report, like the reports of other rating agencies, harps on the high per capita income of Ireland. Does it matter? If the per capita income of a country is USD 100,000, but if every one owns a million dollar McMansion in addition to a yacht, the country is less likely to be able to service debt compared to a poor country with a per capita income of USD 1000, provided the citizens of the poor country have low household debt and the corporate sector has not gone on a debt financed binge and put the banking system at risk. According to a report by the McKinsey Global Institute, in 2008, the combined debt of Indian households and corporations was less than 50% of GDP. The same ratio was around 150% for the United States while it was almost 225% for Spain. The Fitch report mentions “private sector credit growth remains buoyant” without worrying whether the debt was being used for productive purposes or if it was being used to create a real estate bubble.

In 2006, while praising Ireland’s debt fuelled growth, Fitch castigated high growth India (rated BBB- in 2006) for its high government debt and shabby state of government finances. While Fitch had a point criticizing India’s pathetic public finances, its fulminations ignored the financial flexibility the country enjoys on account of its high growth, high household savings rate, its miniscule household debt, its low corporate sector debt and its demographic profile.

Sustainable growth can reduce debt servicing burden considerably. At the end of the Second World War, the US had a Debt to GDP ratio of 122%. On the back of high growth over the next three decades, the ratio fell to 33% in 1981- not because the absolute value of debt fell, but because GDP had grown several fold on account of productive usage of societal resources.

When household savings are high compared to public sector deficit, a government can always secure financing from within the country to service debt. The government can force the banking system to subscribe to government debt through a Statutory Liquidity Ratio (SLR) as the government of India does. Banks need to have a SLR of 24%, i.e. they need to deploy 24% of their deposits on government bonds. Indian public and private sector employees are required to set aside 12% of their monthly basic salary for retirement savings (with matching contribution from the employer). These retirement savings are invested in government securities, giving the government a juicy source of investors for its debt on a continual basis. Governments can also direct financing to certain projects/entities by getting a not too independent banking regulator to reduce the risk weights of banks' exposure to such projects/entities. That, in effect, encourages the diversion of household savings to those projects thus reducing the need for government spending on such projects, freeing up government funds for debt servicing.

Now, this usage of household savings by the government is not the most productive usage of societal resources, and many Indian languages have a saying that if the king (that is, the government) becomes a trader, the subjects become paupers. But it ensures debt servicing by the government without external support in the medium term. Governments can also redirect household savings through tax incentives. Of course, such a situation cannot persist forever if governments deploy the funds for unproductive usage, as the Indian government definitely does. But that is a problem which can be solved over a few years (particularly in the case of a country on a sustainable high growth path), unlike the problems of a country whose SDR had spun out of control. To the eyes of common sense, but not to the eyes of Fitch, in 2006, Ireland was a risky country to invest in, a country that had merely postponed its troubles to another day on account of easy global liquidity.

Of course, if a government runs a high fiscal deficit and at the same time there is a fall in household savings, the sovereign which has got a chunk of its deficit financed by banks could put the banking system at peril. By the beginning of 2010, Greek banks held €39 billion of government debt, which was almost the same as the amount of capital they had. If the Greek government defaulted, the banking system would get into serious trouble. Greek banks extended their exposure to the government by writing credit default protection on the Greek government. Why buyers of credit protection thought they were protected by buying protection on sovereign debt from the banks located within a sovereign's realm is a question best left to them. The protection buyers clearly ignored the linkage between sovereign credit strength and the credit strength of the banking sector. What is to prevent a sovereign experiencing deep financial stress from nationalizing the banking sector and forcing it to buy government debt? Even in Ireland, the government forced the banks it had bailed out to subscribe to government securities. But we are getting ahead of ourselves on the Irish sovereign debt saga.

On January 15 2008, Fitch affirmed Ireland's AAA rating. The outlook was "stable". Fitch was still obsessing about Ireland's low government debt, which was at 25% of GDP. A metric, Fitch and investors in sovereign debt would do well to track in future as an auxiliary measure of sovereign credit risk, is net lending/borrowing of households as a percentage of disposable income. In 2007, the net *borrowing* as a percent of gross disposable income of Irish households was 14.7%. To get a perspective, German households' net *lending* was 8.2%. Now that's a triple-A country for you. When households are net lenders, they can provide funds to the other sectors of the economy for investment. The Irish household borrowing was the worst ratio among the EU27 countries, a grouping which includes profligate countries such as the UK, Spain, Portugal and prudent ones such as Germany. Fitch made a passing reference to the Irish real

estate bubble, but deemed it, more or less, a factor not necessary for assessing sovereign credit risk. Fitch did not have the intellectual wherewithal to assess the implications of Ireland's property related tax revenue jumping from 4% of total tax revenues in 1995 to almost 17% in 2007 and the concomitant jump in household sector real estate investments and real estate debt. Between 1991 and 2007, Ireland built houses equal to almost 25% of its population.

In the January 2008 report Fitch, while justifying the AAA rating, also rhapsodized about the country's sound banking sector. Pretty stupid, even for a rating agency! In 8 months, the government had to guarantee the deposits of the leading banks to prevent them from collapsing. Fitch's denseness hit new heights on the 30<sup>th</sup> of September 2008 when it reaffirmed Ireland's credit rating after the government guaranteed the deposits and debt liabilities of the six big domestic banks. Fitch felt that the government's low debt to GDP ratio meant that the guarantee would not lead to precipitous decline in sovereign credit quality. The rating agency still did not feel the need to peer at the country's private sector debt and the debilitating influence it had on sovereign credit quality. On the 20<sup>th</sup> of January 2009, when even an imbecile in the investment business realized Ireland was technically insolvent, Fitch reaffirmed Ireland's AAA rating. The outlook was stable!!!! Finally, on the 8<sup>th</sup> of April 2009, after all the horses had bolted and donkeys had occupied the stables, Fitch downgraded Ireland by one notch to AA+. The outlook? Oh, it had turned negative within 3 months. The great German chancellor Konrad Adenauer lamented on the unfairness of God limiting man's intelligence without limiting his stupidity. He might jolly well have been talking about the travails of Fitch. Perhaps the best advice to the Fitch sovereign rating team would be the advice a US senator gave to heads of US banks in the spring of 2009- go and commit Japanese style hara-kiri if they had any sense of decency or shame.

Analysts are very fond of quoting the investment rate of various countries. They talk about high investment rates in Asian countries. In reality, the investment rate is a misleading metric.

Unproductive investments (like fiscal stimulus of most countries during an economic slowdown) will cause long term harm as the increased debt will have to be serviced out of assets which yield low economic return. Driven by a real estate bubble, Ireland had an investment rate of 24.7% in 2007. A country with good physical infrastructure should not have this high an investment rate in physical assets- the investments need to be in intangible assets such as higher education and R&D. During the decade between 1995 and 2005, Germany's investment rate actually fell, and in 2007, it was slightly over 9%. And this investment should not come out of the government's budget, if it is to have an useful outcome. Japan's investment in physical infrastructure during the 1990s by the government is a classic case of unproductive investments that cause sovereign debt to go up without generating returns.

Talking about Japan, despite higher government debt and an ageing population, the likelihood of Japan servicing its debt is far more than Ireland doing so. Because of their flawed rating methodology, all the rating agencies rated Japan lower than Ireland. As an aside, if you had used the SDR-  $V_{\text{Gap}}$  framework, you would have realized in the late 1980s that Japan's real estate and corporate sector would implode soon, and a big jump in government debt was likely on account of having to bail out banks and stimulus packages to pull the country out of a deep recession that always follows a debt funded binge. Looking at Japan's negative  $V_{\text{Gap}}$  in the late 1980s, you would have pulled all debt and equity investments out of the country. But today, Japan which has world beating companies in areas as diverse as making solid steel vessels for nuclear reactors to making motors for hard disk drives, is in a far better position than Ireland which merely has multinationals located there for tax arbitrage purposes. Japan's possibility of

rejuvenating itself is far higher- Ireland can at best cut its public sector spending to generate fiscal balance. And the demographic worry for both countries is equally severe.

Ireland is a classic case study of how unless you study the link between public finances and private finances through the prism of banking system health, you are not going to get your sovereign risk analysis right. There is a transfer of private sector risk to public sector risk when the household sector and corporate sectors get excessively leveraged and put at peril the health of the banking system. In the case of Ireland, this crystallized in September 2008, when the government of Ireland guaranteed all bank deposits of leading banks to prevent a run on those banks which were tottering under the weight of non performing loans. By doing this, Ireland had in spirit if not in letter, violated the EU requirement that all member countries maintain their sovereign debt at less than 60% of GDP.

Looking at the credit scenario in late 2009, there is no reason on earth to believe that that the credit quality of the Republic of Ireland will improve soon, despite the pay cuts imposed on civil servants. In early 2009, Nobel laureate Paul Krugman said that Ireland faced the worst economic outlook in the world (though the woes of Greece, Portugal and Spain grabbed the headlines in early 2010). By the end of the year, the government debt was on target to hit 100% of GDP in the next few years. Growth is likely to be persistently negative as households retrench and zombie banks gaze at their navels.

### **Foreign Lending and the health of the German Banking System**

Sometimes, a country might be running a tight ship by having low societal debt, but can still have bank bailouts on account of lending to imprudent countries. The lending could be in the form of a simple loan to foreign corporations or foreign households or it could be investing in securitized assets with the loans to foreign corporations/households as the underlying. When



the SDR in those countries gets out of hand, delinquencies on the loans and loan products follow. Because those loans were financed using deposits of the prudent country, the prudent country government has to arrange a bailout of the imprudent banks domiciled in its territory. The prudent country's only fault was that it regulated its banks poorly and permitted them to gamble depositor funds in the global markets. Hence, while assessing the creditworthiness of the prudent country, the nature of the banking system's exposure to foreign borrowers must be assessed. If the borrowers are in countries with high SDR, this factor must be considered in the sovereign credit analysis.

Germany comes to mind when one talks about a country with prudent SDR bailing out imprudent banks. Germany is a country with low household debt. It is home to great companies and SMEs. Instead of funding those companies, German banks incompetently lent to imprudent foreign borrowers whose credit quality they were ill-positioned and intellectually ill-equipped to assess.

German banks have over the last decade completely lost their direction. One reason is that Germany is over banked. The other reason is that regulations have not been put in place to ensure that savings and deposits are protected and not permitted by banks to be gambled away. On the one hand, the country had incompetent banks owned by the different states of Germany called Landesbanks and some other government owned financial institutions. On the other hand, there were private sector banks like Deutsche bank and Commerzbank that had become like gigantic hedge funds. Both the types of institutions had one thing in common- they were indulging in dangerous games with depositors' money in pursuit of higher yields. By the middle of 2009, the German government estimated that its banks had almost \$ 1 trillion in toxic assets of which about half were in the Landesbanks' portfolios. Some of the Landesbanks were permitted to set up bad banks into which they could off load bad assets.

One of the Landesbanks, WestLB got into big trouble investing in US sub prime related assets. The government of the state of North Rhine-Westphalia had to guarantee some of the bank's borrowing to keep it going. The German government's bailout fund Soffin also had to pump in new capital into the bank. Another Landesbank, SachsenLB was given guarantees on some of its assets before it was taken over by rival LBBW to prevent it from collapse. SachsenLB had bought asset backed securities and derivatives worth 27 times the bank's equity. Commerzbank received capital injections from the government. State run Düsseldorf based bank IKB had to be bailed out to the extent of €9.2 billion to cover the bank's losses from foreign toxic assets. Most bad loans were real estate related- either to commercial or residential real estate in the US, Spain and Eastern Europe. If ever there was a hall of fame for patsies in the financial sector, IKB would occupy a place of honor. Real Estate financing bank Hypo Real Estate had to be nationalized and the government had to provide €100 billion in guarantees. BayersLB, which lost more than €5 billion in 2008, was bailed out by the state of Bavaria. HSH Nordbank was bailed out by the state of Schleswig-Holstein.

A bank, unless it is a international bank, has no business acquiring foreign assets as it is ill placed to assess the credit risk of such assets. Adventurous banks could set up wholly owned subsidiaries (structured as hedge funds), unfunded by domestic deposits to participate in venturesome foreign activities, trading and rolling the dice. High net worth individuals could be allowed to buy units of those venture funds. These funds would not be allowed to deal with depository institutions except for custodial services.

If domestic deposits are higher than can be used in domestic loans, they could be moved by banks with excess deposits to international German financing institutions regulated by domestic regulators. The funds could be used to fund foreign pursuits of domestic companies. That should be easy for a country like Germany with world class multinationals. This international

institution's role would be limited- merely to lend to a company like Siemens for a power project, say in Indonesia, at rates higher than it would lend domestically. The currency risk can be passed on to Siemens which can handle this on account of domestic operations in Indonesia. Then all this lending institution has to do is to monitor Siemens' consolidated financials. The assumption is that as long as the consolidated financials are strong, Siemens' Indonesian operation would not default on its Indonesian loan. After all, if it claimed the loan to be non recourse and defaults on its Indonesian loan, despite the consolidated financials being strong, it would in future find it hard to secure financing for a project in another country, say Brazil. This loan benefits Siemens because, even accounting for currency risk, the company should be able to borrow cheaper from this source rather than borrow in Indonesia. One might argue that this is precisely what organizations like KFW do, but what they do has an implicit state subsidy and export promotion angle which will be illegal under international trade norms. The international financing banks would be privately owned institutions that would lend purely on commercial terms. The only thing they should not be permitted is to make loans to foreign households (Euro denominated mortgages to Polish or Hungarian households does not make sense). It might sound control freakish to insist that financial institutions should lend only to domestic companies, but that is the kind of credit risk the institution can assess and ensure depositor funds are protected. Else, the banker would wonder into areas where he does not have expertise such as Chinese commercial real estate and put at peril depositor funds. Going by credit rating of those loans/bonds or getting some one else to do the credit evaluation does not work. Let German investors who want to bet on Timbuktu real estate do so through investment in hedge funds- not with depositor funds that need sovereign bail out.

Germany, even after the bailout of the banks will emerge stronger despite the higher SDR. That is because of the extraordinary savings rate of German households and their low debt. So, after

the crisis passes, Germany's SDR will come down. But it is predicated upon the country putting in place regulations that ensure that the Landesbanks and the hedge funds masquerading as private commercial banks are not permitted to do foolish things. And it assumes that the country will not bail out countries with high SDR. Else the crisis will happen again.

Poorly regulated banks added to the risk of an already fragile Irish economy. The two largest banks, Allied Irish and Bank of Ireland controlled more than \$200 billion in assets while Ireland's GDP for 2009 was \$177 billion. Even the great Warren Buffett lost money by investing in the Irish banking sector.

### **Text Box- Sovereign Rating Methodology of Credit Rating Agencies**

The sovereign credit rating methodologies of Moody's, S&P and Fitch differ more in form than in substance. The rating criteria incorporate parameters that range from the sensible to the bizarre. Because all the rating agencies have a pretty mediocre track record on the sovereign ratings front, we would not recommend the methodology of any one rating agency over that of another. Rather, to capture the essence of sovereign risk, readers should use the simple SDR- $V_{GAP}$  framework as a starting point for their analysis to drastically improve the accuracy of their sovereign credit risk forecast. The framework, in conjunction with the country's credit story, can also be used to assess the long term strength of a country's currency.

#### **Moody's Sovereign Rating Methodology**

Moody's adopts a three stage process for assessing a country's sovereign risk. The first step involves assessing a country's economic resiliency. Resiliency is assessed from so called indicators of economic strength such as GDP per capita and from the institutional strength of the country based on respect for property rights, efficiency and predictability of government action. The second step involves assessing the government's financial robustness. This involves

assessing the ability of the government to mobilize resources, control spending, and obtain foreign currency as well as its susceptibility to event risk. Event risk refers to adverse economic, financial or political events. At the third stage, the rating of the country is determined through peer comparison and slotting the country in comparison to other countries.

Contrary to mistaken belief, a country's economic resiliency is not measured by its GDP per capita. That merely measures the income aspect of the creditworthiness equation. It ignores the spending aspect and the propensity to save. A poor country living well within its means with a low SDR is a far less risk than a rich country with high SDR. And when household savings for retirement is low, it has the potential to require a government bailout of its ill saving citizens to give them basic amenities. High household savings implies a government can support greater amount of borrowings. Low household and corporate debt reduce the possibility of bank bailouts by governments and associated increase in government debt. Low private sector debt also reduce the chance of an asset bubble being in force in a country, which temporarily reveals a government's finances in a far flattering light than it actually is. This is on account of higher capital gains and property tax collection as well as higher employment during a bubble translating to higher income tax collection. An asset bubble environment does not require high government spending for unemployment benefits.

We have no quarrel with Moody's emphasis on issues such as property rights and predictability of government action. But too much weight should not be given to these issues. Who would have thought that the US government would trample on the rights of creditors of GM and Chrysler? Who would have predicted that the government would nationalize vast stretches of the economy? It clearly points to the fact that in a crisis, government actions tend to be unpredictable. How much better to focus on the likelihood of a crisis occurring through tracking SDR rather than try to predict what will happen once the clock strikes twelve? Our only quarrel

with Moody's evaluation of financial strength of a country is it ignores the savings propensity of the private sector. A country like Japan with high household savings can support much higher government debt than, say, the UK.

One issue which Moody's considers in its domestic rating analysis – about the likelihood of the government using quantitative easing and other monetizing of debt techniques – is effectively useless after the 2008 credit crisis. When most countries have used this artifice, it is not a distinguishing parameter between prudent and imprudent nations. In the area of foreign currency ratings, Moody's sensibly does see the linkage between high foreign private sector debt and the ability of a government to service its foreign currency debt (its previous inability to see this ensured its failure to predict the Asian crisis of 1997). Current account deficit does incorporate the behavior of the household and corporate sector along with that of the government sector.

Another glaring weakness of the Moody's methodology is the inadequate attention paid to unfunded government promises as well as corporate sector promises. In many developed countries, when a corporation goes belly up, its pension liabilities are assumed to a considerable extent by government agencies. The higher the extent of corporate debt to GDP, the higher the possibility of those unfunded corporate obligations falling on the government's shoulder. When one includes the government's own unfunded healthcare and pension obligations, things look horrible in some countries. It is easy to say that in future a government can cutback on those obligations if its finances get stretched. It is harder in practice it in a democracy where the aged population forms the biggest chunk of voters on account of deteriorating demographics as well as the greater propensity of older voters to show up on Election Day.

**S&P's Sovereign Rating Methodology**

S&P's sovereign rating methodology is not too different from Moody's methodology except that instead of using a three step process, it has a ten step framework. This involves assessing political risk (stability of institutions etc), income and economic structure (economic diversity, income disparity, effectiveness of the financial sector, labor flexibility etc), economic growth prospects, fiscal flexibility (government revenue, surplus/deficit trends, pension obligations etc), general government debt burden, offshore and contingent liabilities, monetary flexibility (independence of central bank etc), external liquidity (structure of current account, reserve adequacy etc), public sector external debt burden and private sector external debt burden.

The S&P rating methodology is a moderate improvement on Moody's methodology, particularly in the attention paid to issues such as contingent liabilities etc. The attention paid to economic growth prospects is sound; a fast growing economy (on a sustainable basis on the back of a low SDR) can definitely support more debt than a slow growing economy. While S&P has added private sector external debt burden in the post Asian crisis world, we fail to understand why the agency ignores the private sector's internal debt burden which is a driving force for potential bank bailouts and stimulus packages. Again, looking at fiscal surplus/deficits on a standalone basis means absolutely nothing. In the 1920s the United States government ran a surplus, only to be followed by a period of sharp rise in government borrowing on account of having to bailout a levered economy. Likewise, the surpluses of the 1990s vanished once the bubble economy crashed. In the following decade, the US government bailed out the economy twice- first through tax cuts in the early part of the decade and later through bank bailouts, auto sector bailouts and stimulus measures. In Japan in the 1980s, the corporate sector debt hit the roof. This necessitated bank bailouts which bloated the country's government debt.

**Fitch's Sovereign Rating Methodology**

Fitch's rating methodology, like those of its bigger cousins, does not address predicting the likelihood of a sovereign defaulting. Its methodology seems like a Wikipedia entry on the key data items of a country and less focused on analytical underpinnings of sovereign default. The agency gathers voluminous data on a country's demographic, educational and structural factors, labor market data (such as size of labor force, unemployment by age, sex etc), trade data, private sector data (such as rate of business creation etc), balance of payments data, GDP composition data, GDP growth data, macroeconomic data (such as inflation data), bank lending data, data of country's assets and liabilities etc. In short, the Fitch methodology is geared towards looking at the past experience of a country. Because it does not look at household debt data, the role of burgeoning debt in promoting short term economic growth and the impact of household debt growth on the government tax revenues from capital gains and property taxation, it also fails woefully in forecasting sovereign default until it is too late from the investment viewpoint. What the investor wants from the analyst is an analytical forecast about the sovereign's ability to service its debt. What he gets from Fitch are several tables of past data, that too not data relevant for forecasting future debt servicing ability.

A flaw which is common to all the rating agency methodologies is that they consolidate the debt of sub sovereign entities such as states and municipalities, without clearly understanding the dynamics in the relationship between those entities and the sovereign. This requires an understanding not only about the constitutional provisions on fiscal relationship between the sovereign and sub sovereign entities but also how the sovereign keeps control over the borrowing of sub sovereign entities. Is there a system of checks and balances which prevents debt of sub sovereign entities from getting out of hand? Does the sovereign ensure repayment of the sub sovereign entity's liabilities through measures such as docking grants to the sub



sovereign entities from a central tax collection? Just adding the debt of the sovereign and sub sovereign entities gives one an indication of what happened in the past- it is not an indicator of what will happen in future.

### **East Asian Crisis: Agencies missed it due to unconsolidated Corporate Debt**

The exclusive focus on government finances was the reason that the rating agencies were caught on the wrong foot during the East Asian financial crisis of 1997. Their role in the crisis can be summed up in the following sentence- create complacency in the minds of investors going into the crisis and create excessive panic post the onset of the crisis. Heading into the crisis, the governmental finances of the affected countries- Thailand, Indonesia and South Korea were in decent shape. Any way, why would they not be? As corporate debt was being piled up, asset prices zoomed up, ensuring higher tax receipts. Debt equity ratios of companies in Korea were hitting new heights- sometimes as high as five times. The worst aspect of this corporate debt was that it was in foreign currency and for short tenure. All other factors that rating agencies look at such as inflation were fairly low.

With the corporate capital structure in pre-crisis East Asia being what it was, there was no way the debt could be repaid from operational cash flows- it had to be refinanced or the capital structures had to be rebalanced through asset sales. Corporate debt was usually not taken directly from foreign lenders. That role was undertaken by financial intermediaries called finance companies. These non bank agencies borrowed, usually in US dollars and on lent it to corporate borrowers for a margin. Most of this money was not used by corporations for corporate purposes such as investment or working capital financing but for real estate speculation. And when money was lent to highly leveraged institutions such as the Korean

chaebols, it was no different from silly banks financing stratospherically leveraged buyouts and private equity transactions.

The foreign lenders did not look at parameters such as SDR and  $V_{GAP}$ . Because in the recent past the currencies of those countries were practically pegged to the US Dollar, they had dismissed the currency risk they were taking. And because many of the non banks, through crony capitalism mechanics had close relationship with governmental authorities, they assumed they were taking on sovereign risk without currency risk. They failed to spot the error in their logic- if the corporate debt was going to be paid out of governmental resources, the corporate debt should have been consolidated with government debt to get an idea of the true nature of government debt. Though the governments of South Korea, Thailand and Indonesia ran fiscal surpluses in 1996, their respective short term debt as a percent of currency reserves were 135%, 74% and 132%. Their current account balances as a percentage of GNP were respectively -4.8%, -8.3% and -3.5%. Clearly, a lot of the domestic growth experienced by these countries was on account of reckless foreign borrowing, whose pernicious effect could have been avoided by calculating the  $V_{GAP}$  of those countries.

This unbridled, unconsolidated foreign currency borrowing caused the asset prices of those countries to zoom, resulting in a jump in tax collection and general feel good and complacency. This halcyon state of affairs attracted more foreign lenders tempted by the prospect of high yield. Each successive new foreign entrant was a bigger momentum player than the previous bunch. Credit analysis, which might have held true a few years back but no longer true on account of piling up of debt, was used to justify this momentum play. And when the herd jumps in, exactly as they did in the US in 2006, the feel good factor (the so called “consumer sentiment”) hits stratospheric levels.

Obviously, when money was so abundantly and easily available, the people who were involved in the end deployment of funds got careless in calculating the return on capital employed. In fact, for most ventures, the return would be secured not by income from the assets created with borrowed funds but from asset sale (such as a commercial real estate development), once the asset price had gone up. If instead of asset sales, the borrowers had focused on income generated from the asset, they would have been aware that they were badly misallocating capital. And when capital is misallocated, the consequences are borne by creditors. When the first signs of trouble from this scheme emanated, the thundering herd of foreign investors rushed out at the same time, killing the currencies of those countries. Their cardinal sin was ignoring the consolidated financials of the countries they had invested in as well as the ignoring the effects of poor return on capital employed. A decade later, Latvia and a few other Eastern European countries were in a similar position to the East Asian countries. The rapid downgrade of the countries happened once the credit bubble had burst, not while it was inflating in the form of high private sector debt. That is the difference between analysis and momentum based credit downgrades post the occurrence of a credit event.

### **Consolidated Financials of PPP Projects & Credit Risk of Construction Sector**

Construction companies are in a high risk low margin business. Increasingly, contractors are taking on additional risk by investing in the infrastructure projects they are contractors to. Sometimes, as in public private partnerships (PPP) (see Text Box: The PPP Model and the Conversion of Government Debt to Private Debt), they are required to bring a chunk of the funds required for constructing the assets. Usually the structure involves the project being executed out of a special purpose vehicle (SPV), into which the contractor and other parties bring in equity. The SPV, on the back of the equity financing, leverages itself several times over. This debt is referred to as non-recourse debt because if the SPV does not generate adequate

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cash flows to service its debt, the lenders do not have recourse to the contractor's or other equity holders' balance sheets. When the contractor holds more than a 50% stake in the SPV, he consolidates the SPV debt on to his balance sheet, but through an elaborate system of wink and nudges, he along with the rating agencies pretend that the debt is not really the contractor's. There is no other explanation for highly leveraged contractors, on a consolidated basis, enjoying investment grade ratings. The wink and nudge gets worse when the contractor holds between 20% and 50% of the equity and uses the equity method accounting for consolidating the PPP investments.

We have no quarrel with the non recourse/limited recourse debt concept. However, if you are going to assume that the company is not responsible for the non recourse debt of the SPV, you have to ask yourself the question what happens to the value of the contractor's equity holdings if the SPV defaults on its debt. The obvious answer is zero. So, if you are going to pretend that the SPV debt is not your debt, you must also believe, as a corollary, that the equity holdings have zero value. The contractor has no recourse to the SPV's earnings until the SPV's debt has been serviced in a timely fashion. If you calculate the contractor's debt equity ratio ignoring the SPV debt as well as by setting the value of the equity holdings at zero, you do get a true and fair value of the gearing in the contractor's balance sheet. Consider a construction company which carries only investments in concessions of PPP projects on the asset side of its balance sheet (for details on accounting for concessions, see Accounting Box: IFRIC 12 and Investments in Concessions). Each of the concessions involves SPVs which are leveraged to the hilt. If you were a creditor to the construction company, would you go for the "non recourse" mumbo jumbo? Remember, if the debt in the SPVs is non recourse, the value of the investments would be zero, implying there is no asset cover for the lender. If you consolidate the debt of the SPVs for your analysis, you also have to consolidate the humongous construction risk and the revenue

risk of the SPVs for credit analysis. If the leverage ratio at the consolidated level does not pop your eyes, the consolidated execution and revenue risk certainly will.

### **Text Box: PPP Model and the conversion of Government Debt to Private debt**

One of the most interesting financial developments over the last decade and a half has been the entry of private sector players into arenas such as basic infrastructure development, which was once reserved for the public sector. This is referred to as public private partnership (PPP) because the public sector owns the asset and merely transfers the use and maintenance of the asset to the private sector. This can acquire two shapes- in developed countries it could result in the maintenance of an existing infrastructure asset such as a road or a bridge being passed on to a private operator, in return for the right to levy user charges on users of the asset. This right to charge a toll is enshrined in a concession agreement between a government agency, say a municipality, and the private operator. The concession agreement would specify the quality of the service that the private operator must provide and penalties should the operator fail on that front. Earlier, the government agency would have funded the maintenance out of its tax receipts or out of bond issues. This transference of the maintenance of an asset to a private operator, in return for upfront payments, makes a government's finances seem sounder than it is. The private operator now takes on debt to finance the operation. So, to get a true picture of moving money from one pocket of society to another, one has to consolidate the public sector debt with the private sector debt. Else, fiscal numbers of the government look suddenly better while all that has happened is that the household sector, instead of paying taxes for the expenses required for maintenance, pays for it in the form of a toll to the corporate sector. The concession can have valuable mis-priced options in favor of the private sector operator such as the right to build up additional assets linked to the transferred asset such as four laning a two lane highway, use of nearby real estate assets etc.

In developing countries, the concession takes a different form- it gives a private operator the right to build a new infrastructure, collect toll for a certain period, and transfer the asset to the government at the end of the concession period (the build, operate and transfer model, or the BOT model). Here again, the government does not need to commit resources for building infrastructure- making fiscal numbers seem superior. And the government does not need to borrow for creating the asset, thus burnishing government debt to GDP ratios.

Implemented properly, PPP can make societal assets operate more efficiently as the private operator almost always has an eye on preventing wastage. But if you are going to compare the finances of two countries- one that is gung ho on the PPP model and the other that has the government carrying out the task of building and maintaining infrastructure, merely comparing government finances is not just silly- its plain wrong and leads to wrong conclusions. Obviously, the country that is today executing its infrastructure projects in the government sector can always shift to the PPP model if its finances get strained. So, SDR is the only way to compare the finances of the two countries.

When not done properly, or if a transaction reeks of crony capitalism, PPP transfers a number of valuable options to a private sector operator at low cost. Options, such as the right to develop the adjoining real estate, or to expand the capacity of the current infrastructure (such as a BOT operator currently executing a 500 MW power project having the right to put up another 500 MW at the same site), could have considerable value which are given away as a part of a PPP transaction.

### **Building the Empire State Building made more sense than financing it**

One early contractor who got into trouble through merchant activities was Starrett Brothers & Eken Inc, the builder who became famous for his superb execution of the Empire State Building

in New York. The building was the tallest building in the world for four decades since its completion in 1931. Starrett Brothers was incorporated in 1922. The story of the execution of the Empire State Building must be told at the commencement of all complex projects to inspire the project manager and the project execution team to new heights of excellence. The building was completed before schedule and under budget (\$ 24.7 million instead of \$43 million, helped somewhat by the deflationary environment during the beginning of the Great Depression). The project manager executed the project without the benefit of sophisticated project management software that today's managers take for granted. Fortunately, Starrett Brothers did not take the commercial risk of the Empire State Building project. The building was a commercial failure, reaching 85% occupancy only in 1944 and hitting profitability only in 1950. Due to slack business during the Depression, Starrett Brothers started investing in buildings. That was a mistake and the company filed for bankruptcy in 1935. Today it exists as the Starrett Corporation after having had plenty of exciting experiences during its rich history and many more near-death encounters. Today's contractors investing in PPP projects might want to draw appropriate lessons from the company's experiences.

### **When SNC Lavalin cut itself a cool Deal**

Investing in PPP projects need not be uniformly bad for contractors, from the credit risk standpoint. A successful PPP investment was made by Canada's largest contractor SNC Lavalin. The company, which traces its origin to 1911, has an interesting annual target for equity return-600 basis points over the yield on the Canadian government long bond yield. In 1999, following the Macquarie Bank model of investing in existing infrastructure, thus eliminating construction risk, the company took a 26.9% equity stake in the toll road Highway 407 located in the Greater Toronto area of Canada. The investment, a 99 year lease to the SNC Lavalin consortium, made sense to the investors (though not necessarily to the government and the Canadian taxpayer)

and had a purchase price of C\$3.1 billion. Due to the high usage and the right to expand the highway, the correct value was several times the purchase price and created quite a stir in Canadian politics, with the opposition party making the sale price an electoral issue. The toll collection in the very first year, was higher than forecast. Because SNC Lavalin holds less than 50% of the project equity, the company does not consolidate Highway 407 with its accounts. Nonetheless, in its annual reports, the company gives the details of all financial parameters with and without the Highway 407 investment, thus giving the credit analyst a clear picture for his analysis. The “non recourse” debt taken for the project is also clearly revealed. Though the project generated positive cash flow from day one, it also conveniently generated an accounting loss.

### **The Changing Face of European Construction Companies**

Since the mid 1990s, the big European construction companies such as Vinci of France, Hochtief AG of Germany and Ferrovial and Grupo ACS of Spain have moved away from deploying capital in their low margin construction business to deploying capital in infrastructure concessions under the public private partnership model. The leverage involved in such structures is enormous and contractors are putting their existence at peril. Most of the debt passes off as non recourse debt, but as we have seen earlier, if the debt is non recourse, the value of the equity holdings in the concessions is also zero.

### **The Grupo ACS – Hochtief AG – Leighton Holdings - Australian Concessions Story -CDO Cubed?**

The story of Spain’s Grupo ACS, its equity method consolidation of its holdings in Germany’s Hochtief AG which in turn consolidates its holdings in Australia’s largest construction company Leighton through a non recourse debt structure, which in turn invests in Australian concessions with the help of non recourse debt would make the CDO cubed structure blush. The extent of



wink and nudge going on and pretending that leverage vanishes at each stage does bear similarities with the debt tomfoolery that went under the broad categorization “Structured Credit/Correlation Products” and was driven by the same easy liquidity prevalent during the post dot com era.

In 2008, Grupo ACS of Spain consolidated the financials of its two big equity investments- 25% holding in Germany’s largest construction company Hochtief AG and 25.8% holding in Abertis, a big player in the concessions business, by the equity method. Hochtief and Abertis are involved in several concessions, financed with non recourse debt. Hochtief owns Australian construction company Leighton, not directly, but through a SPV which carries non recourse debt. Leighton in turn has recourse and non recourse debt emanating from its investments in concessions. If you a credit analyst analyzing the creditworthiness of Grupo ACS, chances are you will have the mother of all headaches. If you are doing an honest analysis, you would have to look at each and every concession of Hochtief and Leighton. Else, like the rating agencies, you can indulge in mindless hand waving and not bother about the implications of non recourse debt on the parent company’s credit standing.

Hochtief AG traces its origin to 1870 and was involved in such projects as Germany’s first nuclear power plant. During the Second World War, like many German companies, it used forced labor and built the Führenbunker in Berlin where Hitler committed suicide. Of the six subsidiaries of the company, Hochtief Concessions is the most bothersome from a credit analysis standpoint. Hochtief Concessions, in 2008, had 2 subsidiaries- Hochtief PPP Solutions and Hochtief Airport. Hochtief PPP Solutions designs, finances, builds and operates public infrastructure on a PPP basis. Hochtief Airport holds equity stakes in a number of international airports such as Athens, Düsseldorf, Hamburg and Sydney. In addition, the company has a financing arm Airport Partners in which it has a 40% stake. In 2008, the company’s total

consolidated assets amounted to €12.1 billion, which was supported by €2.86 billion of equity. The gearing is shocking, considering that revenues from airport projects are driven by global macro-economic factors. The only way such leverage can be permitted is if the project revenues were guaranteed by the German government.

Grupo ACS, at the end of 2007 had total debt of €16.6 billion, of which full recourse debt amounted to €6.9 billion and non recourse debt amounted to €9.7 billion. The carrying value of the equity method investments in Hochtief and Abertis amounted to €1.28 billion and €1.97 respectively. The total value of equity method investments amounted to €4.23 billion.

Considering the leveraging at Hochtief and Abertis, the easiest way out for analyzing the full recourse debt at Grupo ACS is to knock off the non recourse debt ascribable to investments in Hochtief, Abertis and other equity method investments from the liability side and knock off the equity method investments themselves from the asset side of Grupo ACS' balance sheet.

### **Kajima's questionable foray into European PPP Investments**

Japanese construction companies' financials in 2008 were truly shocking. That should be surprising because Japan had a decade of government stimulus projects consisting mostly of construction projects. Kajima, founded in 1840 before the Meiji restoration, is Japan's oldest and biggest construction company. Like other Japanese contractors, the company has given subordinated loans to the projects it has participated in. In financial year 2007, the company had a total debt to capital ratio of 70% and an operating margin of 0.4%.

The company has an UK subsidiary, Kajima Partnerships Ltd, whose principal activity is sourcing, planning and procuring of development projects under the UK government's Private Finance Initiative (PFI). The partnership sets up new SPVs whenever Kajima is appointed as the preferred bidder of a PFI project. Most of the SPVs are involved in setting up/ maintaining

facilities for the Education and Healthcare sectors. Each SPV has a small sliver of equity and a large amount of loans from Sumitomo Mitsui Banking Corp Europe. Kajima Partnership's leverage in 2005 was more than 200 times. Why the bank lent to this levered and risky structure is not clear, particularly, since Kajima is not a part of the bank's keiretsu.

### **Ferrovial's Balance Sheet Size takes off but Risks spin out of control**

Spanish construction company Ferrovial was founded in 1952 as a railroad construction company (Ferrovial is the Spanish word for railroad). Until the 1998 setting up of Cintra with three business lines- car parks, toll roads and airports (later separated out as a separate operation), Ferrovial relied on its wits in the contracting business. From 2000, the company rapidly expanded investing in concessions by taking over the Bristol, Sydney and Belfast airports. In 2005 Ferrovial took over Swissport International, a company that provides ground services at airports. The crowning activity of its investment adventures was the 2006 takeover of BAA with a consortium. BAA was the owner of London's Heathrow, Gatwick and Stansted airports. After the BAA takeover, Ferrovial became the largest airport operator in the world. By the end of 2007, the company had moved so far from its core construction business that 50% of the company's EBITDA came from the airport operator business, 23% from the motorway concession business while only 12% came from construction. The rapid change of the business profile and drastic balance sheet expansion should have worried lenders at the full recourse and non recourse level. But the Alan Greenspan induced jump in global liquidity caused the bankers not to ask hard questions for fear that the borrower might borrow from someone else.

Besides the leverage involved, asset ownership, particularly ownership of infrastructure assets, exposes the owner to regulatory risks. The only way the BAA takeover would have made sense was if the regulator permitted the airport operator to enjoy monopoly over all London airport

operations, including the Heathrow, Stansted and Gatwick terminals. In 2006, BAA was a cash cow on account of its monopoly status in London. With the regulator insisting on the sale of Gatwick and Stansted, any business rationale for the BAA takeover faded. By 2009, BAA could barely generate enough cash flow to service debt. The purchase price of BAA was £10.3b, of which the equity of £4.2 b was brought through a vehicle called Airport Development and Investment (ADI). Ferrovial held 61% of ADI's equity, with the balance being held by GIC of Singapore and France's Caisse de Depot et Placement.

There are only a few ways to make money by taking over an infrastructure asset- a) Leverage it up and hope the credit markets remain benign ("the private equity model") b) Secure the rights to further expansion at a low price ("the SNC Lavelin" model) c) Obtain some form of monopoly pricing power- which is nigh impossible with various regulators looking on and d) improve operational efficiency. Improving operational efficiency is more often than not a theoretical construct divorced from ground reality. So, unless you are financing SNC Lavelin's acquisition of Highway 407, providing debt financing for takeover of infrastructure assets is a mug's game. It is a game Ferrovial's lenders participated with gusto.

### **Accounting Box: IFRIC 12 and Investments in Concessions**

When a government grants a company the right to build, expand or maintain a public infrastructure asset and the company secures returns on the asset by billing either the users of the infrastructure or the government for a particular period of time, the government is said to have granted the company "a concession". The period for which the concession is given is called the concession period. At the end of the concession period, the company is usually required to transfer the assets back to the government. IFRIC 12, issued by the International Financial Reporting Interpretations Committee (IFRIC) in November 2006, deals with how such service

concession agreements must be accounted for by the company granted the concession. Because the company does not own the assets, it cannot account for the assets as “fixed assets”. Rather, the government or its regulator controls the use of the infrastructure asset and retains residual interest in it. Based on the nature of the agreement between the government and the company, the operator of the infrastructure assets will have to recognize the infrastructure asset either as a “financial asset” or as an “intangible asset”.

### **Financial Asset**

If the concession agreement specifies that the infrastructure operator has an unconditional contractual right to receive a specified amount of cash over the life of the agreement from the government, the company must treat the infrastructure asset as a financial asset. This treatment also holds when the government guarantees to pay for any shortfall between the revenue collected from users (say toll from the users of a highway) and the contractually specified amount. The philosophy of how this works is almost like valuation of loans under IAS 39 (discussed in detail in chapter 4). The carrying value of the financial asset in the balance sheet, at the end of the construction period, is the fair value of the constructed asset (cost of creating asset including construction margin) and any payments for securing the concession. This financial asset is written down to zero over the life of the concession.

When the infrastructure asset is treated as a financial asset, in the income statement, there are four key heads - operating revenue, operating expenses, financial income and financial expenses. The operating revenue does not include any income from the government, but merely the revenue received by the company as the operations and maintenance (O&M) agent. Likewise, the operating expenses include only the O&M expenses. Financial expenses include expenses for servicing the debt incurred for securing the concession. The financial income is calculated as

a return on the financial assets at the effective interest rate of the contract. The effective interest can be viewed as an IRR of cash flows of the concession, with the initial cash flows being outflows for creating the asset and the later cash flows being positive on account of income received from the government. Because the government has guaranteed the cash income, the financial income effectively nullifies the effect of the gradual build up of operating revenues. In the early part of the concession, usually the financial income thus calculated would exceed toll collections. This would cause the value of the financial asset in the balance sheet to go up. Then, as the collections exceed financial income, the value of the financial assets fall, until at the end of the concession period, they reach a value of zero.

On the liability side of the balance sheet, over the period of the concession, a head is created for receipt of payment from the government at the end of the concession period on transfer of the asset. This head keeps building up, reaching the value of the handover charge at the end of the concession period. This liability has a negative sign, because it is a provision for receipt of money, not a sinking fund for repayment of debt.

### **Intangible Asset**

When the government granting the concession does not guarantee revenue from the infrastructure asset, the company is exposed to the risk of inadequate usage of the facility and hence inadequate revenues. In this scenario, the company presents the infrastructure asset as an intangible asset on its balance sheet and it reflects capitalized project cost less amortization. The amortization might be viewed akin to depreciation and over the concession period, reduces the intangible asset value to zero. In the income statement, during the operational phase, the concession company shows project revenue (such as toll collection) as operating revenues. The

operating expenses are handled in the same way as under the “financial asset” scenario. Again, as under that scenario, a handover provision is created on the liability side of the balance sheet.

### **Consolidated Risk and Financials of Companies and their financing Arms**

Except during times of extreme credit dislocation, there should be no reason for a manufacturing company to have a financing arm to push the sale of its goods. And in times of credit dislocation, SME customers don't really require financing help from their suppliers- their real problem is lack of demand from their own customers. The very fact that a company needs a financing arm, when credit flow through the banking system is normal, should force a creditor to ask the company the question- “why do you need a financing arm? Why not just have tie-ups with a bank or a group of banks to provide financing at dealer locations?” The reply you will never get is “unless we provide financing on non-commercial terms no one will buy our wares”. In his book “My years with General Motors”, Alfred Sloan vividly describes the motive for setting up General Motors Assurance (GMAC) in 1919. The key takeaway is at that point in time, the banks were unwilling to finance the purchase of an automobile. Half a century later, GM forgot the original motive for setting up a financing arm as have several other companies. Gradually, just as at GMAC, the financing morphed from filling a void in the credit business to an implicit subsidy for pushing sales. The wisdom of separating commerce and financing was forgotten.

Another reason why industrial loan companies provide financing to clients is, on a stand alone basis, the clients are not credit worthy and banks would reject calls for finance. So, what could potentially be a bad loan in a bank's balance sheet is transformed into a potential bad loan on the vendor's balance sheet. Between 2000 and 2002, telecom major Lucent Technologies made provisions of \$4 billion on account of bad debt and customer financing. Lucent has since merged with French telecom company Alcatel.

When department stores start financing their customers, it is worse because it means households are in such a terrible position that they need to be financed even for their basic needs. Post the credit crunch, in 2008, Spain's family owned retail chain El Corte Ingles was financing half its sales through its own credit cards, making it the largest provider of consumer finance ahead of Spain's largest bank Santander. It is doubtful that the story will have a pleasant ending.

Because there are periodic bouts of instability in the credit markets, companies can have a small financing arm, which finances say 5 to 10% of sales during normal times, but which is ramped up during times of credit market stress. In normal times, the capital adequacy of such financing arms should be very high, say around 60%, which should be brought down to regulatory minimum during tough times. In other words, there should be no capital infusion- financing would be done by leveraging up the financing arm in times of stress, when financially strong firms would find it easier to secure debt financing than retail customers. For companies with financing arms, financing can result in a jump in return in capital employed (on account of higher sales) in the short term- but an analyst should analyze the returns once the loans are fully seasoned. It also makes sense to have a financing arm with a tight common sense driven credit culture if banks do not finance a company's product. In India, a leading finance company occupied a privileged place in financing of pre-owned commercial vehicles because banks in India, in the past, financed only new trucks.

After misadventures, Eastman Kodak, Westinghouse Electric and AT&T sold off their financing arms, but not before these arms caused deep sorrow to their parents. They sold their arms to GE Capital, the finance arm of General Electric. GE Capital's opaque accounting is the prime reason for credit concerns engulfing General Electric. The critical calculation, a company that is on the verge of setting up a financing unit needs to do is whether the likely increased profits



from increased sales achieved through financing is expected to be much higher than the likely increased costs on account of delinquencies and capital costs. Remember, financing increases a company's capital base- so the returns must be commensurate so that the return on capital employed does not fall due to implicit subsidies and delinquencies.

### **Boeing's Leasing Program to promote Sales is dangerous**

Boeing Capital Corporation is a wholly owned subsidiary of airplane maker Boeing. The organization stated that its primary mission is to support other Boeing businesses by arranging, structuring and/or providing financing to assist in the sale and delivery of Boeing products and services. The most important products of the finance wing were operating leases, finance leases, leveraged leases and sale and lease back transactions. In 2009, the company had an A2 rating from Moody's and A+ rating from S&P.

The key to Boeing Capital's credit strength is the support agreement it has with Boeing, through which the parent company provided various types of guarantees such as first loss deficiency guarantees, residual value guarantees and rental loss guarantees. The implications of these guarantees on the consolidated financials are not readily apparent if one looks at the consolidated income statement and balance sheet. For example, the rental loss guarantee had a maximum potential value of \$2.1 billion as on 31<sup>st</sup> December 2008, related to a portfolio of assets totaling only \$ 2.8 billion. This guarantee would be invoked by Boeing Capital on Boeing Corp should the customers who took aircrafts on lease from Boeing with financing from Boeing Capital back out of their lease contracts.

The risks of these contracts come from several fronts- the credit quality of the airline which has taken the planes on lease, the asset impairment which can occur due to changes in the airplane market (for instance, if a new fuel efficient plane hits the market, the value of the old plane is

permanently impaired), fall in international lease rates (as can happen when economies slow down and travel gets curbed). These risks are all very real- at the end of 2008, 11% of global fleet of planes were parked, of which a sizeable chunk might never come back to service.

At the end of 2008, write-offs were a modest \$ 11 million. Asset impairment charges were also at a manageable level of \$35 million. Asset impairment charges were on future lease receivables. If this was considered 10% lower, the impairment charge would have been \$ 8 million higher. However, the most noteworthy item on the balance sheet was assets held for sale and re-lease, which increased from \$ 86 million on December 31<sup>st</sup> 2007 to \$ 685 million on December 31 2008. The substantial increase was due to return of aircraft leased to Midwest Airlines and ATA Holdings (which filed for bankruptcy). A mitigating point is that of the \$ 685 million, for \$ 305 million, the company had firm contracts to sell or place on lease. However, this item points to the enormous risk the company's books are exposed to if the economy substantially slows. These risks exist on a continual basis- assets carried in the books at \$ 168 million were to be returned in 2009 (\$ 64 million of those aircraft were committed as of 2008 annual report date).

Without the support of Boeing in the form of intra company guarantees, operating income, which include income applied to assets classified as held for re-lease would have been less by \$ 56 million and \$ 55 million in 2008 and 2007 respectively. Allowance for loss receivables are based on historical data of credit rating of customers, collateral value and default rates. All these could prove to be too optimistic. A positive feature of the financing structure is that the company does not take too much asset liability mismatch risk- a 100 basis point increase in rates would cause fair value to decrease by only \$ 1 million.

A pernicious product that Boeing Capital hawks is residual value guarantee. If the residual value assumptions were decreased by 5% (which is definitely not high), it would cause a MTM pre-tax loss of \$ 75 million. Residual value guarantee is seriously the worst product a financing company can provide, particularly in the area of high-cost capital goods prone to obsolescence.

The ratings of different agencies seemed oblivious of the off balance sheet risks that Boeing Capital was taking and putting at peril the health of the whole company. In 2002, while assigning the A+ rating to Boeing Capital, Fitch was focused on the positive effect on Boeing Capital from the Boeing linkage while ignoring the negative affect of Boeing Capital on Boeing. This was despite acknowledging the growing importance of financing capability for the entire organization.

Unlike borrowings of financing arms guaranteed by the parent, which gets fully reflected in the consolidated financials, risks like residual value risk and severe asset impairment risks in the lease portfolio do not get exposed at the consolidated level. These leases have cancellation risk, re-lease risk and residual value risk. In 2008, roughly 40% of Boeing Capital's assets were operating leases. Theoretically, when a company guarantees residual value, a true sale has not been made. Because of the terrible credit quality of Boeing's customers, these risks are by no means insignificant. In the long run, it is practically impossible for Boeing to have a higher credit rating than the weighted average of the rating of its customers, even taking into account the diversification effect. Because of these risks, it is not prudent to employ too much leverage at Boeing Capital. However, at the end of 2008, the company had a debt equity ratio of 5 is to 1. Though Boeing has a healthy return on capital employed, it remains to be seen how much of the operating leases and other contingent liabilities come back to haunt the company and reveal the

calculated returns to be too optimistic. The balance sheet of Boeing Capital has a whiff of sub-prime to it.

### **Ford Credit's Interest Subvention Play**

Almost half a century after Henry Ford taught the world what mass manufacturing was all about through his Model T, Ford Motor Credit came into existence. The buyers of the Model T got their financing from entities such as the Associates First Capital (which later became a subsidiary of the Citigroup). Ford's financing arm Ford Motor Credit Company, is involved in 3 activities- retail financing, wholesale financing (loans to dealers to buy vehicle inventory), and dealer loans for working capital and improvement of dealer facilities. At the end of 2009, Ford Credit's financing was supported by interest subsidies from the Ford Motor Company. In addition, Ford Credit guaranteed residual values of vehicles on operating leases, which was also supported by the parent company. This exposed the company to the return of leased vehicles, which can be severe when there is a change in customer taste such as a move away from SUVs in 2008. As on 31<sup>st</sup> December 2008, Ford owed Ford Credit \$2.5 billion on account of interest subvention and \$450 million under the residual value support program.

Supporting vehicle sales through interest subvention and residual value support could not conceal for too long the fact that Ford was churning out stuff no one wanted to buy on a standalone basis. Ford's own unviable cost structure did not help matters. That ensured that in the midst of an auto sector boom between 2003 and 2007, Ford's credit quality continued to worsen. Since Ford Credit relied on support from Ford, Ford's deteriorating credit quality had its impact on Ford Credit. In early 2003, Ford Credit had a BBB credit rating from S&P. By the end of 2008, the rating was several notches lower at CCC+. Because the credit quality was low, Ford

Credit could no longer get loans on an unsecured basis and had to rely on the wholesale securitization market for financing.

Financing subvention from Ford constituted a sizable chunk of Ford Credit's revenue and in 2008, it was 29% of the company's revenue. Net financing margin of Ford Credit, defined by operating leases plus retail income plus interest subventions from affiliated companies plus wholesale finance minus depreciation on operating leases minus interest expense, turned negative in 2008. That was before considering operational expenses, credit losses and actuarial estimate of losses on account of residual value guarantee. When one factored in the residual interest in the securitized assets, it was clear that Ford's financing operation was a mug's game.

A credit analyst must also look for potential new liabilities the financing arms can create. For example, financing arms might take on derivative exposures which might (consciously or unconsciously) turn out to be improper hedges. In 2005, Ford Credit restated the fair value of interest rate swaps for the previous 5 years, which had a significant impact on reported results of 2004 and 2005. When operational cash flows are weak, financing arms dabbling in derivatives might be tempted to roll the dice.

On a consolidated basis, if Ford had spent the money it deployed on residual value guarantees and interest subventions, on R&D to produce better vehicles, the company might have arguably been better off.

### **The financing Misadventures of India's Tata Motors**

Car and truck maker Tata Motors is part of one of India's biggest conglomerates, the Tata group. The group is more than a century old and besides autos, has interests in steel, hotels, chemicals and software services. In fact, the software services arm, Tata Consultancy Services (TCS), is one of the country's most valuable companies.

Tata Motors was a staid manufacturer of staid cars, trucks and construction equipment until the company became enamored about becoming a global company. It became internationally known for the development of the \$2500 car, the Nano. But its bigger claim to notoriety is, egged on by greedy investment bankers, cheap credit, and delusions of grandeur, it took over the Jaguar and Range Rover “assets” (called thus from an accounting viewpoint) from Ford. In 2009, the Chairman of the Tata Group himself admitted that the takeover of Jaguar and Land Rover was not his smartest deed. Ford did not have any luck with those companies it acquired in 1989, and when it saw a sucker emerge on the horizon, quickly passed on the explosive stuff to Tata Motors. Jaguar and Range Rover’s business model is built around unbridled consumption in developed countries. When these companies did not do well even in an environment of increasing household debt, chances are they would do worse in an environment in which household debt must come down. Earlier, Tata Motors had acquired the commercial vehicle business of South Korea’s Daewoo when the chaebol got into trouble doing too many things funded with debt. That acquisition, at least had the merit of being rooted in common sense. On account of the Jaguar and Range Rover takeover as well as defaults from its vendor financing portfolio, the company’s outstanding debt jumped from Rupees 33 billion in FY 2006 (year ending March 31<sup>st</sup> 2006) to Rupees 350 billion in FY2009. On account of losses, the shareholders’ equity fell from Rupees 61 billion to Rupees 59 billion.

Our main focus is on Tata Motors before it made the foolish acquisition of Jaguar and Land Rover in 2008. Tata Motors has a funny relationship with financing its sales. The company had a finance subsidiary, which it amalgamated with itself from April 1 2005. It seemed more like a way to hush up the increasing delinquencies at the finance subsidiary. Then, a couple of years later, the company started a 100% owned non bank finance company – Tata Motors Finance

(TMF). In FY 2007 and FY2008, Tata Motors and its subsidiaries financed around 34% of the company's sales.

One of TMF's vehicles for securing finance was securitization. Indian credit rating agencies are quite stringent in their specifications of credit enhancement for securitization transactions, requiring it to be several times expected delinquencies. For instance, on account of TMF's increased delinquency experience, rating agency ICRA (Moody's holds around 30% of ICRA) required ever increasing amount of cash collateral to be provided to protect investors of the securitized paper from increased delinquency. (For full disclosure, this author was employed by ICRA for an extended period of time). ICRA specified that TMF needed to provide about 35% credit enhancement for securitization transactions. So, for every Rupees 100 of outstanding principal securitized, cash collateral of Rupees 35 had to be provided in an escrow account by the originator of the transaction. This dramatically high credit enhancement changed the economics of securitization transactions for entities experiencing high delinquencies. At the end of FY2007, the Tata Motors Group supplied Rupees 6.38 billion of guarantees for securitization transactions, Rupees 4 billion of cash margins and around Rupees 1.5 billion of retained subordinate interest in such transactions. In the following year, the amount of guarantees increased to Rupees 10.95 billion, while the cash margins expanded to Rupees 15 billion. Clearly, this state of affairs could not go on forever. It is no point doing a securitization transaction if post securitization, most of your funds continued to be tied to the transaction. Meanwhile, by September 30, 2008, loans 90 days past due hit 15.2% at TMF, while those 180 days past due hit 9 %. Clearly, providing financing was proving to be a costly pursuit for Tata Motors. Though it helped sales, Tata Motors was better off foregoing sales to potential customers who could not secure bank financing.

The Tata group has another finance subsidiary, Tata Capital. Though this company has no relationship with Tata Motors, and Tata Motors does not consolidate its financials, it had an important role in Tata Motors' destiny. It bought pools of auto loans from TMF. So, here was a clear case where one had to go beyond the consolidated financials of the company to understand the whole credit dynamics. In fact, in credit analysis of Asian companies, as we discuss later, one has to go beyond entities whose finances are consolidated and look at the finances of all companies of the same promoter group. In the case of the Tata group, unlike most such groups, that news is good for creditors. Firstly, the Tata group management is known for integrity unlike the management of most Indian conglomerates and the management would do its utmost to pay off creditors. Secondly, the holding company of the Tata Group, Tata Sons owns more than 70% of TCS, as we had discussed at the beginning of this section. When debt from the foolish Jaguar acquisition had to be serviced, the group sold off some TCS shares to ensure repayment. The market capitalization of TCS ensures that the consolidated debt of the Tata Group is serviceable. In addition, the group does have some strong companies, which though underperforming at present, would definitely do better in the years to come. So, even at the bottom of the credit crisis in 2009, on account of the financial strength of the consolidated group, one could have been sanguine about credit exposures to Tata Motors and its finance subsidiary.

### **Harley Davidson ventures into Sub-prime Financing**

Harley Davidson has been an iconic motorcycle brand since 1903. For most of its existence, the company relied on the quality of its products to push product sales and not by providing financing to un-creditworthy customers. Harley Davidson was one of the two motor cycle manufacturers of the US to survive the Great Depression. The company did go through some problems in the 1970s and 1980s and survived a near bankruptcy experience in the mid-1980s.



Harley Davidson Financial Services (HDFS) was founded in 1992. From founding till 1999, the company was known as Eaglemark Financial Services. HDFS' importance to Harley Davidson continued to rise- in 2003, about 38% of Harley's bike sales were financed by HDFS. By 2008, the proportion was more than half. Between 2003 and 2008, the credit profile of the HDFS borrower kept deteriorating. During the days of easy credit till 2007, Harley used its financing arm to give loans to sub-prime borrowers, with such borrowers constituting one-third of all loans. Interest rates on some of the loans were as high as 18%. There is a critical threshold beyond which financing rates do not cover the credit losses, because at that rate, the chance of delinquency is almost 100% and financing is not possible. The finance division's debt went up almost 4 times between 2003 and 2008, with sharpest deterioration between 2007 and 2008. In the fourth quarter of 2008, HDFS took a \$35.1 million write down on retained interests in securitized transactions (the company like many US financing arms relied heavily on securitization transactions) and a \$ 28.4 million write down to the fair value of finance receivables. Because the securitization market seized up in 2008, the company's "finance receivable held for sale" tripled from \$ 781 million at the end of 2007 to \$ 2.4 billion at the end of 2008. Due to this, short term borrowing increased, subjecting the company to asset liability mismatch risk in addition to the humongous credit risk. As usual, it took the rating agencies a long while to realize that trouble was round the corner. The company was rated A by S&P throughout 2008, and downgraded in January 2009 by two notches to BBB+.

Things got really tough for Harley in 2009. In February, the company raised \$ 600 million of 5 year debt financing from Warren Buffet's Berkshire Hathaway and another investor at 15%. The notes were rated BBB+ by S&P. Harley Motor Company was the entity that did the borrowing, but the funds were for HDFS to on lend to customers at low rates to promote sales. Apparently

the company had not understood it was on the wrong path, and insisted on getting deeper into trouble.

As mentioned earlier, providing financing can boost return on capital employed in the short term, till the loans get fully seasoned or the economy slows down. Harley managed to maintain a RoCE of around 20% till 2007. This fell sharply to 12.6% in 2008. (Remember, the company borrowed from Warren Buffet at 15%). This will have unfortunate consequences for the company's stretched balance sheet resulting in the company getting further leveraged.

Harley management did not help matters, when in halcyon times the company resorted to bouts of share buyback, that ensuring that return on equity, not factoring in increased risk, looked very healthy.

If the money that had been spent in financing credit losses at HDFC had been used in product improvement and re-branding to appeal to the new demographics of the United States, the need for large scale financing to sub-prime borrowers would not have arisen. The Harley story reiterates the fact that financing and financial engineering are no substitutes for good products and good management.

### **Volkswagen Bank: a wonderful way to pass consolidated Risks to the German State**

Potentially the world's number one car maker in terms of sales, Volkswagen's biggest shareholder is the state of Lower Saxony in Germany. Through a law, that will be repealed to conform to European regulations, the German state owns 20% of the voting shares of Volkswagen. Volkswagen is the owner of companies that make the Bentley, Audi, Scania, Skoda and now, even the 911s. Within the Volkswagen car division are brands such as the Passat, Golf, Jetta, Tiguan etc. The company's financial services subsidiaries include Volkswagen Leasing, Volkswagen Credit and above all Volkswagen Bank, a full fledged bank that can accept deposits

in Germany. In short, this was as much a linkage between commerce and banking that you can get in the modern world. 70% of Volkswagen car sales in Germany were financed by its financing arms. Some of the financial services businesses include contracts to buy back vehicles at residual values fixed at the inception of the contract.

As an automobile maker, in the recent past, the company has performed reasonably well. Not only is it a formidable force in markets of yesterday, it is acquiring a strong profile in the markets of tomorrow. But the auto industry is in a flux, with changes in technology, M&A and strategic relationship among global manufacturers coming to the fore in the global landscape. In this context, Volkswagen's bank and financial service arms might prove to be a decisive advantage. For some reason, European regulators have not been that forceful in their objection to using depositor funds for grabbing market share. Obviously, loan underwriting standards at the bank would not be as onerous as at a standalone bank not linked to a commercial entity.

Volkswagen's financial services include dealer and customer financing, leasing, banking, insurance and fleet management. Between 2003 and 2008, Volkswagen's income, in Euros, was up 34%. During the period, the long and short term assets of the financial services businesses were up around 45%- clearly finance was becoming more and more important for pushing sales. In the five years between 2003 and 2008, return on capital employed at the Volkswagen group have been consistently mediocre- fluctuating between less than 1% to less than 5%. But this does not matter too much because the group has been able to push a lot of financial risk onto the Federal Republic of Germany. It builds new plants with fairly low interest loans from government agencies such as KfW and multilateral agencies such as the EBRD, where the Federal Republic is a big stake holder.

But it is in the financing space that the company makes best use of implied sovereign guarantees to secure low cost financing. At the end of 2008, Volkswagen Bank GmbH had €12.8 billion deposits, a €3.2 billion rise over the number at the end of 2007. Obviously, the depositors expect the Federal Republic to bail them out if things come to such a pass. Because of that, they are content to get a lower yield. The implicit guarantee is reflected in Volkswagen Bank's credit ratings- it enjoys a one notch higher credit rating than Volkswagen AG. Normally, finance subsidiaries pay a higher interest rate on their liabilities than their parent- it is exactly the opposite here because of the shrewd manner in which private sector risk has been transferred to the sovereign. In addition, the bank did two big securitization transactions – one for \$ 2 billion and the other for €1.75 billion in 2008, to access further cheap funds. The bank had a debt equity ratio of 8- so with a small equity exposure, the company has been able to secure many times more cheap financing to fund the sales of its products. In 2008, despite a non mind blowing return on capital employed of 3.4%, Volkswagen had been able to secure a highly respectable Return on Equity of 14.2%. The return on capital in 2008 was lower than 2007, but the return on equity was higher than 2007. The sheer importance of this link to the government was highlighted in October 2008 when the Federal Republic guaranteed all bank deposits. In February 2009, Volkswagen Bank received a guarantee facility from the German Financial Market Stabilization Fund to refinance vehicles up to € 2 billion.

### **John Deere ploughs Sales through Financing**

Deere & Company (collectively called John Deere) was founded in 1837, as a one man blacksmith shop in an era of the American "can do" spirit, creating over the next century, so many innovative companies. Deere is a leading maker of agricultural equipment, commercial and consumer equipment (such as garden tractors) and forestry equipment. It also has a large equipment finance company- John Deere Credit, which has operations in 17 countries. Despite

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minor fluctuations, John Deere Credit's rating fluctuated around A2 from 1999 to 2009. Deere had an agreement with its financing arm wherein it has agreed to ensure that the finance company's ratio of earnings to fixed charges at all times was higher than 1.05.

Between the year ending October 2004 and the 12 months ended January 2009, Deere & Company's total debt equity ratio jumped from 227.6% to 395.2%, a rise of almost 74%. However, the return on capital employed remained almost flat over the period – it was 6.5% in the period ending October 2004 and 5.8% in the period ended January 2009. The total debt of the finance arm jumped from \$ 11.5 billion to \$ 20.2 billion. The debt of the equipment operation went up moderately from \$2.2 billion in 2004 to \$ 3.04 billion in 2008. Net sales of the equipment division jumped from \$17.7 billion to \$25.8 billion in that period- a 45.8% growth. The growth in equipments financed grew much faster- 75.6%. So, financing seems to be the driver of sales growth.

To some extent, Deere's financing is less risky compared to those of other financing companies. Unlike for cars, the residual value risk is lower. It still would have been better if the company tied up with a bank for financing its products.

### **Promoting upfront Fee Income through financing**

The US' Glass-Steagall Act of 1933 was one of the most sensible pieces of financial legislations anywhere in the world. By separating commercial banking from investment banking, it ensured that fee seeking investment bankers did not use financing as a bait to secure deals, thus putting at risk depositors' money. The Act also created the Federal Deposit Insurance Corporation, which protected deposits that could no longer be gambled away by investment bankers. By extension, the repeal of the Act in 1999 was a very foolish measure, which set the ball rolling for the huge credit losses over the next decade. Losses came on account of several reasons. Firstly,

to secure huge fees from M&A deals, the investment bankers promised loans for takeovers from their commercial banking arms. The higher the leverage in the deal, the more would be the fees. The fees are booked upfront but credit losses happen much later. Likewise, investment banks got huge fees from structuring loans into securitized products. Done rapidly, this is better than loans for M&A because in this case, the loans get pushed to other parties quickly. But investment banks which do this for a living would always have an inventory of the loans on their books- thus exposing them to big losses when the news of losses on similar assets spreads. So, when the so called universal banks secured upfront fees from deal making and structuring and pushing potential losses from loans used to secure mandates to another day, creditors needed to have been worried. Creditors cannot always rely on a bailout as happened in cases such as Bear Stearns. With public finances in many countries deteriorating markedly, the likelihood of creditor bailouts become smaller and smaller in future. And the tax payer's patience is wearing thin.

Historically, merchant banks were called thus because they provided debt and equity financing to their clients. Because the merchant banks were private firms, they were extremely careful how the capital they supplied to companies was utilized. In fact, more often than not, the financing was a shrewd investment because of access to non public information. In short, it was not foolish speculation but very prudent vehicle for securing investment returns. The financing income was a bonus springing from access to the client who already provided fee based income. When the Schroeders and Warburgs invested in a deal, not only were they able to secure some investment returns without taking on risk (from their differential access to information, they could really assess risk), but they also provided confidence to other investors who would co-invest.

This is a very different business model from the way a modern investment bank uses financing. The modern investment bank dangles the possibility of financing to entice companies to get into M&A transactions that never made too much strategic sense in the first place. The aim was to secure fee based income that could be booked immediately and translated into bonuses. Shareholders can take their write downs on the value of those loans much later, when the “M&A advisors” would have looted and scooted (perhaps they need not even scoot- they could ascribe the cause of the loan turning bad to “the economy taking a turn for the worse” and not because the transaction, with poor return on capital employed should not have been financed in the first place).

Two institutions which prodigiously used financing (provided by retail depositors) to secure M&A and other mandates were Citigroup and Switzerland’s UBS. For Lehman Brothers, the losses on leveraged loans supplied by the bank were just another of the numerous ventures that had soured. Even without access to depositor funds, the investment bank got into this game in the sound knowledge, that losses would happen another day, and would be borne by shareholders/creditors. Alas, when the economy goes south, too many businesses turn sour at the same time (some one should calculate the correlation of different businesses turning sour at the same time instead of the foolish pursuit of trying to calculate the default correlation of two companies for valuing CDO tranches). The full extent of the losses on leveraged loans for M&A will be evident only in the next few years as the banks which made those loans have adopted “an extend and pretend” philosophy, wherein, when the loans become due, the banks extend the tenure of the loan and pretend a default had not occurred. Japanese banks also did this in a big way in the 1990s. But the goose of the banks who overplayed the M&A financing game is well and truly cooked. Offering financing in order to secure business, whether the business

involves sale of goods (such as cars) or services (such as M&A advisory) has seldom had a good outcome.

### **ABB gives up on Financial Services**

ABB is a leading European engineering company, formed by the merger of Swedish company Asea and Swiss company Brown Boveri. The company is chiefly involved in producing equipment for power generation and electrical engineering. ABB's financing arm, ABB Financial Services supported the company's business through structured finance, project finance, leasing and insurance activities. Besides financing clients, the company also rolled the dice and did proprietary trading. Insurance business, within industrial groups can be used to manage earnings through under reserving for claims (as explained in detail in chapter 4, insurance operations can under-provide for claims just as finance companies and banks can under-provision for loan losses). After losing its shirt in the financing business, ABB sold the structured finance arm to GE for \$2.3 billion. Post the sale of the financing business, ABB in 2002, recognized a loss of approximately \$190 million from the discontinued operations.

The rating agencies did not have a clear understanding of the consolidated risk ABB was running with its finance and other operations. S&P had rated ABB AA- at the beginning of 2002. Within a year, the ratings were seven notches lower at BB+. There was no fraud at the company's end behind whose veil S&P could hide its improper understanding of ABB. From the company's 2002 Annual report, it was clear that even after the sale, ABB continued to have contingent liabilities on account of financial guarantees issued with tenures between 1 and 18 years for \$ 207 million on the exposures that were sold. The sale agreement also gave GE the right to require ABB to repurchase certain designated assets upon the occurrence of certain events by February 2004.



**China & Vendor financing gone amok**

If a bank lends to a corporation or a household for a productive activity, chances are high that the loan would be repaid. If on the other hand a bank lends for supporting the current consumption of a borrower, to hope for repayment is fairly optimistic. When the same theme is translated into relationship between two sovereigns, the issue is more complex. The variation is more interesting when the country which does the borrowing for consumption has done so in its own currency, with the lending country treating the loan as part of its foreign currency reserves. Obviously the sovereign borrower is not going to default- he can do something which if done by a lesser mortal can land him in jail- he can legally print his own currency. Sure, the borrower can create a few Microsofts and use the taxation of wealth created to pay off the debt without cranking up the printing presses- but that belongs to the realm of wildcatting, not what a creditor should be doing while evaluating credit quality. So, short of such great ventures succeeding in the US in the next few years, China can expect to be repaid in "Monopoly money", which might look and feel like money, but is anything but. If China wanted to explore venture capital financing in the US, they could have directly invested in such companies (perhaps the US government might not have permitted it, but that is a separate matter)- not bought Treasury securities backed by the US government. In short, China took venture capital risk for risk free returns of a soon to depreciate currency. In 2009, the Chinese government authorities started expressing concern about being repaid in a bastardized currency- but they have no one else to blame but themselves when they resorted to current consumption financing with the aim of generating employment opportunities at home. At the very least, the Chinese should have resorted to some barter financing, by buying up wheat or chicken or pigs from Mid-West farmers to feed their undernourished country side instead of accepting funny money.

*Non Performing Loans: the Credit Entropy of Credit flowing in an unnatural Direction*

The natural direction of flow of credit is towards avenues in which the return on capital employed is highest. So, if a pension fund of a rich country invests in a well structured project in a developing country, which translates to higher output and production of goods that are undersupplied, the chances of the fund getting repaid is high because credit is flowing in a natural direction. When credit flows in an unnatural direction- that is towards a purpose, a sector, a corporation or a country where the return on capital is low, the entropy of such artificial pumping of credit has to generate non performing assets (NPAs) in the banking system somewhere. If the country which is doing the pumping of credit in an unnatural direction (perhaps through currency manipulation) is one with high savings rate and one where the accounting at the bank branch level is opaque, the effect of this unnatural flow of credit will not be apparent to everyone. This, in brief, is the saga of trade relations between the United States and China.

In the 1980s, when western banks pumped credit into emerging markets, not towards projects which would generate high returns but for supporting current consumption, it soon translated into bad loans for those banks. These banks had to be bailed out by western tax payers through the IMF mechanism. The same process will be repeated in the China saga with some changes in the plot. One of the following two things will occur. Either the American households, in an attempt to clean up their balance sheets will cut down current consumption of discretionary items. That will result in sharply lower volumes for Chinese producers, translating into NPAs for Chinese banks. Else, increasing trade disputes will cause the artificial exchange rate to give way. That will not only sharply reduce the value of China's reserves but will hit the Chinese producer with a double whammy- lower realization and also lower volumes. The latter scenario would cause NPAs to go up to a greater extent than under the first scenario. China's bad loans

amounted to \$ 911 billion as per an E&Y report in 2006. Most of it would have been linked to deploying resources in low return projects domestically. The next wave of bad loans would be due to trade linkages and the unnatural flow of credit. In thermodynamics, when water is pumped in an unnatural direction against gravity, the entropy of the universe goes up sharply. In credit financing, credit pumped in an unnatural direction will cause the NPAs of the banking system to go up somewhere in the universe. No prizes for guessing where the NPAs are being housed now!

### **Accounting Box: Accounting for Consolidating Financials**

Credit Analysts need to understand the intricacies involved in the consolidation of financials, either of a wholly owned subsidiary, a joint venture entity, an investment in an associate company or an entity that was taken over with fanfare in an M&A transaction. That is the key to understanding whether the value of assets, as shown in the balance sheet, would be preserved or would deteriorate. Also, it will help clarify issues such as the restrictions on flow of cash from those entities to parents, the rights of creditors of those entities etc. Typically, in the case of an acquisition, a company reveals in its balance sheet the acquisition at cost. If a company has less than 20% stake in another company, the value of that holding is usually shown at fair value in the balance sheet. If the holding is greater than 50%, the company fully consolidates the financials of that entity, with adjustments for minority interests. In the case of joint ventures, the companies holding stakes in an entity consolidate the holdings in the entity in proportion to their holdings. It is in the case of holdings between 20% and 50% that things get tricky. Here a company has significant but not overriding control. For consolidation of holdings in such an associate, the company uses the so called equity method for financial consolidation, which is discussed under the head IAS 28.

**IFRS 3**

The International Financial Reporting Standard (IFRS) 3 “Business Combinations”, establishes the principles of how an acquirer of identifiable assets (and with it any liabilities assumed) needs to present those assets and liabilities in his financial statements. It also describes how “goodwill” from an acquisition is to be presented. “Goodwill” is the asset that comes into existence when an acquirer pays for the acquisition a value higher than the book value of the acquired business. It represents the hope of the acquirer that the return from the acquisition would be higher than what is implied by the financials of the acquiree. The other side of goodwill is “bargain purchase” where the acquirer gets the assets at below book value of the assets. IFRS3 is applicable for a business acquisition- not an asset acquisition. If the asset acquired is not a business, there are unlikely to be contingent liabilities from the acquisition. When a business is acquired, all known and unknown liabilities are assumed by the acquirer. For instance, companies which acquired other companies later found out that they were responsible for the past sins of the acquiree such as asbestos liabilities and environmental liabilities. From a creditor’s viewpoint, asset purchases (hopefully from the liquidation of a company) are superior to business acquisitions. IFRS3 requires that acquiring companies do not recognize post acquisition costs with the acquisition costs, but handle those costs after the acquisition. This prevents companies from reporting artificially good results post the acquisition (at least in the next few quarters) which can mislead the financial analyst.

The chief fears of a credit analyst in an acquisition are whether the acquirer has overpaid for the acquiree and whether the acquirer will be able to integrate the acquiree’s business with his own. In addition, any change in the capital structure of the acquirer towards more leverage would be worrisome. IFRS 3 mentions indemnification assets- asset that an acquirer can recognize in his books should the seller of the business contractually indemnify the acquirer against

contingencies or uncertainty related to an asset or liability. This asset is to be stated on acquisition date at fair value. The usefulness and valuation of this asset is linked to the credit worthiness of the seller of the business. If the seller is not very creditworthy, the usefulness of indemnification assets is questionable. In an acquisition, there could be a contingent consideration component. There could be cases where the acquirer has to pay out more to the acquiree if a certain target such as an earnings target is met. If the contingent consideration takes the form of a cash payout, the credit analyst needs to factor this in his analysis. If it involves payment in shares of the acquirer to the shareholders of the acquiree, it does not impact the creditor because it merely transfers value from one set of shareholders to another. A popular misconception is that when an acquirer acquires a company with shares and not with cash, all is well from a creditor standpoint. That is not true. An acquisition comes with contingent liabilities nested in the acquiree's business model. Also, if the acquiree's business prospects turn out to be poor, it might end up dragging down the acquirer with it.

## **IFRS 5**

IFRS 5 deals with representation of non current assets held for sale and discontinued operations. From the credit view point, besides studying the impact on the credit story of the entity post the disposal, one needs to know the earnings impact on account of the sale. Assets whose value a company plans to recover through sale rather than through earnings are referred to as assets held for sale. It is important to be able to assess the correct value of these assets- one can get some idea of the value of the assets from the disclosures required under IFRS 5 on the earnings attributable to those assets.

**IAS 24**

International Accounting Standards 24 deals with “Related Party Disclosures”. The standard clearly defines which entities are related parties to a company, and it goes beyond corporate control. This standard highlights the importance of going through disclosures in a financial statement without focusing only on income statement and balance sheet numbers. We have seen several cases (particularly in Asia), where companies grant inter-corporate loans to weak companies of the same promoter group through out the year, but on balance sheet date, somehow, these loans are repaid. If one looked only at published outstanding inter corporate debt numbers, these risky loans would not be revealed. But as per IAS, these transactions have to be disclosed as inter-corporate transactions. In some countries, where International Accounting Standards or similar stringent requirements are not prevalent, sometimes auditors in their notes do highlight these nefarious happenings. These risky inter corporate loans might be repaid under normal circumstances but when an economic downturn hits, these hidden loans come back and haunt the creditors of the company.

**IAS 27**

IAS 27, “Consolidated and Separate Financial Statements”, is the crux of this chapter- one needs to have a clear idea of the financials of a group of companies under the control of a parent. This accounting standard does not deal with investments in associates (companies where the corporate under consideration has significant shareholding but does not exercise overriding control) or joint ventures. It is not necessary for a company to own more than 50% of the shares of a company to exercise overriding control. In the event of overriding control without a higher than 50% shareholding, consolidation of the financials of that entity is required. As a corollary, if even with significant shareholding a company does not exercise overriding control,

consolidation is not required. Again, as in the case of the other accounting standards, attention must be paid to disclosures under this standard to get a good idea of the economic substance of the relationship among different entities and the impact it can have on credit quality.

### **IAS 28**

IAS 28 deals with investment in associates over whom the company exerts significant influence. This typically happens when the company owns between 20% and 50% of the associate. In this case, one has to use the “equity method” for showing the value of the holdings in one’s balance sheet. Under the equity method, investment in the associate is carried in the balance sheet at cost, with this carrying amount adjusted for the investor’s share in the profit and loss of the associate. Dividends received from the associate reduce the carrying amount of the investment by that amount. Adjustments must also be made to the carrying amount if the associate makes changes directly in its balance sheet due to revaluation of assets, currency translation effects etc. The adjustment done to the carrying amount is proportionate to its holding in the associate. The company recognizes its share of the associate’s profit and loss in its income statement. A company should cease to use the equity method the moment it ceases to have significant influence over the associate. From that point, it must show the investment in its balance sheet at fair value as per the diktats of IAS 39- to be discussed in detail in the next chapter.

### **IAS 31**

How interests in joint ventures must be reported in financial statements is discussed in IAS 31. The standard explains the characteristics common to all joint ventures- two or more venturers are bound by a contractual agreement and the contractual arrangement establishes joint control. IAS 31 talks about jointly controlled operations, jointly controlled assets and jointly controlled entities. In the case of jointly controlled operations, each venture recognizes in its

financial statements the assets it controls and the liabilities it incurs as well as the expense it incurs. It books its share of the revenues of the operation. Jointly controlled operations could be among competitors such as newspapers that have their own editorial resources but pool operations such as printing, distribution etc. In the case of jointly controlled assets, each venturer recognizes its share of the jointly controlled assets and any liabilities that it incurs. In the income statement, it books the expenses it incurs on the assets and its share of revenue produced from the assets. Jointly controlled assets could include pipelines owned by a number of oil companies.

In the case of jointly controlled entities, the venturers are permitted to use proportionate consolidation or the equity method for valuing their holding. In the proportionate consolidation method each venturer recognizes its share of the assets, liabilities, expenses and income of the joint venture. We had already discussed the equity method earlier. The standard encourages the use of the proportionate consolidation method over the equity method as it reflects better the economic reality of the set-up.

## **Consolidated Risk of Japanese Keiretsu's Main Bank & Equity Method**

### **Accounting**

Before Japan's loss in the Second World War, Japanese industry was controlled by large family owned monopolies called zaibatsu. During the occupation of Japan, General Douglas MacArthur, the Supreme Commander of Allied Forces, dissolved the zaibatsu. The zaibatsu reorganized themselves around the concept of keiretsu. Each keiretsu centered around one bank (also called the main bank), which lent money to that keiretsu's industrial companies and held equity stake in those companies. Keiretsu groups also had a trading and an insurance company. The



keiretsu structure caused the dominance of credit over equity in corporate Japan's capital structure, with debt to assets hitting 86% in 1970.

From a societal viewpoint, the keiretsu's main bank concept involves a dangerous combination of commerce and banking, which puts tax payers at risk of bailing out depositors of failed banks on account of misallocation of credit. Prior to the era of deposit guarantee, such combinations of banking and commerce put depositors at risk. The industrial loan companies of the USA (including companies such as Ford Credit that we had talked about earlier) do not take public deposits and rely on wholesale funding. Germany does not only allow this dangerous liaison by permitting its car manufacturers such as BMW and Volkswagen to promote banks, but in October 2008, after the Lehman credit event, guaranteed those depositors, thus permitting the car makers to grab market share by having the risk underwritten by the German tax payer.

When a bank has an equity stake in a manufacturing company, it leads to misallocation of credit- credit is deployed not on a return on capital employed basis but on a venture basis, or worse, to protect the value of the equity holding. German banks, unlike their Japanese counterparts derive their power not only from shareholding in companies but also from holding of proxy votes on behalf of shareholders who place their shareholdings with the banks for custodial purposes. The permission to use shareholders' proxies is obtained annually by banks, although they must inform the shareowners of their voting intention.

Bank's equity holdings can increase, not only on account of conscious decision to increase their shareholding, but as a result of imprudent lending in the past. In India, the so called development banks were left holding a chunk of equity on account of swapping non-performing loans for equity. Of course, unless the company got into trouble through excessive leverage but had sound businesses, the whole exercise is a sham because if a company cannot pay interest out of operating earnings, it is highly unlikely that the equity would have value. Swapping

equity for debt of companies which have negative operational cash flow never makes sense and the holding has the same value as an out of the money call (that is purely the time value).

The second danger of the Japanese main bank concept is that the bank also undertakes the role of a venture capitalist, providing risk capital to keiretsu members for their innovative products. It would have been better for the Japanese taxpayer if this activity had been undertaken by a separate entity within the keiretsu which did not rely on bank depositors for funding.

In the post-bubble Japan of the early 1990s, equity stakes of main banks in keiretsu members constituted a very sizeable portion, and in many cases exceeded their Tier I capital. Tier I is the purest form of bank capital, most of which is constituted of hard equity. Tier II and other inferior form of capital are basically debt and debt like instruments. So, for these banks, it is not possible to assess bank credit quality by looking at the loan book only- one has to look at the investment book too. And since a sizeable chunk of the loans were to companies in the investment book, as part of the keiretsu compact, there was a formidable correlation between loan book credit quality and valuation of the investment book. Towards the end of the 1990s, the ratio of Japanese banks' equity holdings to capital exceeded 150%. Belatedly, in 2002, the Japanese government capped the ratio of equities to Tier I capital at 100%. Since that directive, banks started reducing their shareholdings. But any precipitate selling would cause a stock market crash and further reduce the banks' Tier I capital.

Investments in affiliated companies of the keiretsu (companies where a bank had between 20 % and 50% holding and had the ability to exercise significant influence) are accounted for by the equity method of accounting (see Accounting Box : Accounting for Consolidating Financials).

**What was the Bank of Tokyo Mitsubishi UFJ's (MUFJ) Tier I Capital Ratio in 2008?**

MUFJ is part of a keiretsu that includes companies such as Mitsubishi Corporation, Mitsubishi Motors, Kobe Steel, Mitsubishi Heavy Industries and a whole host of other companies involved in industrial activities and other activities such as insurance. The keiretsu can trace its roots to the Mitsubishi zaibatsu which played a sterling role in Japan's rise to be a leading industrial and military power.

The heyday of the keiretsu was the 1980's bubble economy. Sharp increase in equity valuation, as the Nikkei 225 hit record highs, ensured a sharp increase in the Tier I capital ratio. Added to this halcyon state of affairs was the fact that the non performing loans were miniscule in a flourishing economy. When the Japanese stock market crashed in the early 1990s, this virtuous cycle reversed, with capital ratios falling as investment values went southward. Non performing loans zoomed. Mitsubishi Bank, in its previous avatar prior to a few mergers, like other Japanese banks, resorted to various artifices to ensure that it had the appearances of a solvent bank. In 1994, the bank wrote off interest on money owed to it by two affiliated finance companies- Diamond Mortgage Company and Diamond Factors to keep the two companies as going concern. Otherwise, on its books, the bank would have to write down the value of the equity investments to zero, besides having to make heavy provisions on its loans to the two companies. Subsequently, it bailed out the two companies by buying loans from them at face value and selling them at half the book value, taking a hit on its bottom line. This preserved the displayed value of equity in its annual reports. Mitsubishi bank held only 5% of the shares of the two financing companies, with bulk of the stock held by the other members of the Mitsubishi keiretsu, in whose equity Mitsubishi Bank had a stake. At that time, Mitsubishi bank was the only Japanese bank listed on the New York Stock Exchange. In 1998, Bank of Tokyo Mitsubishi poured an additional capital of 120 billion yen into the Diamond Mortgage

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Company and 50 billion into the Diamond Factors Company. Bulk of the funds were used by the companies to write-off non performing loans tied to the rapidly worsening Japanese real estate market.

By the end of 1998, the thirteen core members of the Bank of Tokyo Mitsubishi keiretsu had a debt equity ratio of almost 3:1. Besides endangering the credit quality of the loans to these companies, this put at risk the valuation of the equity holdings. To avoid increasing its loan loss reserves, the bank resorted to “ever greening of loans”- extending additional credit to enable weak companies to make interest payments whilst keeping the loans current. The bank was thus lending to the weakest credits rather than to those with the best prospects.

Investments in affiliated companies of the keiretsu were reported in “Other assets”. In the Form 20F of 2004, Bank of Tokyo Mitsubishi stated that the aggregate value of equity holdings as a percent of Tier 1 capital was 74% and that its target was to get the ratio to around 54%. At the end of calendar year 2008, the ratio was 49.1%. Though this was far superior compared to its rival Mizuho Financial Group’s ratio of 63.3%, the risk continued to be humungous, given the fragility of the Japanese economy and its stock market indices. The 20F filing with the SEC of 2008 listed out the following risk factor- “If the stock market declines in the future, we might incur losses on our securities portfolio and our capital ratios will be adversely affected”. The Tier 1 capital ratio at the end of 2008, when you ignore these issues, was 7.51%.

### **Consolidated Risk and Financials of Clusters and Interconnected Systems**

People take it for granted that business clusters, once they come into existence, would forever sustain the benefits of such an ecosystem for all the companies located there. For example, the assumption is that Silicon Valley will be there to provide the ecosystem succor to all the companies stationed there. That precept is subject to lots of ifs and buts. With California’s

financial standing taking a marked turn for the worse, lesser and lesser money would be available to provide for the physical infrastructure and the knowledge infrastructure in terms of state funding for research and universities. What holds the ecosystem together are- great physical infrastructure, great knowledge infrastructure and the presence of venture capitalists for whom it is convenient to have the firms they finance located within a certain physical distance from where they reside. But for established companies, who already have a credit story, the presence of venture capitalists is not important. They would be the first to walk when the physical infrastructure and the knowledge infrastructure crumbles. High taxes would be an issue for such companies though it does not matter for start ups which pay no corporate taxes. So, if things do not change fast, Silicon Valley might become an incubator for start ups- not a place where flourishing technology companies want to reside and pay taxes. Will the cluster evolve into mini clusters, with parts of it migrating to Israel and Bangalore and linked together by Cisco's video conferencing technology?

Clusters crumble when the driver that caused their existence ceases to exist. The business clusters in China's Dongguan city might cease to flourish when western households start rebalancing their balance sheets. Italy's clusters for production of shoes and household products have been hit by their inability to compete with cheap Chinese labor.

A variation of cluster risk is the risk on account of an interconnected system such as the credit risk of an individual bank on account of its exposure to other banks of a banking system. This could be on account of counterparty credit exposure, perhaps due to derivative transactions with other banks or on account of investing in the securities of other banks. When weak entities of an interconnected system get leveraged and big, they put the whole system at risk. Lehman Brothers and Bear Sterns put at risk the whole banking system because these weak players were connected to others of the system through derivative transactions. For analyzing the credit

strength of an entity belonging to such a system, one has to identify the weakest entities of the system and the extent to which the entity in question is exposed to the weak entity- either directly or indirectly on account of exposures to third entities, which in turn have direct exposure to the weak entities. When the weak entities get big, the cancer spreads through out the system and all entities of the interconnected system have to be avoided like the plague (unless once subscribes to the too big to fail thesis). Similar interconnection occurs among insurers and reinsurers when either the insurer holds a big chunk of a reinsurer's equity or the reinsurer invests in the securities of the insurer. We discuss in detail the incestuous relationship between insurers and reinsurers through equity holdings and investments in chapter 6.

### **The Future of the London Financial Cluster**

For some vague reason, finance is regarded as a standalone activity by individuals who believe in the notion of financial centers such New York, London, Hong Kong and Tokyo. Finance for such wise men is an end in itself and not an efficient way of transferring capital from savers/providers of capital to the users who can generate the highest possible return. Financial centers such as New York and London came into existence historically because stock exchanges were located there. Because in the pre-internet world a lot of contract notes had to be delivered physically, you needed to be close to the stock exchange. In the eighteenth century, when the New York Stock Exchange came into being, and advanced communication devices such as telephones had not come into existence, being close to the stock exchange provided competitive advantage over people located far away. Naturally, brokerage firms all gravitated to New York. But, as long as the Glass Steagall act was the law of the land, big commercial banks were located all over the place. Only commercial banks which in the pre-Glass Steagall Act era had brokerage operations were headquartered in New York. In Europe, where there was no equivalent of the Glass Steagall Act, obviously the big commercial banks also gravitated to the place where the

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stock exchange was located. In the post internet world this is an anomaly, as efficient use of resources will dictate moving away from places where commercial real estate is expensive.

Services such as financial services, restaurant services, janitorial services etc are there where they can add most value to their clients. You can't have a restaurant center in the middle of the Kalahari Desert. You can't have real financial services – of the type that involves transfer of capital, located far away from the providers and users of capital. Financial services of the Las Vegas type obviously can gravitate towards financial centers. That brings to mind another reason why financial centers came into being historically. Silly regulations. For instance, Regulation Q in the US which capped the amount of interest that could be paid on borrowings was what provided impetus to London becoming an international financial center (in addition to being a domestic financial center on account of its stock exchange). Because of restrictions on gambling elsewhere, Las Vegas became a gambling center.

As silly regulations fall by the wayside and as being close to the stock exchange provides limited competitive advantage and as the stock exchange itself shifts to the cloud, financial centers will increasingly be less important. The model for financial services being close to users of capital is the venture capital fraternity in Silicon Valley. Likewise, it makes sense for a big bank to have operations in industrial clusters such as at an auto industry cluster. And you need to have an efficient mechanism for tapping the funds of savers. A slim head office can be located at a financial center, which has advanced golfing resources. In fact, it makes more sense for a country club to be located at a place where a number of financial firms have their headquarters than for a financial services firm to be located at a financial center. The argument that asset managers need to be located at a center was somehow not conveyed to a certain individual in Omaha. Great asset managers can be located anywhere and need to travel a lot to meet the providers of funds such as pension schemes, endowments, owners of rich companies etc and to

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meet companies which afford investment opportunities. In fact, being located in one place, more likely than not, makes them and their investors vulnerable to becoming victims of groupthink. The 2008 credit crisis amply showed that fund managers who were not part of traditional cliques were the ones who made money- the others lost their investors a pile. Services like fund accounting will no longer be based out of the financial centers but delivered over the internet from India.

The UK's household and government sectors are deep in debt- so it is as far from savers as the east is from the west. Unlike continental European countries like Germany, which have great manufacturing firms, the UK does not have sectors which can use capital efficiently. But London has some other advantages. It will continue to be a great tourist center. It will have restaurants from across the world catering to those tourists. In fact, the future users of capital in London would be providers of restaurant and tourism services. These companies will require very little long term capital and perhaps not much working capital. This should make lenders to the London commercial real estate market, particularly office space, shudder.

Finance has two branches- one branch deals with wealth creation and the other with transfer of wealth through trading of financial instruments. The branch of finance that deals with wealth creation will move to be closer to providers and users of capital. Financial firms involved in wealth transfer will be based out of those financial centers that double up as tax havens and centers for money laundering. Such firms might be involved in "high frequency trading", where having servers as close as possible to a stock exchange is a source of competitive advantage as long as this pernicious practice is not taxed away to oblivion.



**Increased consolidated Risk to a Banking System through investment in TruPS CDOs**

Banks are discouraged from investing in each others' capital instruments. Any investment in such securities would require a bank to deduct from its capital the amount of such investment. Trust preferred securities (TruPS) are debt like instruments issued by holding companies of banks and which qualify as Tier I capital till Basel III takes effect (more on Tier I capital in the next chapter). These instruments are senior only to equity. The dividend payout on TruPS can be deferred at the discretion of the bank and on instruction from the banking regulator. These securities do not have a maturity date (if it had a maturity date, it would not constitute Tier I capital) but have a call option attached. The issuing bank has an unwritten compact with the investors of TruPS that it would call the securities on the first call date. If the finances of the bank are weak at the time of the call date or if the banking regulator insisted, the TruPS would not be called. By the end of 2008, US banks had issued \$149 billion of TruPS.

To get around the fact that banks could not invest in each others' TruPS, investment bankers pooled the TruPS of several banks into a CDO and issued tranching securities against them. Unlike the deduction from capital required for investing in capital instruments, investments in CDO tranches were treated as investments in rated debt securities, with the capital required for the investment linked to the credit rating of the tranche. However, such investments linked the fortunes of several banks and effectively, those banks became self-financing to the extent of the TruPS.

The weakness of the TruPS structure was that if a bank deferred its dividend payment, it acted as a signal to the market of its weak fundamentals, potentially causing a run on the bank. When the weakest entity of a TruPS investing system experienced difficulties, the value of the TruPS issued by it would fall as would the CDO tranches issued against the pooled TruPS. This would

cause a writedown of asset valuation at the banks which invested in the TruPS- thus weakening their financials. So, if a bank has invested substantially in TruPS through CDO tranches, to assess its credit risk, one needs to identify the weak issuers and assess whether those entities have been big issuers. If yes, it would cause the cancer of the risk to spread through the whole cartel (i.e. the bunch of banks which invested in each others' TruPS).

### **Cash leakage to weaker Companies of the same Promoter Group in Asia**

In many countries, particularly those of Asia, it is insufficient to look at the consolidated financials of a company, its associates and joint ventures. One has to look at the financial condition of all companies of the same promoter group. It is also wise to know the business strategies of those companies in addition to those of the company being analyzed. Else, one is likely to be surprised when cash leakage happens from strong companies of the same promoter group to weaker companies. These leakages could happen in many ways- all to the detriment of creditors.

Firstly, a promoter might insist on heavy dividend payouts from strong companies so that he can subsidize the weak ones. And when covenants are not in place, this is a very potent route. A second possibility is that a strong company of a group borrows and then on-lends to the weaker companies of the group. Because a direct inter-corporate loan from a strong company to a weak company might be frowned upon, the company indulging in this scheme might structure the transaction differently. The strong company might deploy its surplus in a liquid mutual fund and show the investment as such on its balance sheet. The mutual fund would have been instructed to invest in the debt securities of the weak company. Since the mutual fund makes money from this scheme, it would play along. Of course, there is no contract for this arrangement- so there would be no smoking gun. But creditors to the strong company must

worry about this arrangement. Ideally, a company should not be permitted to have cash resources beyond a certain level- there should be covenants for debt repayment to prevent the misuse of this cash. Idle cash, like idle minds is the playground of the devil. Finally, particularly in countries with weak corporate governance, one might suddenly find the promoter merging his weak company with the strong entity where a creditor might have interests. In a stroke of a pen, the strong company's debt protection metrics, post such a merger, would have weakened considerably.

### **PCCW Creditors would have assumed Dad would bail out the Company**

Hong Kong's PCCW started off as Pacific Century Cyberworks in the mid 1990s, focused on internet related activity. The company did not really have a viable business plan till 2000. It was like a venture capital firm investing in the most hare brained ideas of the dot com era. In 2000, the company acquired the country's largest telecommunications service provider Hong Kong Telecommunications (HKT). The acquisition was funded with debt to a considerable extent. Though HKT was a sound company, the extent of the debt used did not make the deal a sensible one for the creditors. That is, unless they had looked beyond PCCW and HKT's financials.

The largest shareholder of PCCW was Richard Li, the younger son of Hong Kong's richest man Li Ka-shing. Li Ka-shing is the owner of big companies such as port operator Hutchison Whampoa Limited and infrastructure and real estate operator Cheung Kong Holdings. Cheung Kong Holdings is the holding company of Hutchison Whampoa among other companies. Paternal feelings, in Asia, extend beyond normal interaction and spreads to business interrelationships. There was no way that Li Ka-shing was going to permit his son to endure the ignominy of liquidation or something similar. On a standalone basis, taking credit exposure to PCCW was a venturesome pursuit. In fact, by mid 2001, the company did have almost a billion USD of

venture capital investments. At the end of that year, the company had almost USD 4.9 billion of debt, most of which was contracted during the takeover of HKT. Richard Li's business successes till 2001 had been far from impressive. But creditors were not bothered, and rightfully so, on expectation of support from Li Kai-shing.

This was a rare occasion where cross corporate dealings actually worked to the benefit of creditors. How PCCW would have been bailed out, should the need have arisen, is not of interest to PCCW's creditors. However, creditors to Hutchison Whampoa might have been worried. One wonders if there was ever a talk of Hutchison Whampoa or Cheung Kong merging PCCW with itself. The possible structures were endless. That these possibilities could not be ruled out was amply proved by the poor corporate governance behavior of PCCW at the end of 2008. The company tried to go private by buying out minority shareholders for a pittance. Fortunately for the minority shareholders, they had success at the Hong Kong courts which did not permit Richard Li to take the company private by arm twisting minority shareholders.

### **India's Pharmaceutical Company Wockhardt's Dividend Policy hurt its Creditors**

Founded in the 1960s, Mumbai headquartered Wockhardt was a fairly sober pharmaceutical company till 2003. Barring an acquisition in 1998, most of the company's growth came organically. Till 2003, the company's debt had a AA+ credit rating from Indian credit rating agency ICRA for local currency debt. The company's above average leverage was more than adequately compensated by its strong and sustained earnings. From 2004, the company took on a radically different path. Between 2004 and 2007, the company made a series of debt financed acquisitions in France, Germany, Ireland and the US. The company's debt was almost two times equity at the end of 2005. In 2005, probably ICRA made threatening noises about Wockhardt's burgeoning debt. The company withdrew the rating. In that easy credit period, it

was possible for corporations to repay the rated debt outstanding from other facilities and get the credit rating withdrawn. The company embraced Fitch in the hope of more lenient treatment. By the end of 2007, the company's debt was getting unmanageable, but Fitch chose to rate the local currency debt of the company AA- .

As the company was getting more and more levered on account of its acquisitions, it started fooling around with currency and interest rate derivatives. But the most instructive issue for credit analysts was the plan of Wockhardt's promoter to get into the specialty hospitals business. Medical tourism to India was beginning to flourish. Patients from developed countries came to India on account of the low cost of various medical procedures compared to their home countries. They also came to get around waiting periods for medical procedures in countries such as the UK. And there was the tourism element to the business model- they could have a look at the Taj Mahal after the medical procedure was completed. The Wockhardt promoter wanted to set up specialty hospitals in a separate entity called Wockhardt Hospitals, which was to have no relation with Wockhardt. Theoretically, there should have been no reason for the Wockhardt creditors to worry about the extra-curricular pursuits of the company promoter.

Those who would have looked beyond Wockhardt would have realized that the promoter did not have cash to fund his equity stake in Wockhardt Hospital. Hence, the only way he would have been able to get his equity funding done was through dividends from Wockhardt. Despite a more than 20% dip in net profit between 2006 and 2007, the company's dividend payout increased by more than 125%. Spotting this jump in dividends would have been the last opportunity for the Wockhardt creditor to get out (of course, the creditor had no business being in the company after 2003, but that's a different matter). Finally, everything came to a head in 2009. In early 2009, Fitch downgraded the credit rating to A. Within five months after that,

the agency downgraded the credit rating to D. The market knew that Wockhardt was defaulting a few months before that.

### **Dividend Payouts from Multi-national Subsidiaries to Parents**

Creditors to local subsidiaries of multinationals have a tough time assessing consolidated risk of the parent and its subsidiaries, particularly if the parent is a privately held company. If the parent's financials or the financials of a big subsidiary in a third country worsen, the creditors to the subsidiary in the first country might be in for an unpleasant surprise when the subsidiary declares a big dividend to its parent, thus causing sharp worsening of credit metrics. Credit analysts in emerging markets must drastically change their mental framework and their analytical framework in the years to come. Until now, the analysts from emerging markets have always assumed that the parent would provide financial support if and when the local entity needed financial help. They have to factor in the fact, that in future, credit support might work both ways and credit quality must be assessed on a consolidated basis. Many subsidiaries are more creditworthy than their parents. If the parent's financials are unavailable, local creditors to a subsidiary should be extremely circumspect and might want to put in covenants that prevent such payouts.

The Schwing group of Germany is a big international player in the manufacture of truck mounted concrete pumps, stationary concrete pumps, truck mixer pumps and sledge pumps. The company is privately held- so the parent's financials are unavailable. The company has an Indian subsidiary, Schwing Stetter Private Limited. Late in 2009, creditors to the Indian subsidiary were in for a shock when they discovered that the company had declared a big dividend payout to its parent, wrecking the subsidiary's balance sheet. All assumptions made in the financial projections had gone for a toss.

## Key Takeaways from this Chapter

It is a cardinal mistake, while analyzing the creditworthiness of an entity, to pretend that the entity operates in vacuum, untouched by what happens to entities related to it. These relationships cannot all be captured by the financial statements of the entity. Even consolidated financial statements miss out details which can be captured only by evaluating the disclosures it reveals as per the requirements of the International Accounting Standards.

Government finances cannot be analyzed on a standalone basis as leading credit rating agencies have been doing for a long time. Government income, expenses, assets and debt are closely tied to what happens to corporate and household debt. That is because an increase in household and corporate debt (usually promoted by easy money policy of a central bank that regards asset price inflation as irrelevant to the long term health of an economy) is usually accompanied by increase in asset prices, which translates into higher tax receipts for the government from capital gain tax, tax income from bonuses of investment bankers and enhanced property sector tax collection. The increased demand, when household debt goes up results in increased corporate profits and increased corporate tax collection. As unemployment falls, there is less payout from the treasury for unemployment benefits. There might even be a fiscal surplus, which causes “thoughtful” central bankers to ponder what effect there could be on financial markets when the government stops issuing risk free bonds. A maestro central banker might talk about a conundrum and a paradox or two. As asset prices go up, pension funds and other employee benefit plans of companies look artificially robust- causing households to think that focusing on savings for retirement is missing out fun in the “here and now”.

However, households cannot pile on debt indefinitely. At some point in time, interest payments themselves can be onerous. And when demand slows, the corporate sector starts layoffs. This causes leveraged households to default on their loans. The bigger the amplitude of the debt funded binge and the longer it lasted, the greater the increase in bank loan defaults, and in the extreme, can put the health of the banking system at peril. The government might be forced to bail out the banking system causing the governmental debt to go on an unsustainable trajectory almost overnight. As demand falls and as asset prices stop going up, tax collection from the household and corporate sector falls. This coupled with increase in unemployment benefits will cause sharp increase in fiscal deficits. As asset prices fall, all pension schemes look wobbly, and unless the demographic profile of the country points to an ageing one, this government contingent liability can be brushed under the carpet for a few more years- but it does not go away.

The only correct way of assessing sovereign credit risk is to look at the societal debt ratio (SDR)- the ratio of the sum of government and private sector debt to GDP. If any of the constituents of society starts over consuming with debt, the SDR shoots up and red lights should flash in a credit analyst's mind. Debt per se need not be bad. What one needs to calculate is the increase in debt required to secure a unit rise in GDP (the marginal productivity of debt, or MPD). We then calculate  $V_{GAP}$ , the difference between the MPD and the cost of debt. If  $V_{GAP}$  turns negative, nasty things are about to happen (whose timing is uncertain), and all credit and equity investors in that country should plan on bailing out. Heavy dose of corporate debt deployed in poor yielding assets can also land a country in a soup. And when the debt is contracted in foreign currency, the soup is garnished with a currency crisis. While looking at SDR, one should not ignore the cushion provided by the propensity of household and corporations to save. These savings provide governments with flexibility for their borrowing programs without relying on the



generosity of foreigners. Nor should one ignore the tenure of societal debt- whether the debt has a short term tinge to it.

Even if a country lives soberly with a low SDR, a poorly regulated banking system can plunge a country into trouble by requiring a government bailout. Poorly regulated banking systems permit bankers to roll the dice and bet on the assets of countries with high SDRs. Assets of countries with high SDRs are frothier- causing greedy bankers to chase them for yields. But when the day of retribution arrives, the asset values plunge and the banking system needs a bailout. Even institutions which do not take household deposits can cause mischief through their linkages with depository institutions. When bankers play with depositors' funds the pain to society is compounded.

In the corporate sector, companies, unless they are operating in sectors where no bank financing is available, should have no business lending money for promoting sales. This combination of banking and commerce under-prices credit risk. The Japanese kieretsu structure failed because of mixing up of commerce and banking and inadequate attention paid to credit risk and return on capital employed. Consolidated financials of companies and their financing arms miss out a lot of detail which is usually captured in corporate disclosures. Since the reign of corporate CEOs is becoming shorter and shorter, they have an incentive to push sales today and drive the problems to another day, when they would have faded into cozy retirement. The financing arms of manufacturing companies are taking on high risk through residual value guarantees, which are not reflected in corporate financials- it is a liability that can haunt a company in the future. The risks are particularly amazing in the case of long lived assets such as airplanes. Guaranteeing long term value of assets in those businesses is even more questionable. If new, fuel efficient and environmentally friendly airplanes come into existence, the residual values of the older models would fall sharply. Residual value risk has only one

rightful place- the balance sheet of the user of the asset. Another risk in the vendor financing business, which is not immediately evident, is pushing sales to non credit worthy buyers.

Interest rate subventions are as bad, because in the income statement, only the interest subsidy for the current financial period is reflected. The marked to market losses for providing subventions on future loan installments of a long dated loan are not reflected in the financials.

Traditionally, construction companies used to make money by executing turnkey contracts on schedule and to planned cost. Because of weakened government financials, governments are passing on the risk of creation and maintenance of infrastructure assets onto the private sector.

Contractors, on account of sharply lowered construction margins are turning to ownership of assets (usually the assets they themselves created) and toll collection from users of assets. This increases potential returns for the contractor, but leads to sharply higher debt equity ratios on the contractors' consolidated balance sheet. Usually, each project is owned through a separate special purpose vehicle (SPV). The debt sits in each SPV's balance sheet. The contractors declare nonchalantly, that the debt is non recourse to the holding company's balance sheet. If that is the line of thinking a credit analyst is going to adopt, he should write down to zero the value of the equity investment in the SPV. If the debt is not paid, the value of the equity holding is zero. So, the analyst has two choices- either consolidate all the debt and then analyze the company, else consider the non recourse debt and equity investments, at the holding company level to have a value of zero. We feel even this is not conservative enough because any non repayment of debt of a particular SPV will severely erode the reputation of the contractor- thus jeopardizing his ability to secure new BOT contracts or even plain vanilla construction contracts.

In parts of the world such as Asia, it is inadequate to just study the consolidated financials of a group where there are inter-corporate equity linkages. One needs to look at how corporate control is exercised through a promoter's ownership in a number of companies. Even though

there might not be any direct equity holding of the companies in one another, the promoter can cause a baleful linkage. He might engineer an inter-corporate loan from a strong entity in his group to a weaker entity. Creditors to the strong company might not have bargained for this weakening of the corporate balance sheet. The loan might be routed through intermediaries such as mutual funds so as to mask their inter-corporate nature. Creditors need to look at the finances of all the promoter group companies and assess the likelihood of support to weak entities. Because of the circular way in which those inter-corporate loans are routed, one cannot rely on covenants to prevent such transfers.

The credit analyst must be thoroughly aware of the accounting used for corporate consolidation. The rules for consolidation depend on the extent of shareholding of one entity in another. The rules are different for small holdings (<20%), significant holdings (between 20% and 50%) and controlling holding requiring financial consolidation (>50%). The analyst also needs to be aware of how corporate acquisitions (as opposed to asset acquisitions) are handled. Issues such as good will, contingent consideration, and indemnification assets must be clearly noted. The impact of all accounting disclosures regarding consolidation of accounts must be thoroughly studied and assessed.