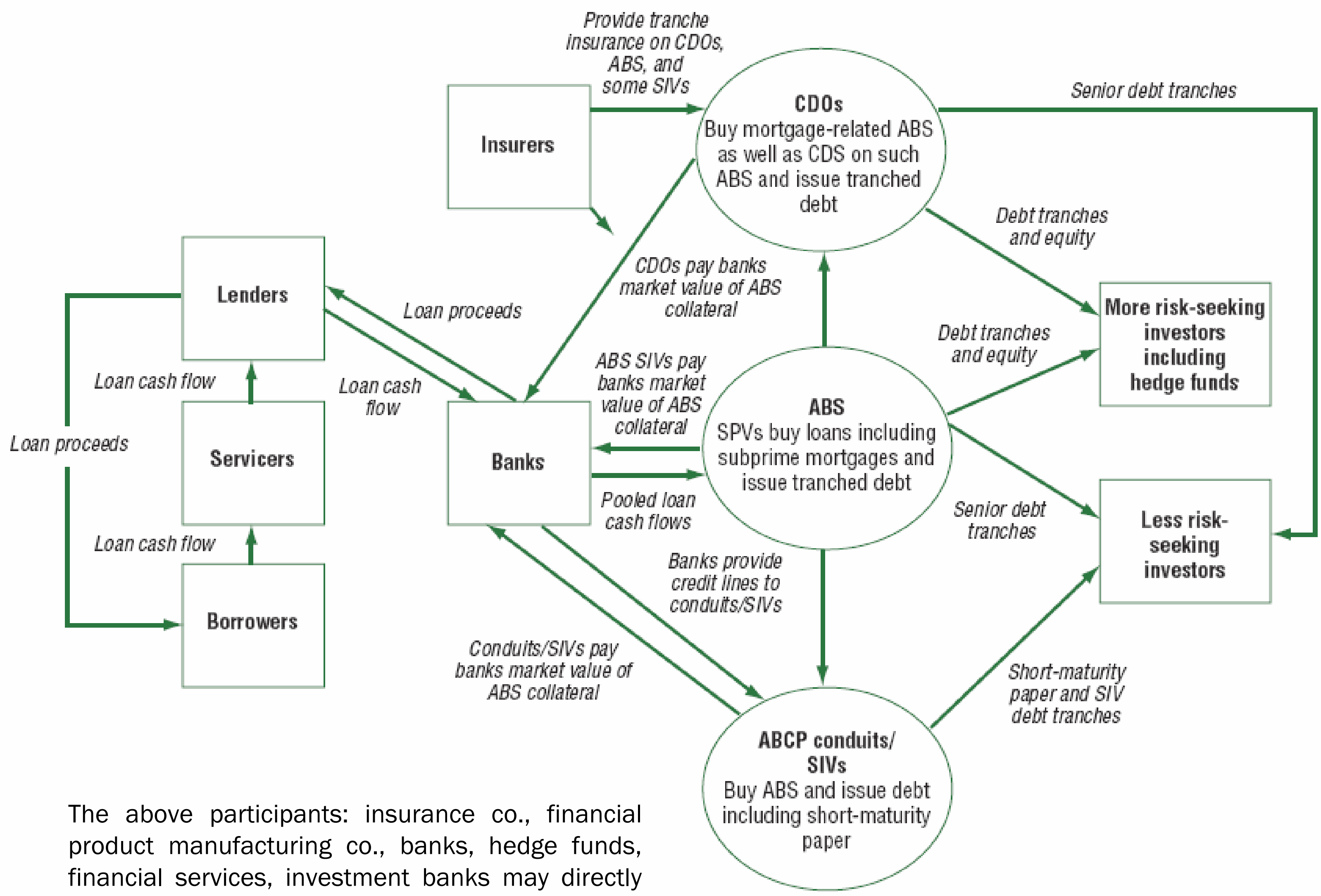
Impact of global financial turmoil on Indian markets

September, 2008

Mortgage market flows & risk exposure



The above participants: insurance co., financial product manufacturing co., banks, hedge funds, financial services, investment banks may directly feel the pinch

Source: IMF. Note: ABS = asset-backed security; ABCP = asset-backed commercial paper; CDO = collateralized debt obligation; CDS = credit default swap; SIV = structured investment vehicle; SPV = special purpose vehicle.

Building credit derivatives castle in the air

And what happens if even one card falls..........

Impact on Participants of Mortgage Market

AIG

- Market Cap as on 12th September 2008: $32.3 bn (-82%)
- Sold 80% stake to raise capital to the tune of $85 bn

Fannie Mae

- Market Cap as on 12th September 2008: $0.7 bn (-98.9%)
- Taken over by government

American Express

- Market Cap as on 12th September 2008: $45bn (-39.8%)
- General slowdown has impacted profits

Bank of America

- Market Cap as on 12th September 2008: $150.2 bn (-36.5%)
- Wrote off more than $21 bn assets but bought Merrill Lynch and Countrywide Financials in fire sales

Morgan Stanley

- Market Cap as on 12th September 2008: $41.1 bn (-43.8%)
- Wrote off more than $14 bn assets but returned to profitability

Bear Sterns

- Market Cap as on 12th September 2008: $0 bn (-100%)
- Taken over by J P Morgan Chase

US Bancorp

- Market Cap as on 12th September 2008: $58.4 bn (11.1%)
- Despite losses of $1.3 bn has managed to avoid liquidation problems

Citigroup

- Market Cap as on 12th September 2008: $97.8 bn -58.7%)
- Wrote off more than $55 bn assets which led to chairman and CEO resigning

Freddie Mac

- Market Cap as on 12th September 2008: $0.3 bn (-99.3%)
- Taken over by government, massive portfolio of bad assets

Lehman Brothers

- Market Cap as on 12th September 2008: $2.5 bn (-92.6%)
- Filed for bankruptcy

Merrill Lynch

- Market Cap as on 12th September 2008: $24.2 bn (-62.1%)
- Despite infusion of $30 bn could not sustain bought over by BoA

J P Morgan Chase

- Market Cap as on 12th September 2008: $142.2 bn (-11.5%)
- Wrote off more than $14 bn assets but bought Bear Sterns when it collapsed

Wachovia

- Market Cap as on 12th September 2008: $30.8 bn (-68.6%)
- Wrote off more than $23 bn assets; 2nd quarter losses at $8.9 bn

National City Corp

- Market Cap as on 12th September 2008: $3.7 bn (-77.5%)
- Wrote off more than $5.4 bn assets; 2nd quarter losses at $1.8 bn

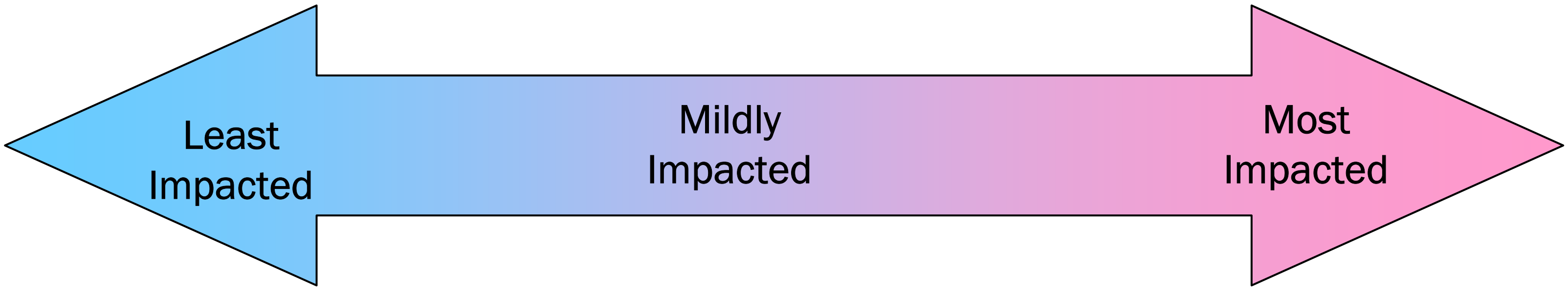
Wells Fargo

- Market Cap as on 12th September 2008: $113.2 bn (-8.8%)
- Wrote off more than $10 bn assets; but got a boost due to Berkshire's increased stake

Goldman Sachs

- Market Cap as on 12th September 2008: $61.3 bn (-3762%)
- Wrote off more than $4 bn assets; but has managed to churn profits

Impact on India: The Good , Bad & Ugly



Least Impacted	Mildly Impacted	Most Impacted
Pharmaceuticals	Power equipments & Services	Banks
Oil & Gas	Auto	Financial Services
FMCG	Retail	Real Estate
Media & Entertainment	Logistics	Infrastructure
	Hospitality and tourism	Information Technology

Indian Financial Services

Impact : Most impacted

- The US sub-prime market crisis, which so far caused losses worth $181 billion to the world's top 45 banks by the end of FY08, has started hitting Indian banks also.

- India's largest private sector bank ICICI Bank was the first bank to announce a loss of about Rs. 1056 crores owing to the sub prime crisis of US in the FY08 results.

- The public sector banks have had a limited position in the structured products and therefore impact is expected to be minimal. However negative sentiments will hit harder.

- Punjab national Bank, Bank of India, State Bank of India, Bank of Baroda were major banks having an exposure to the instruments issued by Lehman and Merrill Lynch.

- However the banking sector in general will have to face tight liquidity conditions apart from further mark-to-market losses. The net non performing assets of entire banking sector is less than 2% and it is well capitalized. The capital adequacy ratio is around 13% as against the statutory requirement of 8 to 9%.

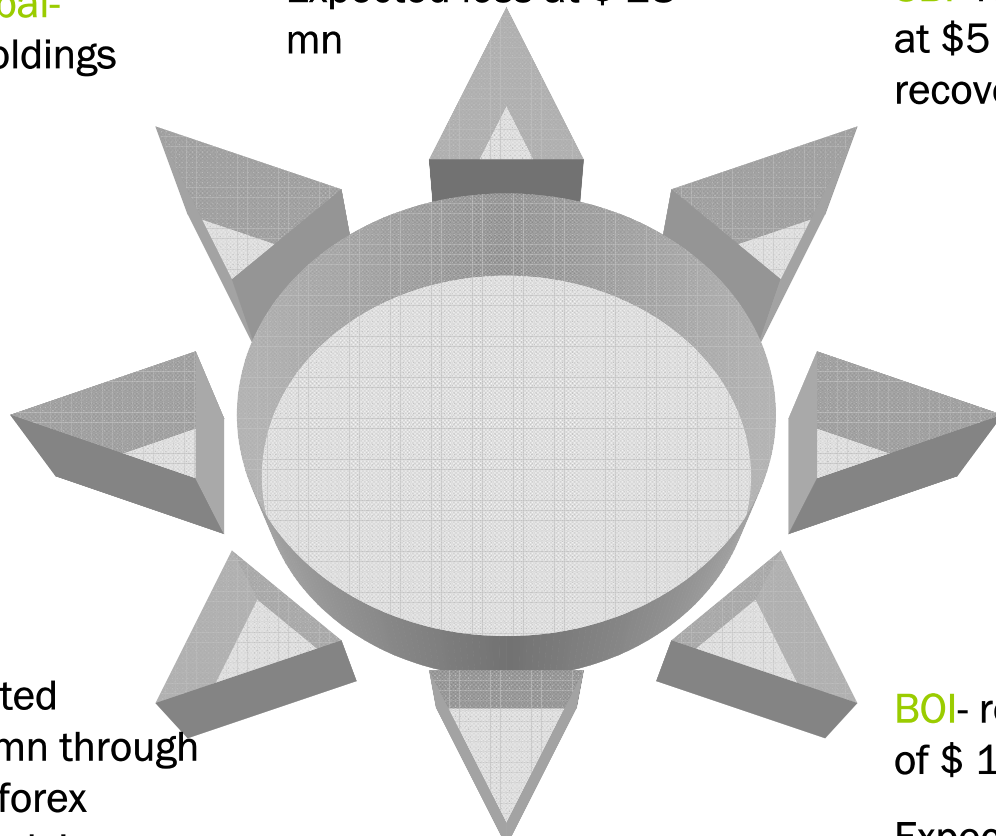
Financial services Chakra – view…….Exposed??

ICICI- reported exposure of $80 mn, $12 mn provisions

Expected loss at $ 28 mn

Emkay Global- Lehman Holdings at 4.05%

SBI- reported exposure at $5 mn, expects to recover 70%



Edelweiss: 2.6% stake bought by Lehman

PNB- reported exposure at $5 mn

Expected loss at $ 2 mn

Axis Bank- reported exposure $ 1.5 mn through mark to market forex counter party deal. Impact- negligible

BOB- reported exposure of $ 10 mn

Expected loss at $ 4 mn

BOI- reported exposure of $ 11 mn

Expected loss of $ 5 mn

Going forward…

Banks- stable and strong

- The banks are expected to continue going strong due to limited impact from exposures.
- The profitability may see a lower growth on account of rising cost of funds and lower credit growth.
- Tight liquidity conditions may see banks suffering on the bond portfolio
- Need to avoid banks with high NPAs, low CAR and low CASA

Financial services- more pain to go

- The sector most impacted on account of global uncertainty.
- The broking firms have been seeing low volumes with investors now less forthcoming to invest in the markets
- The effect on revenue streams of insurance companies and AMCs would have a limited impact based on their bond portfolios
- Need to avoid less diversified businesses for sometime

Sector Picks: *Bank of India, Punjab National bank, Axis Bank, Yes Bank*

Real Estate

Impact : Most impacted

With the sudden collapse of world leading financial houses, the Indian real estate players who were already facing the problem of lack of funds due to economic slowdown & correction in prices would find it difficult to raise further funds.

• Among the US Financial Houses --- Lehman Brothers was very bullish on Indian Reality Sector and had an investment in excess of US$ 700 mn (maximum amongst peers)

Lehman's PE investments in India		
	Amt (US$ Mn)	Year
Hyderabad IT Park Project of Peninsula Land	12.5	2008
Unitech's Mumbai Pune Expressway	175	2008
Hotel Project of Future Capital	200	2007
DLF Assets Pvt. Ltd.	200	2007
Anant Raj Industries	66	2006
Unitech's Mumbai Project	16	2008
Source: Published Reports		

• Lehman's real estate investments at project levels (including the big ones like DLF, Unitech & Future Capital) have been disbursed & it will not affect the ongoing projects

• RBI's directive not to remit investments made by US financial houses in India without permission is also a step in positive direction and would restrict flight of capital.

• However, stocks of companies in which sunked financial institutions have a direct exposure (as FII investments especially Lehman) would see selling pressure.

Stocks to get affected: Anant Raj Industries, Orbit Corporation, Ganesh Housing, DSK Kulkarni Dev, Ajmera Reality, Ansal Housing, Ansal Properties, Purvankara Projects

Infrastructure

Impact : Most impacted

- Adverse impact on the infrastructure companies as it disturbs the financial atmosphere for the companies which are in the growth stage.
- Lately, after having raised money through IPO's many Indian infrastructure companies have gone in for QIP issues with the financial majors across the world.
- Thus, the current situation might not affect the companies at the project implementation level, however we might see heavy selling pressure in the stocks of these companies by the sinking US financial institutions which have an exposure to these companies.
- Going forward, if there is no change in the scenario, fund raising by infrastructure companies could become a problem.

- Stocks to get affected: Reliance Infrastructure, Prajay Engg, Triveni Engg, Pratibha Inds, Unity Infra, BSEL Infra, Nagarjuna Construction, Sujana Tower, Madhucon Projects, Jyoti Structures, Action Construction.

Information Technology

Impact : Most impacted

% Revenue Share (Consolidated)	TCS	Infosys	Wipro
BFSI	44.14	35.7	25
Americas	50.77	62	63
Application Development & Maintenance	48.3	45.4/23.7	55

- USA as a region and Banking Financial Services and Insurance as a vertical are most critical for top Indian IT companies as shown above
- Lesser probability of immediate cancellation of orders or vendor consolidation
- Sales cycle would become longer and hence top line impact should be visible after two-three quarters due to this crisis
- Large investment banks had significant discretionary IT spend, which should reduce now resulting in reduction of outsourcing pie

Saviors?

- Maintenance projects which are primarily non discretionary constitute ~50-60% of Application Development and Maintenance projects (45-55% of total revenues)
- These projects we believe should continue as system maintenance is needed for the business to run.
- Vendor consolidation by clients (e.g. Bank Of America) would be positive for some Indian IT companies like *Infosys*. Similar impact would be for those IT vendors who have long term relationship with the acquiring entities
- Integration of IT processes by these big banks should increase outsourcing or IT consulting work, however what pie comes to Indian companies is a huge bet to take

Information Technology

- Manufacturing and Retail, two other significant verticals for Indian IT companies would surely take a hit due to this gloom and hence would negatively impact the IT spend of companies in this vertical
- Europe and APAC market would also get significantly impacted and though they are relatively lesser tapped in terms of IT outsourcing, they were a significant growth areas for Indian IT companies
- Relocation of employees from these client's project would be a big task. Negative on utilization as well as productivity. Perhaps pink slips would be the norm

Sector Picks: *Infosys, TCS, Wipro, Educomp*

- It's an irony. Tier 1 IT companies have USA and BFSI as biggest revenue earners, yet even in these turbulent times these companies are the safest bet
- Companies having significant non USA focus (like Educomp having ~13% outside India revenue) could also be a good bet (unless the price has already factored that in)
- These companies are focused on profitability and growth and have considerable revenue visibility
- However these buys are for significantly longer term, at least more than 1-2 year
- Currency will keep on playing its part and rupee may not be allowed to depreciate from its current levels (but then RBI can do only that much). Therefore rupee going up (perhaps after reaching 48-50 range) would again impact IT sector in the short term.

Power equipments & services

Impact : Mildly impacted

Demand slowdown

- Customers mainly include Govt, PSUs and power generation cos.
- Delay in fresh capacity addition may lead to delayed order inflows for these cos.
- Availability of funds with client is important, but high interest rates make fresh fund raising costly
- However, replacement demand not affected by the ongoing crisis

Raw material prices

- Main raw materials: Copper, Steel
- Copper:
  - Prices falling for more than a year
  - Record inventories putting further downward pressure
- Steel:
  - Demand for steel products has been on the decline due exorbitant hike in prices over the past year and a decline in demand from the US and European markets.

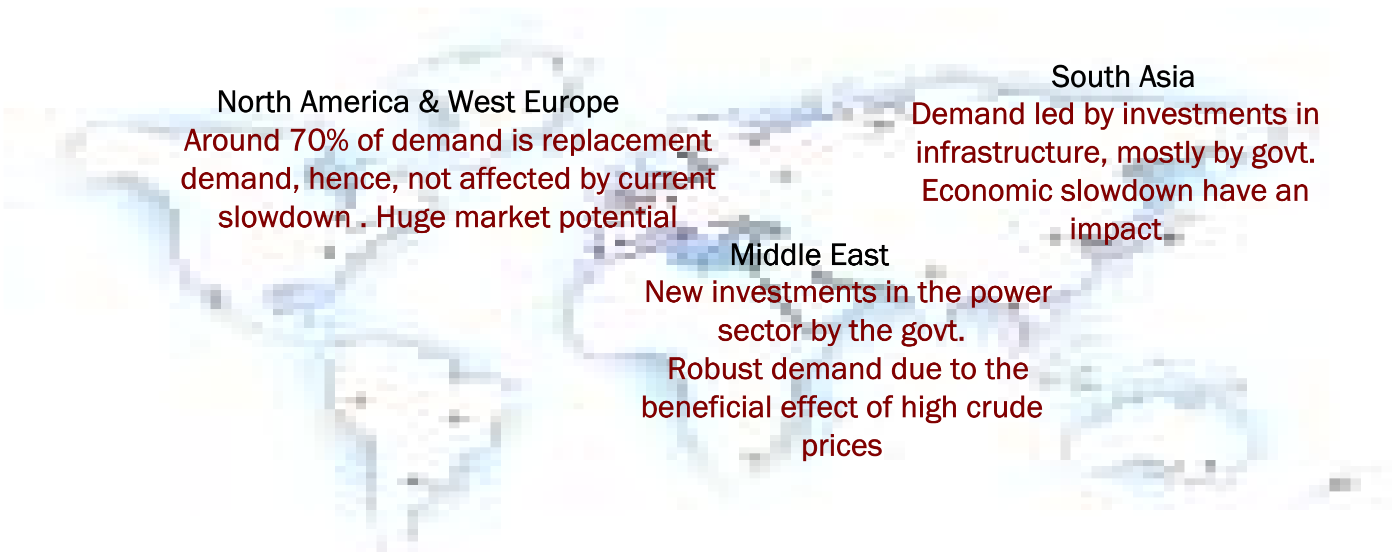
On account of foreign investment outflows, the rupee depreciation will offset the gains due to falling raw material prices.

Power equipments & services

Domestic market

- Power Grid, the nodal agency for T&D projects, has sufficient funds
- Bulging order books of EPC contractors provides visibility of order inflows
- Existing order backlog provides revenue visibility
- Impact of a slowdown, if it happens, would not be felt before FY10

International Market



Sector Picks: BHEL, Voltamp Transformers Ltd

Automobiles

Impact : Mildly impacted

- In the event of credit crunch spreading to India from US, we might see auto sales getting impacted due to tougher credit availability

- Auto companies have been seeing sluggish sales for the past few months due to higher interest rates and higher fuel prices:, two wheelers have shown decent sales growth in the last 2 months, more due to the low base effect

- It would get tougher for passenger and commercial vehicles and it might start impacting two wheeler vehicle sales negatively.

- Exports of auto companies might take some hit, however, the impact on exports might not have significant impact on the top-line of auto companies, as the percentage sales contribution from exports is less for Indian auto companies; but this might cause the auto companies to cut their export targets for the next two or three years

Sector Picks: Maruti Suzuki Ltd, M&M

	Sales growth (YoY)	
	Jul-08	Aug-08
Passenger Vehicles	-1.40%	-4.35%
Commercial Vehicles	2%	-6.33%
Three-wheelers	1.50%	-3.19%
Two-wheelers	19.50%	14.24%

Hospitality, travel and tourism

Impact : Mildly impacted

- Slowdown in travel demand: Travel budgets of companies have fallen this year by approx. 40% and a further fall of 10-15% is expected in the next 2 quarters, in spite of being a peak season of inbound travel
- Hotels will face a difficulty in maintaining occupancies during the coming holiday season of Oct – Jan, falling from the current 75% to 68-70%.
- With increasing competition and room tariff wars, hotels will face a pressure on their profit margins. Growth in Average Rooms Rates are expected to slowdown from 16-21% to 5-9% around the year end festive season.
- Lack of investments in properties will limit the hotels from expansion plans.
- AIG bailout is likely to impact Indian Aviation as its subsidiary is among the world's largest aircraft leasers, which include Indian companies like Jet Airways, Kingfisher Airlines, Deccan Aviation and Spicejet.

Sector Picks: Thomas Cook Ltd (due to its foreign exchange business) , Indian Hotels Ltd. (due to competitive advantage).

Pharmaceuticals

Impact : Least impacted

There is no direct exposure to the sector in terms of clients from the financial sector

- Jubilant, Dishman, Divi's & Vimta that get contracts from Innovator Big pharma companies can see increased volume as big companies look to hive off more manufacturing units and transfer high end R&D work to Indian companies

- Generic companies have revenue streams from different geographies and thus no significant affect on the overall revenues .

- We continue to remain bullish on the Contract Manufacturing business model of pharma companies in India

Sector Picks: Jubilant, Dishman, Sun Pharma, Lupin

Fertilizers

Impact : Least impacted

- In the event of credit crunch spreading to India as well, fertilizer sector might face trouble in working capital financing front
- With rising subsidy bill, fertilizer sector is already into a bit of tight spot regarding working capital financing
- Recently government of India (GOI) has announced an increase in the allocation to fertilizer subsidy to Rs.54,000 crores from the earlier allocation of Rs.32,000 crores for 2008-08. This announcement came as a breather to the fertilizer industry
- However, due to rise in oil prices in 2008-09 and higher levels of imported fertilizer inputs, subsidy payments have skyrocketed in the last four years from about Rs15,800 crore in 2004-05 to an estimated Rs120,000 crores in 2008-09, or 2% of the GDP. In this context, the GOI has to further increase the allocation for the fertilizer subsidies

Sector Picks: Rallis India Ltd, GSFC, GNFC, Tata Chemicals

Oil & Gas

Impact : Least impacted: Oil marketing companies

Mildly impacted private oil exploration companies

As subprime crisis deepens with the extinction of Wall street giants, it would extend the pressure in the credit markets/lending segment of the banking sector. This along with massive job losses is likely to constrain consumer spending and thereby put pressure on demand for petro products. This demand destruction in the developed economies would put pressure on the crude oil prices.

Falling crude prices would be broadly good for the Indian economy and the Indian oil sector.

Sector Picks: ONGC

Private exploration companies	Oil Marketing companies (OMCs)
As prices fall, realization of these companies is expected to fall, which would reduce their revenues and earnings growth. However, as the long term trend is up, the fall in prices would be temporary and thus would benefit these companies over a long period.	In an environment of rising oil prices and the limited pass-through of these through subsidies, OMCs are unable to benefit from higher prices. Their margins suffer and the subsidy burden increases which is shared among OMCs and ONGC. As oil prices cool off, their margins increases and the subsidy burden decreases, giving them flexibility to focus on long term growth plans.

Consumer Driven Sectors

Impact : Retail - Mildly impacted

FMCG - Least impacted

World Financial crisis has in turn affected the risk appetite for lending institutions. This has resulted in an increase in cost of capital and tight credit appraisal in the system. Due to this, Indian retail companies are facing problem in execution of Capex program. This will put brakes on the aggressive expansion of the companies in the sector.

Retail: Sizeable young population in India generates income from ITES/BPO and spends on Movies, Hotels, and Malls etc. With possible job losses in ITES/BPO, falling consumer confidence, personal consumption expenditure is expected to fall. This will reduce the customer traffic in organized retail outlets.

FMCG: As rural India is on radar of FMCG companies, the effect on these companies will not have major impact on their top-line. However, bottom-line might be under pressure as the premium products will not be favored in the market.

Sector Picks: HUL, ITC Ltd, Shree Renuka Sugar Ltd

Consumer Driven Sectors

Impact : Logistics - Mildly impacted

Media & Entertainment - Least impacted

Logistics sector would be impacted from the offshoot of the current crisis. Organized logistics is still a very nascent industry and requires continuous funding. FDI inflows which have rather remained unaffected by the credit crisis are the main source for funding the capex plans.

Rail & Road Infrastructure: Built mostly through PPP or 100% government funding.

Shipping: Projects might get delayed in the rising interest rate scenario, otherwise is insulated from sub prime.

Air Freight Logistics: Very small share in logistics space. No direct impact.

Sector Picks: Gateway Distriparks Ltd, Gati Ltd.

Media & Entertainment: The demand for news and entertainment will not be notably impacted by slow down in world economies. Recently, there has been a significant increase in investments in M&E sector which is not expected to significantly slow down due to the sector low price elastic nature. The Indian E&M is estimated at Rs. 513 billion in 2007, is projected to grow at 18% CAGR for the next 5 years to reach Rs. 1.157 trillion in 2012.

Sector Picks: UTV Software, PVR Ltd

Reinstating investor confidence….

- The US Fed, European Central Bank and Bank of Japan have come together to create a massive $247 bn window. Further, the US Fed has come out with a $800 bn bail out package to buy troubled assets.
- The RBI has suggested a series of moves aimed at defending the rupee from further depreciation and easing the tight short-term liquidity situation in the banking system.
- In its move to meet the liquidity requirements of the economy, RBI has reduced the statutory liquidity ratio. In addition to the normal method of borrowing funds, RBI will also allow banks to acquire additional liquidity up to one percent of their deposits and seek waiver of penal interest.
- Indian banks' exposure to the risky derivative instruments is very small because of the RBI's prudent guidelines. Better regulation saved the Indian banks from the crisis, that has affected the other markets.

Steps taken by the central banks, long term strong fundamentals and recovery in the stocks markets have calmed down nerves at least in the short term. However, future remains on shaky grounds. We expect a downward revision in earnings estimate for the corporate sector. A conservative approach with sufficient asset class diversification will insulate investor portfolios

"Although markets do tend toward rational positions in the long run, the market can stay irrational longer than you can stay solvent. - Keynes"

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