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FOR PRIVATE CIRCULATION

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75% probability of normal monsoon

Degree of error in prediction is $\pm 5\%$

El Nino could affect the monsoon

C-MMACS predicts monsoon might enter through Bay of Bengal instead of Kerala coast

El Nino might cause dry spell

NOAA, US predicts ENSO neutral conditions

Monsoon expected to be marginally below average. Timing and spread remain concerns.

The Indian Meteorological Department (IMD) has predicted that the monsoon will be 98% of the normal or the long period average with a variance of $\pm 5\%$. IMD further states that the probability of the monsoon to be normal or better is 75%, which is reasonably good.

The IMD uses a Long Range Forecasting model for predicting the monsoon. This model however fails to forecast the spread of the monsoon across the country and across the time period of active monsoon phenomena i.e. June to September. Hence, there could be excess rainfall in some areas and deficits in other areas. Also, rainfall may be heavy in one month and low in another month.

The IMD also adds in its report that global climatic phenomena like the El Nino Southern Oscillation (ENSO) could affect the monsoon adversely like it did last year. The IMD will issue an update on the monsoon predictions by the end of June 2005. We can expect details like the July rainfall forecast for the whole country and four broad homogeneous regions of India in that update.

A prediction issued by another body, the Bangalore-based Centre for Mathematical Modelling and Computer Simulations (C-MMACS) has predicted some unusual events regarding the monsoon this year. C-MMACS predicts that the monsoon will not enter the subcontinent through its normal route of Kerala coast (Exhibit 1) this time. Instead, the monsoon would enter the Indian Mainland through the Bay of Bengal - North Eastern states. This is likely to skew the rainfall distribution to the eastern part of the country further. The date by which the monsoon would be hitting the predicted region is May 16. The monsoon westerlies then gradually shift further west to hit the Kerala coast around May 26. The rainfall in the Gangetic region can be heavy as usual and large parts of eastern and northeastern regions could experience flooding following above normal rainfall in the Gangetic belt during June. This could hamper crops in the Gangetic plain.

Taking a lesson from the spoilsport that the mild ENSO event played in spoiling the monsoon feast mid-way last year, we feel that we should look at the developments of other weather phenomena that could affect our monsoon.

El Nino Southern Oscillations

El Nino Southern Oscillations develop a warming of the Pacific Ocean waters near the Indonesian Archipelago. Although the exact nature of the relationship is not completely understood, the general view of the experts is that the subtle relationship may stem from the interaction of the monsoon strength and Pacific Sea Surface Temperature (SST). Although the exact interaction may vary due to various other prevailing conditions like Arabian Sea SST, wind speed, etc, it is anticipated that the ENSO builds a warm atmospheric front, which results in warmer weather in the Indian subcontinent. Moisture-laden monsoon westerlies then precipitate prematurely upon hitting the warm front, causing most of the precipitation to happen in Indian Ocean and Arabian Sea. Thus the westerlies are not able to carry the moisture into the heartland of the Indian subcontinent. This usually results in a dry spell in the western and central parts of India like Rajasthan, Gujarat, Madhya Pradesh, Chattisgarh, Andhra Pradesh and Karnataka, sometimes even giving rise to drought like conditions.

Long-term simulations with ENSO indices and Indian monsoon suggest that only 30% of the variance in Indian monsoon can be explained by the ENSO indices (Shukla and Paolino 1983; Shukla and Mooley 1987; Shukla 1987). The general association establishes the empirical relation of below normal Indian monsoon to El Nino and above normal Indian monsoon to La Nina (Cooling of the Pacific Ocean waters near the Indonesian Archipelago).

ENSO predictions from US-based National Ocean and Atmospheric Administration (NOAA) and National Center for Environmental Prediction (NCEP) have projected "a transition from weak warm episode (ENSO conditions) to ENSO neutral conditions" in April, May and June, thus diluting the concerns arising from the effect of ENSO on the Indian monsoon at its inception in May-June.

US data indicates 65% chance of ENOS

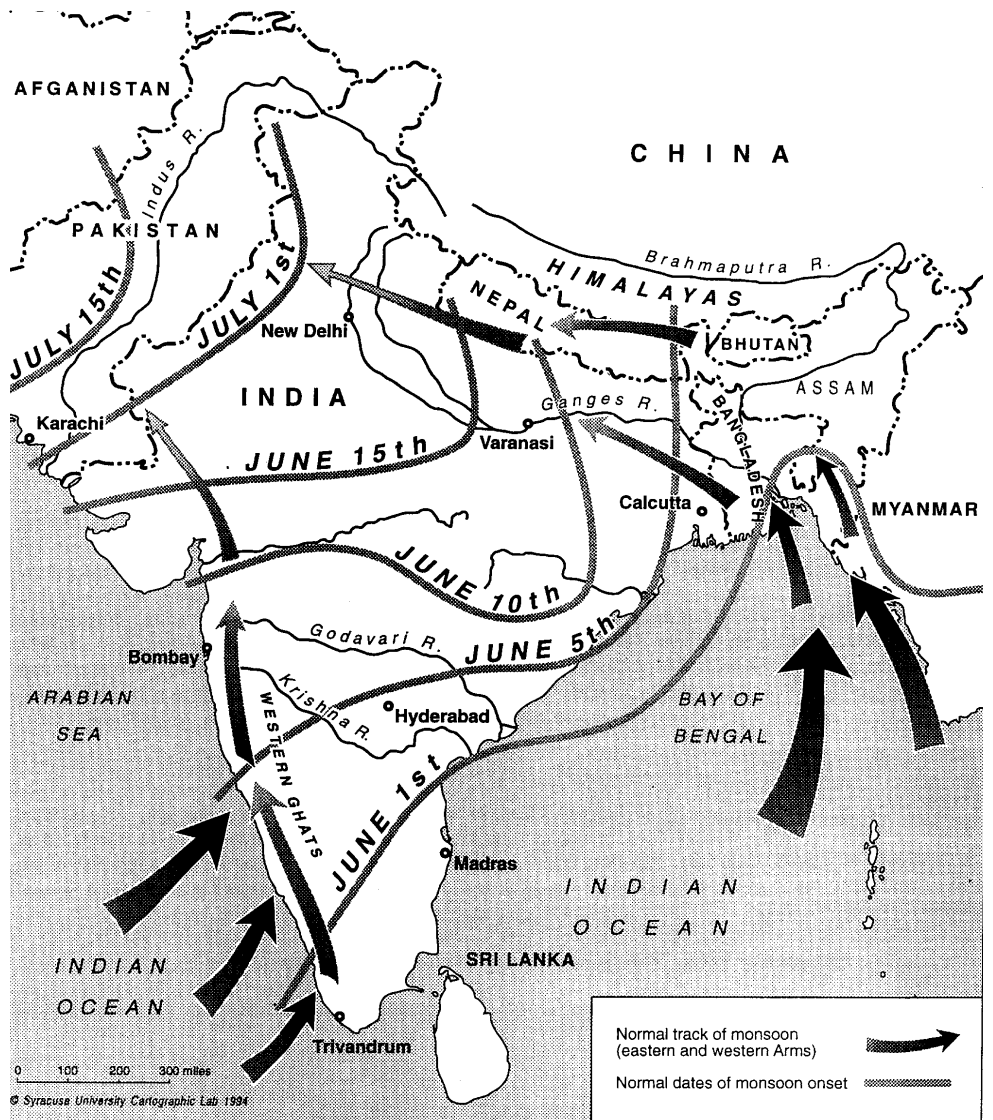
Another US agency, International Research Institute for Climate Prediction (IRI) has marked a 65 per cent chance of neutral ENSO conditions in April, May and June, and a 50 per cent chance of ENSO emerging in July, August and September. Incidence of ENSO during these months could adversely affect the progress of monsoon during the rest of the monsoon period, i.e. July-September.

Madden Julian Oscillations

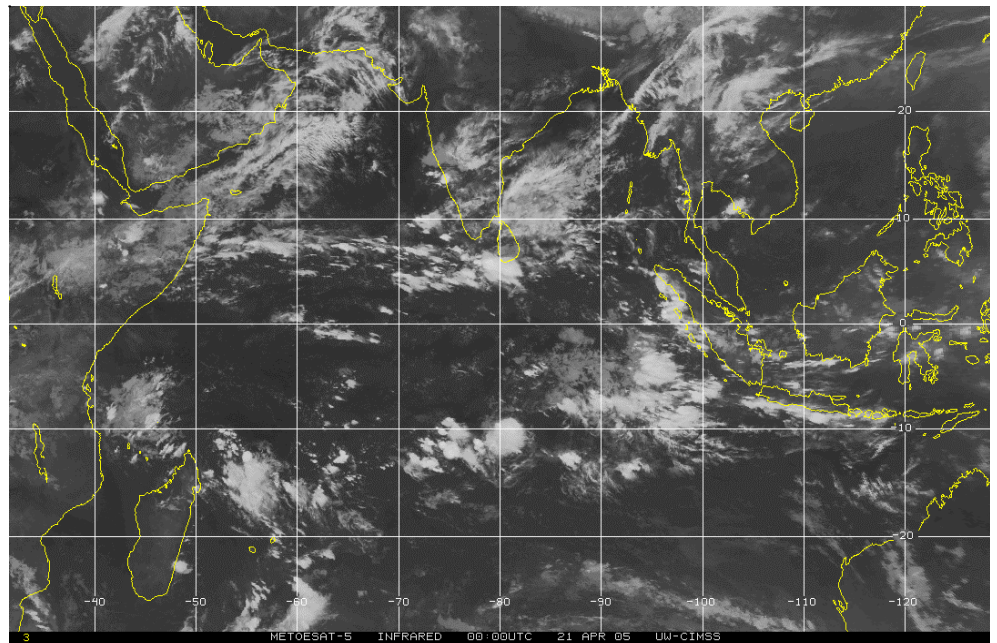
The Madden Julian Oscillations (MJO) involves variation in wind, wind, sea surface temperature, cloudiness and rainfall. It has a 30-60 day oscillation that affects the entire tropical troposphere, which is most evident in the Indian, and western Pacific Oceans. The MJO is the main cause of monsoon intraseasonal variability. The MJO would be a critical phenomenon to watch once the active monsoon season starts. It would help in trying to look for the possible break events in the monsoon phase similar to the one that occurred last year.

Exhibit 1: Normal Track of Monsoon and Dates of Onset in Indian Subcontinent

Might not be a bumper monsoon in FY06



Source: The American Forum for Global Education

Exhibit 2: Latest Water Vapour Development over the Indian Ocean

Source: Space Science and Engineering Center, University of Wisconsin, USA

Conclusion

This essentially means that the Indian monsoon might not have a bumper year because the rainfall enhancing phenomena of La Nina is not expected to happen this year. Thus, the monsoon might be slightly below average - largely in line with IMD predictions. The rainfall pattern will be largely unaffected at its inception during the month of May-June. However, if the predictions of NOAA and IRI are correct, then we can expect lower rainfall in July, August and September - the peak monsoon period. We will also have to keep looking for development in the MJO for break phases during the monsoon.

Stock market implications

In case of bad monsoon, rising food grain price will be inflationary

In our opinion, it is too premature to take a call on the likely outcome on monsoon in FY2006E. However, one can draw a few conclusions based on the what-if scenario analysis. If the monsoon is not up to expectation, we could see serious decline in the agriculture sector, especially after the dismal 1.1% decline in Q305. Rising food grain prices would have an inflationary pressure, which with the rising interest rate bias, would have a negative impact on the non-food credit off take for the banking sector. Government will borrow close to Rs580bn in H1 FY06 and close to Rs900bn in FY2006, way above last year's limit. We expect the domestic rate to move up in H2 FY06E. PSU bank will be negatively affected due to lower credit off take, because non-fund based fee income is relatively less for PSU banks.

Maintain negative view on Auto, 2-Wheelers and Commercial Vehicles

Currently we have negative outlook on the automobile sector while we have a positive bias on the FMCG, agrichemicals and tea sectors. In case of failure of monsoon, sectors dependent on the rural economy, especially fast-moving-consumer-goods (FMCG) companies, automobile, especially tractors and two-wheelers, in our opinion, would be negatively affected. We would be cautious on the agrichemical, including pesticides, agri-commodities, including tea, sugar and textile and fertilizer sectors. We believe lack of rain will be good for cement and construction sectors. In addition, we recommend investing in the software sector due to negligible linkage in domestic rural economic growth

Exhibit 3: Sector view

POSITIVE - Cement, Software,
Construction, Engineering

NEGATIVE: PSU Banks, Auto,
Tractor, 2W, FMCG,
Agrichemicals, Tea, Sugar,
Textiles

Sector	Previous outlook	Current outlook	Remarks
Auto	Negative	Negative	Unchanged
Auto-Ancillary	Positive	Positive	Unchanged
Banking	Positive	Neutral	Downgrade
Capital Goods	Positive	Positive	Unchanged
Cement	Positive	Positive	Unchanged
Construction	Positive	Positive	Unchanged
Engineering	Positive	Positive	Unchanged
Fertilizer	Positive	Positive	Unchanged
Info. Tech	Positive	Positive	Unchanged
Media	Neutral	Neutral	Unchanged
Metals	Positive	Positive	Unchanged
Mid-cap	Positive	Positive	Unchanged
Oil&Gas	Positive	Positive	Unchanged
Petrochemical	Positive	Positive	Unchanged
Power	Positive	Positive	Unchanged
Shipping	Negative	Negative	Unchanged
Sugar	Positive	Neutral	Downgrade
Telecom	Neutral	Neutral	Unchanged
Textiles	Neutral	Negative	Downgrade

Source: Kotak Securities - Private Client Research

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