

Indian economy showing improvement, says OECD

Paris, Feb 13

GLOBAL economic outlook is showing tentative signs of improvement, with the momentum shift spreading from the United States and Japan to other developed countries, the OECD's December survey of growth prospects showed on Monday.

The survey picture was mixed in the euro zone, where seven countries were now "pointing towards a positive change in momentum" while the region's overall reading dipped marginally.

The OECD said its leading indicator pointed to a "posi-

INDIA'S READING IN OECD'S SURVEY OF GROWTH PROSPECTS ROSE 0.6 POINTS TO 95.6 IN DECEMBER. HOWEVER, IT IS STILL WELL BELOW ITS LONG-TERM AVERAGE. MEANWHILE, RUSSIA'S READING ROSE 0.2 POINTS TO 102.4

tive change ... for the OECD area as a whole, driven primarily by the United States and Japan, but similar signs are beginning to emerge in a number of other developed economies".

The reading, which seeks to flag turning points, improved for the OECD group of industrialised economies as

a whole, rising 0.2 points in December to 100.4, versus its long-term average of 100.

India and Russia showed evidence of improvement while encouraging signs that appeared a month or two previously in Japan and the United States were confirmed, the Organisation for Economic Co-operation and

Development said.

The US reading rose for a third month running, this time by 0.7 points to 102.0, while the Japan reading, which stopped dropping three months earlier, rose 0.2 points to 101.9 in December.

India's reading rose 0.6 points even if, at 95.6 in December, it was still well below its long-term average. Russia's reading rose 0.2 to 102.4.

The readings for China, Brazil and the euro area continued to drop, however, with China down 0.5 points at 99.3, Brazil down 0.1 at 93.7 and the euro zone down 0.1 as well at 98.3.

Reuters



Jose Manuel Barroso, chairman of the European Commission, shares a light moment with S Ramadorai, chairman of the Bombay Stock Exchange, outside the stock exchange in Mumbai, on Monday. Barroso was in India after Friday's one-day India-EU summit

FROM THE FRONT PAGE

Political...

"Now the ball is in the DMRC court. We will urge them to come out with the DPR at the earliest," he said.

Last week, after a meeting between Pulok Chatterjee, principal secretary to the Prime Minister and Kerala chief secretary P Prabhakaran in Delhi, the Centre had given the green signal to Kerala to continue with the project. The proposed corridor would span 560 km, set up on 13-metre wide pillars.

However, as a public-private participation project (PPP), the plan needs Opposition LDF's support in a state that tends to change its leadership every five years. Opposition leader VS Achuthanathan, while giving in-principle agreement to the project, had a volley of questions about it.

Achuthanathan had sought details on the compensation package for potential land-owners. He had also wanted to know the interest rate of the loan that would fund the ambitious infrastructure project.

The government tentatively plans to tap the Japan International Cooperation Agency (JICA) for credit and Indian Railways and DMRC for technical support, the chief ministers said.

"But the funding pattern is yet to be finalised," he added. About 552 hectares will be needed for the project. For this, 4,500 families will have to be displaced. The UDF government told the Opposition that it will work out more details on the compensation package, alignment of the rail corridor, interest payment and modalities to pay back the credit and get together for another round of all-party brainstorming in a fortnight or two.

With the rail corridor, a traveller from the business city Kochi could reach capital Thiruvananthapuram within 20 minutes, instead of the present four to five hours. The cost of this journey, by 2011-based calculations, is likely to be approximately ₹1,000 per ticket, says T Balakrishnan, chairman and managing director, Kerala High Speed Rail Corporation. According to the project imple-

mentation calendar, the high-speed rail corridor will formally take off on April 2013. When it is fully commissioned by March 2020, the train will be able to carry 817 passengers per journey.

All...

The strategy seems well-considered. In fact, telecom minister Kapil Sibal had said after the judgment that companies which have been affected by the verdict may approach court for redressal of their grievances. Later, Telenor whose 22 licences will get cancelled in the next four months and Tata Teleservices which loses three CDMA licences in North-East and Jammu and Kashmir have said they will be filing review petitions before the SC.

The telecom regulator, meanwhile, has come out with a pre-consultation paper on auction of spectrum and will come out with a consultation paper by the end of the month.

Finmin...

While taking it out of the cur-

rent account would help lower CAD, it would simultaneously lower the net surplus on the capital account, Pan said.

Sen, however, said the idea is fundamentally flawed. "In the BoP, the distinction between current and the capital accounts has nothing to do with consumption or investments. What the capital account tells us is whether any transaction results in creation of liabilities or assets for a country vis-a-vis the foreigners," he said. Basically, the capital account of BoP measures how much liabilities a country is building up vis-a-vis the rest of the world. Whether you are converting it into a productive asset or not is not the question, Sen added.

For instance, an NRI depositing money into an NRI account in India creates a liability on the country, and therefore is captured in the capital account. But if the NRI sends money to his relative, then it is not a liability; but it is counted as remittances in the invisibles head in the current account.

Expert groups of the International Monetary Fund have debated this subject in the past. Apparently, the reason why UK, Switzerland and Japan treat non-monetary gold is because of massive trading - including overseas - that happens on this underlying asset.

Since much of gold these countries keep in their vaults or lockers support the trading done by foreigners on this underlying, it results in creation of liabilities vis-a-vis the foreigners.

India's gold imports are estimated at \$50 billion in 2011, up from \$38 billion in 2010, with jewellery accounting for around 65% of the country's gold demand.

SBI scrip...

SBI's exposure to companies whose 2G telecom licences have been cancelled, is ₹4,600 crore of which Rs 1,200 crore is fund-based.

While the bank's operating profits grew at just 7.7% y-o-y to ₹7,260 crore in the three months to December, the management

pointed out that this had been due to a one-time hit of ₹870 crore on equity investments. SBI's tier I capital adequacy ratio slipped to 7.59% at the end of December, 2011, but Chaudhuri was confident that it would be above 9% by March 2012 after profits for the year were accounted for and the government putting in around ₹8,000 crore.

"We will approach Moody's and ask them to reconsider the rating at least in terms of capital adequacy," Chaudhuri said.

SBI's net interest income rose 26.7% y-o-y to ₹11,466 crore, with the bank now less dependent on costlier wholesale deposits. Its income from treasury rose to ₹693 crore. Yields on advances rose to 10.93% at the end of December from 10.8% in September while the cost of funds rose to 6.1%.

Chaudhuri observed that while the bank did not intend to lower its base rate it would consider select lowering of rates for products like education loans.

Gujarat emerges country's top investment hub

fe Bureau

Ahmedabad, Feb 13: Gujarat has emerged as the most lucrative investment destination attracting the highest number of investment proposals worth ₹16.28 lakh crore in 2011, according to a study done by industry body Assocham.

Gujarat has clocked a share of about 13.52% in the total live investments worth ₹120.34 lakh crore at the end of the year, according to the Assocham study.

"Out of the total proposals, Gujarat attracted 39.2% in electricity, 24.2% in manufacturing, 16.2% in services, 14.3% in real estate, 5.2% in irrigation and 0.9% in mining," said Bhagyesh Soneji, chairperson of Assocham Gujarat Council.

"Out of the 20 industrial states, Gujarat, Maharashtra, Andhra Pradesh, Odisha and Karnataka have clearly emerged as the preferred investment destinations by attracting 53.56% of the total live investments," said DS Rawat, national secretary general of Assocham.

Apart from Gujarat, Maharashtra attracted investments worth ₹14.14 lakh crore.

PM: Growth not at cost of environment



New Delhi, Feb 13: Underlining the principle of "equity" in climate talks, Prime Minister Manmohan Singh on Monday said growth should take place in a way which does not harm the environment.

During his meeting with Environment Ministers of BASIC countries, that is Brazil, South Africa, India and China, Singh said the principle of equity - equal per capita rights to the atmospheric space - should be the goal of future negotiations on climate change, sources said.

India had successfully brought the principle of equity back to the table as one of the country's key non-negotiable principle during Durban Climate talks which were attended by environment minister Jayanthi Natarajan.

Environment ministers of China, South Africa and Brazil informed the Prime Minister that the BASIC nations played a "constructive role" in Durban and also commended the role played by India in bringing equity back on global climate negotiation platform, the sources said.

The two-day New Delhi meeting of the group will discuss a united strategy for the group in the future negotiations on climate change and focus of the discussions would be the question of equity, they said.

Ahead of his meeting with the environment ministers of BASIC countries, Prime Minister said on Twitter that "Economic growth is essential for the people, but we cannot allow growth to be pursued in a manner which damages our environment".

Environment ministers of Singapore, Qatar and Swaziland will also attend a separate meeting of the BASIC Plus nations during the two-day summit.

Qatar is the host of the United Nations-sponsored climate talks COP 18 in December 2012.

This is for the first time that environment ministers of the four emerging economies are meeting again after the December climate change meet in Durban.

PTI

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REINVENTING THE WHEEL

Researchers at IIT-Kanpur give a new insight into micromechanics

When you bend a rod, say made of aluminium, and then straighten it back, why doesn't it get back to its perfect shape, unlike a metal spring that retains its original form even after being tampered with? Also, why is it easy to bend a thin rod?

The answers to these questions have been around since the 1930s, when researchers in the field of micromechanics of materials first suggested the concept of dislocations, which are defects in the crystals or grains within the material. These dislocations not only weaken crystals, but also cause deformation by moving and leaving the crystal, the effect being permanent, in contrast to the spring which is elastic or reversible in nature.

Now, researchers at the Indian Institute of Technology, Kanpur, (IIT-K), have come up with a new concept about these subtle goings-on inside the crystals of the materials that challenge some of the ideas that have been around over the past six decades. In this, the researchers also attempt to take forward the work on micromechanics of legends from the 1950s, like John Douglas Eshelby.

A dislocation introduces energy, and this energy is released when it reaches the surface, thus making plastic deformation irreversible. The IIT-K researchers have suggested that the slip of these dislocations might be reversible.

"We discovered something which is a double oxymoron - reversible plastic deformation due to elasticity. In the process, we discovered a new class," says Anandh Subramaniam, assistant professor at the Department of Materials Science and Engineering, IIT-K. Two papers that Anandh co-wrote with fellow researchers Prasenjit Khanikar and Arun Kumar were published last year by The Philosophical Magazine, one of the oldest scientific journals in the world.

Research into the micromechanical behaviour of materials, which includes areas such as dislocation dynamics, is crucial to their usage in industrial applications such as fashioning a car door out of metal. "The motion of dislocations is what allows change of shape, and impeding the motion of dislocations is what gives strength to the material. So, these are two opposite sides of the coin," explains Dipankar Banerjee, former chief controller, R&D, at the Defence Research and Development Organisation, and currently professor with the Department of Materials



While dislocations cause deformation by moving, and finally leave the crystal, it doesn't always require an external force. That's because they are automatically attracted to free surfaces, a phenomenon explained by a concept known as 'image force'

Engineering at the Indian Institute of Science.

While dislocations cause deformation by moving, and finally leave the crystal, it doesn't always require an external force for them to do that. That's because they are automatically attracted to free surfaces, a phenomenon explained by a concept known as 'image force'. It is called so because a hypothetical negative dislocation is assumed to exist on the other side of the free surface, causing an attraction towards it.

This 'image construction' is usually used for the calculation of the force and 'image forces' can lead to crystals becoming spontaneously dislocation-free.

"Over the past 60 years, people have known this concept called image force and have developed theories, etc," says Anandh. "So, the first of the two things we showed is that the image force construction theory actually breaks down when we actually want it to work."

The reason, he explains, is because when the dislocation is less than about 100 atomic spacings from the surface it causes small deformations to the surface, partly relaxing the energy and hence altering the image force. In a nanocrystal, the entire domain can deform. For example, a thin plate would bend in the presence of a dislocation. In such cases, the standard formula cannot be used, he says.

The more interesting thing their computer simulation models showed was that the image force can also be zero in some cases. This means that a dislocation moving inside a crystal can be in neutral equilibrium just like a ball rolling on a

plane or an Anglepoise lamp where mechanism of spring and lever allows it to be moved to various configurations without putting in any effort.

"Over a range of positions, irrespective of where the dislocation sits, its energy does not change. So, this is the new concept we have found out," says Anandh.

"We can describe things between a material and a structure, which we call a structure because it has some geometry and a material because the defect has a crystallographic origin. So, we found out that actually we have to define a new term called material-structure, and that there can be neutral equilibrium or zero-stiffness material-structures," says Anandh.

He says further research also indicated that an edge dislocation is stable in a finite crystal, a question that's some 60 years old. However, the research is at a very fundamental level and potential applications are still to be thought on, says Anandh.

Computer simulation and modelling has been a key development over the past decade from the industrial standpoint of metallurgy, which earlier used an entirely experimental approach, says Dipankar Banerjee.

"So, you substantially reduce your experimental costs and time in introducing new shapes and materials into service," he says.

While the materials used for structural applications are fairly mature, the key focus is to reduce the costs of applying such materials and also the timescale of engineering them, he says.

- Ajay Sukumaran

EXPERTS SPEAK

ANANDH SUBRAMANIAM, assistant professor at the Department of Materials Science and Engineering, IIT-K



We discovered something which is a double oxymoron - reversible plastic deformation due to elasticity, and in the process we discovered a new class.

DIPANKAR BANERJEE, professor, Department of Materials Engineering at the Indian Institute of Science



The industrial applications of metallurgy essentially demand that you shape the metal to the precise product shape that you want. The challenge of imparting the right shape and getting the right mechanical behaviour depends on understanding the micromechanical behaviour of the material because the motion of dislocations is what allows change of shape, and impeding the motion of dislocations is what gives strength to the material.

STATFACTS

MICROMECHANICS



- Nanoscale computer simulations by IIT-Kanpur researchers yields new concepts of the structure and defects in materials
- They say that existing theories about the force that causes deformations within the grain of a material may not explain certain situations
- In the process, the researchers claim to have answered a 60-year-old question on whether an edge dislocation can be stable
- While the materials used for structural applications are fairly mature, focus is on reducing costs of applying such materials