Forging Industry leaders have chosen **Steel Plant Specialities** as their only supplier of cost saving coatings & lubricants. **Since 1985.**

### Problems
- Excessive scaling on ingots, billets
- Quench cracks, scale pits, rejections
- Smoky polluted forge shop
- Fast die wear
- Oily shop floor

### Solutions
- Anti-scale coating
- Low scaling & rejections
- Water based lubricants that increase die life, no pollution
- Die spray system for effective die lubrication
- Oil cleaning liquid
- EP grease for smooth centralised lubrication

**Many problems. One solution provider dedicated to increase productivity, reduce costs.**

Steel Plant Specialities was established by metallurgists from IIT in 1985. With industrial experience of over 25 years, they manufacture cost saving coatings and lubricants as per customers’ forging process requirements.
FOCUS

Issue 2, 2016

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The new financial year 2016-17 starts off with the Union Budget’s overarching emphasis on the rural economy. Despite the rapid growth of urban centres, it is the rural economy that still holds the key to the prosperity of many of the industrial and manufacturing units of India. Improvement in the standard of living of the people in the rural and semi-urban areas will generate demand for commodities associated with comfortable life. New roads can be expected to create better connectivity in the rural areas, leading to demand for both commercial and passenger vehicles. And that is good news for the forging industry.

During February 2016, the Association organized training sessions on simulation technologies for the metal forming industry at Pune, Chennai and New Delhi. Attendance at Chennai and New Delhi was below our expectation. I would therefore like to appeal to all our members to suggest areas where they think training is desirable.

The updated Indian Forging Industry Report - 2016 is being dispatched to all the units that participated in the survey carried out by the BDB India Pvt Ltd, Pune. We hope the new report is welcomed as was its predecessor.

From the next issue we propose to start a “Letter to the Editor” page where readers will be free to express freely their views on any interesting subject. Such letters should reach the AIFI office by the middle of the last month of each quarter; for instance, letters to be published in the next issue of Focus should reach us by mid-June 2016. We look forward to hearing from you.

Amitabh Chandra
Secretary General
28 March 2016
Our expertise is at your service to forge ahead

Outokumpu produces consistently high quality billets, blooms, slabs, and ingots in an industry-leading variety of shapes and grades for use in forging and further processing.

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New Members:

1. Vishwanath Forgings, Jaggayyapet: Established in 2014, the company is into the manufacturing of closed die forging components and is based in Jaggayyapet, Andhra Pradesh. The company is equipped with modern infrastructure and communication facility. It manufactures bright steel bars (ranging between 6mm to 80mm), closed die forgings (up to the weight of 40 kgs, along with all facilities of cutting, die making, post heat treatment, fettling and painting), excavator teeth, open die forgings (up to a maximum of 2000 kgs; single piece), bolts (up to the length of 1.5 meters to the maximum of 50 mm diameter) and square and U bolts.

2. Western Heat & Forge Pvt. Ltd., Pune: Western Heat & Forge Pvt. Ltd. was established in 1988 as a global supplier of heat treated and machined forging components. The company is a supplier of cladded bonnets. It has fully integrated open and closed die forging facilities with annual capacity of 18,000 tons. The company has customized forging capacity of 1kg to 1500 kgs.

The export of WHFPL accounts for 35% of its total sales. The company, with strength of 400 employees, occupy around 9300 square metres of manufacturing space. The core strengths of the company include customised ERP System, API 6a and AMS2750 E compliant heat treatment facility, NABL accredited laboratory for chemical and mechanical testing, modernistic machining facilities and MPS & FAI approvals for oil and gas components.

3. Ability Engineering Pvt. Ltd., Chennai: Incorporated in 2007, the company is a precision forging die manufacturer, having 20000 Rpm Makino V33, S33 and F5 with Nikken rotary table. Focusing on 60 HRC hard material machining in 10 micron accuracy and surface finish Ra 0.40 micron. Presently, it is manufacturing bevel gear dies for both warm and cold forge application. The company has CARL ZEISS CMM along bevel gear checking software.

Ability Engineering Pvt. Ltd. also supplies tooling for sintered metal parts, proto parts manufacturing, thermos-forming tool. Apart from Die making, it also manufactures proto parts for new development components.

4. Anu Extrusions, Ghaziabad: Anu Group started its operations in 1973 in Delhi and is the leader in supplying high quality tungsten carbide tools for cold and hot forging applications in fasteners and auto component industry besides catering to the tooling requirements of defence /wire, bar & tube, electrical & process industries and others. Anu Group has over 300 customers around the world which are catered by four well equipped facilities (three in Ghaziabad and one in Hyderabad). Anu Worles, Ghaziabad, the joint venture company of Anu Group & world renowned Worles, exclusively meets cold forging tools requirements of the European market.
INDIA'S INCREASING IMPORTANCE IN GLOBAL GROWTH

Despite global headwinds and a truant monsoon, India registered a growth of 7.2 per cent in 2014-15 and 7.6 per cent in 2015-16, thus becoming the fastest growing major economy in the world. As per the estimates of the International Monetary Fund (IMF), global growth averaged 3.1 per cent in 2015, declining from 3.4 per cent registered in 2014. While growth in advanced economies has improved modestly since 2013, the emerging economies have witnessed a consistently declining trend in growth rate since 2010. India’s contribution to global growth in Purchasing Power Parity (PPP) terms increased from an average of 8.3 per cent during the period 2001 to 2007 to 14.4 per cent in 2014. The global economy—in particular the global growth powerhouse, China—is rebalancing, leading to an increasing role for India. After the onset of the multiple crises in different parts of the world, India’s contribution has become much more valuable to the global economy. India's share in world GDP has increased from an average of 4.8 per cent during 2001-07 to 6.1 per cent during 2008-13 and further to an average of 7.0 per cent during 2014 to 2015 in current PPP terms (IMF).

PUBLIC FINANCE

The Budget 2015-16 sought to contain the fiscal deficit at Rs. 5.56 lakh crore (3.9 per cent of GDP) as against Rs. 5.13 lakh crore (4.1 per cent of GDP) in 2014-15. The desired fiscal consolidation was planned to be achieved by an estimated growth of 15.8 per cent in gross tax revenue (GTR) over 2014-15. The overall non-debt receipts for 2015-16 were estimated to be Rs. 12.2 lakh crore against the total expenditure of Rs 17.77 lakh crore which was 5.7 per cent higher than 2014-15. Within the total expenditure, the expected growth in capital expenditure was 25.5 per cent which ensures the better quality of expenditure.

PRICES AND MONETARY MANAGEMENT

Prices

Headline inflation, based on the Consumer Price Index (CPI) (combined for rural and urban areas) series, dipped to 4.9 per cent during April-January 2015-16 as against 5.9 per cent in 2014-15. Food inflation in terms of the Consumer Food Price Index (CFPI) declined to 4.8 per cent during April-January 2015-16 as compared to 6.4 per cent in 2014-15. CPI-based core (non food, non-fuel) inflation also remained range-bound, inching marginally upwards from 4.2 per cent in March 2015 to 4.7 per cent in January 2016.

Headline wholesale price index (WPI) inflation declined following the global trend of declining commodity and producer's prices. WPI inflation has remained in the negative territory since November 2014 and was (-) 2.8 per cent in 2015-16 (April-January) as compared to 2.0 per cent in 2014-15. The WPI inflation in fuel and power group declined significantly and was (-) 12.3 per cent in 2015-16 (April-January) from (-) 0.9 per cent in 2014-15.

Monetary Developments

With the easing of inflation and moderation in inflationary expectations, the RBI reduced the repo rate by 25 basis points (bps) to 7.75 per cent on 15th January 2015. Subsequent reductions by 25 bps each on 4 March 2015 and 2 June 2015 and 50 bps on 29 September 2015—brought it down another 100 bps to 6.75 per cent. The RBI has kept the policy repo rate unchanged in its sixth bi-monthly monetary policy statement on 2 February 2016.

New Initiatives in the Banking Sector

The performance of Scheduled Commercial Banks (SCB) during the current financial year remained subdued. The Year-on-Year (Y-o-Y) growth in bank credit remained below 10 per cent. There was considerable increase in the opening of basic savings bank deposit accounts during the year in view of
the government's initiative under the Pradhan Mantri Jan Dhan Yojana. For creating a universal social security system for all Indians, especially the poor and the underprivileged, three schemes were launched in 2015 in the insurance and pension sectors--the Pradhan Mantri Suraksha BimaYojana, the Pradhan Mantri Jeevan Jyoti Bima Yojana and the Atal Pension Yojana--on pan-India basis on 9 May 2015. Pradhan Mantri Mudra Yojana has been launched on 8 April 2015. Micro Units Development Refinance Agency (MUDRA) seeks to offer two products, namely refinance products with a loan requirement up to Rs 10 lakh and support to micro-finance institutions by way of refinance.

EXTERNAL SECTOR

India's merchandise trade
India's merchandise exports have been declining continuously since December 2014, which is in line with the performance of export growth in different countries. During the current financial year (April-January 2015-16), India's exports declined year-on-year by 17.6 per cent to USD 217.7 billion. The decline in India's exports owed to sluggish global demand and low global commodity prices, particularly petroleum. In keeping with the global trends of slow growth, imports have declined by 15.5 per cent in 2015-16 (April-January) to USD 324.5 billion. Lower imports of petroleum, oil and lubricants (POL) were the main reason for the decline in total imports this year so far. POL imports declined by 41.4 per cent to USD 73.1 billion 2015-16 (April-January) as against USD 124.8 billion 2014-15 (April-January), as a result of steep fall in international crude oil prices. Non-POL imports at USD 251.4 billion in 2015-16 (April-January) were 3.0 per cent lower than non-POL imports of USD 259.1 billion in 2014-15 (April-January). The moderation continues through in 2015-16 with further decline in global crude oil prices, with trade deficit in 2015-16 (April-January) placed at USD 106.8 billion.

Trade Policy
Foreign Trade Policy (FTP), for the period 2015-20, announced on 1 April 2015. The focus of the new FTP has been on supporting both manufacturing and services exports and improving ease of doing business. The FTP aims to increase India’s exports to USD 900 billion by 2019-20 and it also provides the road map for by the government to align it with the 'Make in India' and 'Digital India' programmes and to ease trade.

Balance of Payment
Trade deficit (on BoP basis) declined from USD 74.7 billion in 2014-15 (April-September) to USD 71.6 billion in 2015-16 (April-September). The surplus of net invisibles increased by around USD 1 billion to USD 57.2 billion in the first half of 2015-16. Moderate growth in invisibles surplus coupled with lower trade deficit, resulted in a lower CAD of USD 26.8 billion (1.3 per cent of GDP) in 2014-15 and USD 14.4 billion (1.4 per cent of GDP) in 2015-16.

Foreign Exchange Reserve
India's foreign exchange reserves stand at USD 351.5 billion as on 5 February 2016 mainly comprised foreign currency assets amounting to USD 328.4 billion, accounting for about 93.4 per cent of the total. With an increase in reserves in 2015-16, all traditional reserve-based external sector vulnerability indicators, namely foreign exchange cover for imports and short-term debt, have improved.

Exchange rate
During 2015-16 (April-January), the average exchange rate of the rupee depreciated to Rs 65.04 per US dollar as compared to Rs 60.92 per US dollar in 2014-15 (April-January). This was mainly on account of the fact that the dollar strengthened against all the major currencies because of stronger growth in the USA as well as the fact that China's growth and currency developments this year deteriorated, impacting the outlook on other EDMEs owing to risk-aversion perceptions of global investors.
External Debt
As per the latest available data, India’s external debt stock increased by USD 8.0 billion (1.7 per cent) to USD 483.2 billion at end-September 2015 over end-March 2015. This rise in external debt occurred on account of long-term debt, particularly commercial borrowings and NRI deposits. However, on a sequential basis, total external debt at end September 2015 declined by USD 291 million from the end-June 2015 level.

SECTORAL DEVELOPMENTS

Agriculture
The contribution of agriculture and allied sectors to the GVA (at 2011-12 prices) of the country has been declining. The growth rates in agriculture have been fluctuating at 1.5 per cent in 2012-13, 4.2 per cent in 2013-14, (-) 0.2 per cent in 2014-15 and a likely growth of 1.1 per cent in 2015-16. The uncertainties in growth in agriculture are explained by the fact that 60 per cent of agriculture in India is rainfall dependent and there have been two consecutive years of less than normal rainfall in 2014-15 and 2015-16. As per the Second Advance Estimates for 2015-16 released on 15 February 2016, food grains production during 2015-16, estimated at 253.16 million tonnes, is expected to be higher by 1.14 million tonnes over the production of 252.02 million tonnes during 2014-15. As per the fourth AE, the production of food grains during 2014-15 is placed at 252.7 million tonnes (rice at 104.8 million tonnes and wheat at 88.9 million tonnes) vis-à-vis 265.0 million tonnes (rice at 106.6 million tonnes and wheat at 95.9 million tonnes) in 2013-14 (final estimates) and the production of pulses is estimated at 17.2 million tonnes, sugarcane at 359.3 million tonnes, oilseeds at 26.7 million tonnes and cotton at 35.5 million bales of 170 kg each.

Industry
The industrial sector has continued to perform well in the wake of various reforms measures undertaken by the government recently. As per the data on Revised Estimates of national income, the growth of the industrial sector comprising mining and quarrying, manufacturing, electricity, gas, water supply and other utility services, and construction is 5.9 per cent during 2014-15, as against 5.0 per cent during 2013-14. The growth is expected to strengthen further to 7.3 per cent for 2015-16 as per the Advanced Estimates released by the CSO recently.

Within the industrial sector, manufacturing is expected to register a growth of 9.5 per cent. In the first nine months of 2015-16, the growth rate in terms of the IIP was 3.1 per cent as compared to 2.6 per cent in the corresponding period of 2014-15. The rate of growth of GCF in industry registered a sharp rise from (-) 3.7 per cent in 2013-14 to 3.6 per cent in 2014-15, showing upward momentum of investment in industry. The sector-wise shares in overall GCF shows that the share of electricity has gone up, while those of mining, manufacturing and construction have declined. The eight core infrastructure-supportive industries--coal, crude oil, natural gas, refinery products, fertilizers, steel, cement and electricity--that have a total weight of nearly 38 per cent in the IIP registered a cumulative growth of 1.9 per cent during April-December 2015-16 as compared to 5.7 per cent during April-December, 2014-15. Month-wise performance of eight core sectors shows that the production of coal and fertilizer increased substantially, while that of crude oil, natural gas and steel mostly declined. Refinery products, cement and electricity attained moderate growth.

Corporate
The performance of the corporate sector highlighted that the growth of sales has been contracting since Q3 of 2014-15. Similarly, the last four successive quarters since Q3 of 2014-15, witnessed a steep contraction in raw material expenses. Y-o-Y growth in interest expenses moderated during 2014-15 as compared to 2013-14. There was a further decline in the growth of interest expenses from 9.4 per cent in Q1 of 2015-16 to 4.2 per cent in Q2 of 2015-16. Other income, which was contracting since Q3 of 2014-15, grew by 12.5 per cent in Q2 of 2015-16. Net profit grew by 19.8 per cent in Q2 of 2015-16, after a contraction in three successive quarters.
Growth in credit flow to the industrial sector, including mining and manufacturing, has slowed down in 2015-16 as compared to 2014-15. Growth of credit flow to the manufacturing sector was 2.5 per cent in 2015-16 (up to December) as compared 13.2 per cent in 2014-15 (up to December).

After the launch of the initiatives in September 2014, there was nearly 40 per cent increase in FDI inflows during October 2014 to June 2015 over the corresponding period of the previous year. During April-November 2015-16, total FDI inflows of were US$34.8 billion as compared to US $27.7 billion during April-November 2014-15, showing a 26 per cent surge. The FDI equity inflows also increased from US $18.9 billion during April-November 2014-15 to US $24.8 billion during April-November 2015-16, showing a 31 per cent growth.

Infrastructure
Major infrastructure sectors, namely power, road, railways, civil aviation, ports and telecommunication, have performed better during 2014-15 as compared to 2013-14. During 2014-15, electricity generation was 1048.4 billion units (BU) as against a target of 1023 BU, registering Y-O-Y growth of 8.4 per cent. Continuing with similar trends, electricity generation in the country during the current year (April–December 2015) registered a growth of 4.4 per cent. Considering the renewable energy potential of the country, the government has laid major emphasis on this sector. A total of 3030 MW of grid-connected power generation capacity from renewable energy sources like solar and wind has been added so far this fiscal (April-December), taking the cumulative generation capacity in the country to over 38,820 MW from the sources.

In Indian Railways, the freight carried shows an increase of 9.0 million tonnes during April-November 2015, over the freight traffic of 2014-15, translating into growth of 1.3 per cent. Under the National Highways Development Project (NHDP), total length of 26,177 km road has been completed as on 31 December 2015. Similarly, the civil aviation sector witnessed an improvement of 20.4 per cent in domestic traffic and 7.8 per cent in international passenger traffic during April-November 2015-16 over the same period of the previous year. During April September 2015 while cargo traffic at all ports increased by 1.1 per cent, major ports reported an increase of 4.1 per cent and non-major ports a decline of 1.0 per cent as compared to the corresponding period in 2014-15. The performance of the telecommunication sector during 2015-16 has been encouraging, with approximately 33.4 million new telephone connections added during April-October 2015, which is way ahead of the 29.7 million new connections in the corresponding period of 2014-15.

Services
Services sector growth in India accelerated to 10.3 per cent in 2014-15 from 7.8 per cent in the previous year, on account of higher growth in services sub-sectors like trade, repair, hotels & restaurants (10.7 per cent), financial services (7.9 per cent), public administration and defence (9.8 percent), and other services (11.4 per cent). In 2015-16, as per the AE, the services sector registered a growth of 9.2 per cent (constant prices), mainly due to the lower growth of 6.9 per cent in public administration, defence and other services vis-à-vis 10.7 per cent growth achieved in 2014-15.

SOCIAL INFRASTRUCTURE, EMPLOYMENT AND HUMAN DEVELOPMENT

Education
As per the Annual Status of Education Report (ASER 2014), the trends in enrolment reflect a decline in the percentage of enrolment in government schools from 72.9 per cent in 2007 to 63.1 per cent in rural areas (with corresponding increase in private schools enrolment) in 2014, while levels of the children in class V who can read class II text declined during the same period.

Employment
As per the fourth Annual Employment-Unemployment Survey conducted by the Labour Bureau during the period January 2014 to July 2014, the Labour Force Participation Rate (LFPR) (usual principal status) is 52.5 for all persons. The LFPR of women is significantly lower than that of males in
both rural and urban areas. The share of informal employment in total employment has remained above 90 per cent throughout the period 2004-05 to 2011-12.

According to the NSDC (National Skill Development Corporation), there is a severe quality gap and lack of availability of trainers in the vocational education and training sector. A multipronged policy approach to enable skill development (including but not limited to initiatives such as setting up of SSCs (Sector Skill Councils), definition of Occupation Standards, definition of NSQF (National Skills Qualification Framework) funding initiatives such as the Standard Training and Assessment Reward (STAR) scheme are likely to create a widespread positive impact on the skills ecosystem in India. Besides, under the Pradhan Mantri Kaushal Vikas Yojana aiming to offer 24 lakh Indian youth meaningful, industry-relevant, skill-based training, 4.38 lakh persons have successfully completed training throughout India.

Health
According to the World Bank's Universal Health Coverage (UHC) Index 2015, India's level of immunization is very low. High-risk patients like children and pregnant women require special preventive health care services. With the aim of covering all those children who are either unvaccinated, or are partially vaccinated, against seven vaccine-preventable diseases by 2020, Mission Indradhanush was launched in December 2014 and has covered 352 districts of the country so far.

Health is closely related to sanitation and a hygienic environment. The progress in sanitation has witnessed a spurt since the launch of the Swachh Bharat Mission. More than 122 lakh toilets have already been constructed in rural areas since the beginning of the Swachh Bharat Mission (Gramin).

Poverty
Poverty estimates based on the Tendulkar Committee methodology using household consumption expenditure survey data collected by the NSSO in its 68th round (2011-12), show that the incidence of poverty declined from 37.2 per cent in 2004-5 to 21.9 per cent in 2011-12 for the country as a whole, with a sharper decline in the number of rural poor.

CLIMATE CHANGE
India has taken the initiative of setting up an International Solar Alliance (ISA), an alliance of 121 solar-resource-rich countries, lying fully or partially between the Tropic of Cancer and Tropic of Capricorn. This alliance was jointly launched by the Prime Minister of India and President of France on 30 November 2015 at Paris, on the sidelines of the 21st Conference of Parties to the UNFCCC.

Source: http://indiabudget.nic.in/vol1_survey.asp
CFM FORGING HAMMER SPECIAL FEATURES

- **Safety prevention and control**
  Pressure feedback: safety prevention and control to stop effectively high pressure oil spray explosion
- **Remote monitor**
  Using internet to realize remote online program maintenance and adjustment, remote monitor of malfunction checking
- **Die precisely location**
  Adaptive double side adjustable wedges to make die quick location and adjustment easy
- **Automatic auxiliary machines**
  Automatic die lubrication machines, blank transfer system, automatic descale machine to match with die forging hammers
- **System integrated**
  Forging plant designing and matching, inducing forging process, die designing, producing test and customer training
- **Hydra-pneumatic hammer conversion**
  Using such fully hydraulic driving system to convert existing hydra-pneumatic hammer

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Skype: forginghammer
ROADMAP & PRIORITIES

- Government to focus on –
  - Ensuring macro-economic stability and prudent fiscal management
  - Boosting on domestic demand
  - Continuing with the pace of economic reforms and policy initiatives to change the lives of our people for the better
- Focus on enhancing expenditure in priority areas of - farm and rural sector, social sector, infrastructure sector, employment generation and recapitalisation of the banks
- Focus on vulnerable sections through-
  - Pradhan Mantri Fasal Bima Yojana
  - New health insurance scheme to protect against hospitalisation expenditure
  - Facility of cooking gas connection for BPL families
- Undertake important reforms by-
  - giving a statutory backing to Aadhar platform to ensure benefits reach the deserving.
  - freeing the transport sector from constraints and restrictions
  - incentivising gas discovery and exploration by providing calibrated marketing freedom
  - enactment of a comprehensive law to deal with resolution of financial firms
  - provide legal framework for dispute resolution and re-negotiations in PPP projects and public utility contracts
  - undertake important banking sector reforms and public listing of general insurance companies undertake significant changes in FDI policy.

AGRICULTURE AND FARMERS' WELFARE

With a view to provide a boost to agriculture production, bridge infrastructure gaps in the rural area and promote inclusive growth, the Budget has proposed a comprehensive set of initiatives.

- Allocation of Rs. 35,984 crore for agriculture and farmer welfare
- 'Pradhan Mantri Krishi Sinchai Yojana' to be implemented in mission mode. 28.5 lakh hectares will be brought under irrigation.
- Implementation of 89 irrigation projects under AIBP, which are languishing for a long time, will be fast tracked
- A dedicated Long Term Irrigation Fund will be created in NABARD with an initial corpus of about Rs. 20,000 crore
- Programme for sustainable management of ground water resources with an estimated cost of Rs. 6,000 crore will be implemented through 3 multilateral funding
- 5 lakh farm ponds and dug wells in rain fed areas and 10 lakh compost pits for production of organic manure will be taken up under MGNREGA
- Soil Health Card scheme will cover all 14 crore farm holdings by March 2017.
- 2,000 model retail outlets of Fertilizer companies will be provided with soil and seed testing facilities during the next three years
- Promote organic farming through 'Parmparagat Krishi Vikas Yojana' and 'Organic Value Chain Development in North East Region'
- Unified Agricultural Marketing ePlatform to provide a common e-market platform for wholesale markets
- Allocation under Pradhan Mantri Gram Sadak Yojana increased to Rs. 19,000 crore. Will connect remaining 65,000 eligible habitations by 2019
- To reduce the burden of loan repayment on farmers, a provision of Rs. 15,000 crore has been made in the BE 2016-17 towards interest subvention
- Allocation under Prime Minister Fasal Bima Yojana Rs. 5,500 crore.
Rs. 850 crore for four dairying projects - 'Pashudhan Sanjivani', 'Nakul Swasthya Patra', 'E-Pashudhan Haat' and National Genomic Centre for indigenous breeds

RURAL SECTOR

- Allocation for rural sector - Rs. 87,765 crore
- Rs. 2.87 lakh crore will be given as Grant-in-Aid to Gram Panchayats and Municipalities as per the recommendations of the 14th Finance Commission
- Every block under drought and rural distress will be taken up as an intensive Block under the Deen Dayal Antyodaya Mission
- A sum of Rs. 38,500 crore allocated for MGNREGS
- 300 Rurban Clusters will be developed under the Shyama Prasad Mukherjee Rurban Mission
- 100% village electrification by 1st May, 2018.
- Priority allocation from Centrally Sponsored Schemes to be made to reward villages that have become free from open defecation.
- A new Digital Literacy Mission Scheme for rural India to cover around 6 crore additional household within the next 3 years.
- National Land Record Modernisation Programme has been revamped.
- New scheme Rashtriya Gram Swaraj Abhiyan proposed with allocation of Rs. 655 crore.

SOCIAL SECTOR INCLUDING HEALTH CARE

- Allocation for social sector including education and health care – Rs. 1, 51,581 crore.
- Rs. 2,000 crore allocated for initial cost of providing LPG connections to BPL families.
- New health protection scheme will provide health cover up to Rs. one lakh per family. For senior citizens an additional top-up package up to Rs. 30,000 will be provided.
- 3,000 stores under Prime Minister's Jan Aushadhi Yojana will be opened during 2016-17.
- 'National Dialysis Services Programme' to be started under National Health Mission through PPP mode
- “Stand Up India Scheme” to facilitate at least two projects per bank branch. This will benefit at least 2.5 lakh entrepreneurs.
- National Scheduled Caste and Scheduled Tribe Hub to be set up in partnership with industry associations

EDUCATION, SKILLS AND JOB CREATION

- 62 new Navodaya Vidyalayas will be opened
- Sarva Shiksha Abhiyan to increasing focus on quality of education
- Regulatory architecture to be provided to ten public and ten private institutions to emerge as world-class Teaching and Research Institutions
- Higher Education Financing Agency to be set-up with initial capital base of Rs. 1000 crore
- Digital Depository for School Leaving Certificates, college degrees, academic awards and mark sheets to be set-up.
- Allocation for skill development – Rs. 1804. crore.
- 1500 Multi Skill Training Institutes to be set-up
- National Board for Skill Development Certification to be setup in partnership with the industry and academia
- Entrepreneurship Education and Training through Massive Open Online Courses

JOB CREATION

- GoI will pay contribution of 8.33% for of all new employees enrolling in EPFO for the first three years of their employment. Budget provision of Rs. 1000 crore for this scheme.
Deduction under Section 80JJAA of the Income Tax Act will be available to all assesses who are subject to statutory audit under the Act

100 Model Career Centres to be operational by the end of 2016-17 under National Career Service

Model Shops and Establishments Bill to be circulated to States.

**INFRASTRUCTURE AND INVESTMENT**

- Total investment in the road sector, including PMGSY allocation, would be Rs. 97,000 crore during 2016-17.
- India’s highest ever kilometres of new highways were awarded in 2015. To approve nearly 10,000 kms of National Highways in 2016-17.
- Allocation of Rs. 55,000 crore in the Budget for Roads. Additional Rs. 15,000 crore to be raised by NHAI through bonds.
- Total outlay for infrastructure – Rs. 2,21,246 crore.
- Amendments to be made in Motor Vehicles Act to open up the road transport sector in the passenger segment
- Action plan for revival of unserved and underserved airports to be drawn up in partnership with State Governments.
- To provide calibrated marketing freedom in order to incentivise gas production from deep-water, ultra deep-water and high pressure-high temperature areas
- Comprehensive plan, spanning next 15 to 20 years, to augment the investment in nuclear power generation to be drawn up
- Steps to re-vitalise PPPs:
  - Public Utility (Resolution of Disputes) Bill will be introduced during 2016-17
  - Guidelines for renegotiation of PPP Concession Agreements will be issued
  - New credit rating system for infrastructure projects to be introduced
- Reforms in FDI policy in the areas of Insurance and Pension, Asset Reconstruction Companies, Stock Exchanges.
- 100% FDI to be allowed through FIPB route in marketing of food products produced and manufactured in India.
- A new policy for management of Government investment in Public Sector Enterprises, including disinvestment and strategic sale, approved.

**FINANCIAL SECTOR REFORMS**

- A comprehensive Code on Resolution of Financial Firms to be introduced.
- Statutory basis for a Monetary Policy framework and a Monetary Policy Committee through the Finance Bill 2016.
- A Financial Data Management Centre to be set up.
- RBI to facilitate retail participation in Government securities.
- New derivative products will be developed by SEBI in the Commodity Derivatives market.
- Amendments in the SARFAESI Act 2002 to enable the sponsor of an ARC to hold up to 100% stake in the ARC and permit non institutional investors to invest in Securitization Receipts.
- Comprehensive Central Legislation to be bought to deal with the menace of illicit deposit taking schemes.
- Increasing members and benches of the Securities Appellate Tribunal.
- Allocation of Rs. 25,000 crore towards recapitalisation of Public Sector Banks.
- Target of amount sanctioned under Pradhan Mantri Mudra Yojana increased to Rs. 1,80,000 crore.
- General Insurance Companies owned by the Government to be listed in the stock exchanges.
GOVERNANCE AND EASE OF DOING BUSINESS

- A Task Force has been constituted for rationalisation of human resources in various Ministries.
- Comprehensive review and rationalisation of Autonomous Bodies.
- Bill for Targeted Delivery of Financial and Other Subsidies, Benefits and Services by using the Aadhar framework to be introduced.
- Introduce DBT on pilot basis for fertilizer.
- Automation facilities will be provided in 3 lakh fair price shops by March 2017.
- Amendments in Companies Act to improve enabling environment for start-ups.
- Price Stabilisation Fund with a corpus of Rs. 900 crore to help maintain stable prices of Pulses.
- “Ek Bharat Shreshtha Bharat” programme will be launched to link States and Districts in an annual programme that connects people through exchanges in areas of language, trade, culture, travel and tourism.

FISCAL DISCIPLINE

- Fiscal deficit in RE 2015-16 and BE 2016-17 retained at 3.9% and 3.5%.
- Revenue Deficit target from 2.8% to 2.5% in RE 2015-16
- Total expenditure projected at Rs. 19.78 lakh crore
- Plan expenditure pegged at Rs. 5.50 lakh crore under Plan, increase of 15.3%
- Non-Plan expenditure kept at Rs. 14.28 lakh crore
- Special emphasis to sectors such as agriculture, irrigation, social sector including health, women and child development, welfare of Scheduled Castes and Scheduled Tribes, minorities, infrastructure.
- Mobilisation of additional finances to the extent of Rs. 31,300 crore by NHAI, PFC, REC, IREDA, NABARD and Inland Water Authority by raising Bonds.
- Plan / Non-Plan classification to be done away with from 2017-18.
- Every new scheme sanctioned will have a sunset date and outcome review.
- Rationalised and restructured more than 1500 Central Plan Schemes into about 300 Central Sector and 30 Centrally Sponsored Schemes.
- Committee to review the implementation of the FRBM Act.

RELIEF TO SMALL TAX PAYERS

- Raise the ceiling of tax rebate under section 87A from Rs. 2000 to Rs. 5000 to lessen tax burden on individuals with income upto Rs. 5 lakhs.
- Increase the limit of deduction of rent paid under section 80GG from Rs. 24,000 per annum to Rs. 60,000, to provide relief to those who live in rented houses.

BOOST EMPLOYMENT AND GROWTH

- Increase the turnover limit under Presumptive taxation scheme under section 44AD of the Income Tax Act to Rs. 2 crore to bring big relief to a large number of assessees in the MSME category.
- Extend the presumptive taxation scheme with profit deemed to be 50%, to professionals with gross receipts up to Rs. 50 lakh.
- Phasing out deduction under Income Tax-
  - Accelerated depreciation wherever provided in IT Act will be limited to maximum 40% from 1.4.2017
  - Benefit of deductions for Research would be limited to 150% from 1.4.2017 and 100% from 1.4.2020
  - Benefit of section 10AA to new SEZ units will be available to those units which commence activity before 31.3.2020.
The weighted deduction under section 35CCD for skill development will continue up to 1.4.2020

Corporate Tax rate proposals-

New manufacturing companies incorporated on or after 1.3.2016 to be given an option to be taxed at 25% + surcharge and cess provided they do not claim profit linked or investment linked deductions and do not avail of investment allowance and accelerated depreciation.

Lower the corporate tax rate for the next financial year for relatively small enterprises i.e companies with turnover not exceeding Rs. 5 crore (in the financial year ending March 2015), to 29% plus surcharge and cess.

100% deduction of profits for 3 out of 5 years for startups setup during April, 2016 to March, 2019. MAT will apply in such cases.

10% rate of tax on income from worldwide exploitation of patents developed and registered in India by a resident.

Complete pass through of income-tax to securitization trusts including trusts of ARCs. Securitisation trusts required to deduct tax at source.

Period for getting benefit of long term capital gain regime in case of unlisted companies is proposed to be reduced from three to two years.

Non-banking financial companies shall be eligible for deduction to the extent of 5% of its income in respect of provision for bad and doubtful debts.

Determination of residency of foreign company on the basis of Place of Effective Management (POEM) is proposed to be deferred by one year.

Commitment to implement General Anti Avoidance Rules (GAAR) from 1.4.2017.

Exemption of service tax on services provided under Deen Dayal Upadhyay Gramaen Kaushalya Yojana and services provided by Assessing Bodies empanelled by Ministry of Skill Development & Entrepreneurship.

Exemption of Service tax on general insurance services provided under 'Niramaya' Health Insurance Scheme launched by National Trust for the Welfare of Persons with Autism, Cerebral Palsy, Mental Retardation and Multiple Disability.

Basic custom and excise duty on refrigerated containers reduced to 5% and 6%.

MAKE IN INDIA

Changes in customs and excise duty rates on certain inputs to reduce costs and improve competitiveness of domestic industry in sectors like information technology hardware, capital goods, defence production, textiles, mineral fuels & mineral oils, chemicals & petrochemicals, paper, paperboard & newsprint, maintenance repair and overhauling [MRO] of aircrafts and ship repair.

MOVING TOWARDS A PENSIONED SOCIETY

Withdrawal up to 40% of the corpus at the time of retirement to be tax exempt in the case of National Pension Scheme (NPS). Annuity fund which goes to legal heir will not be taxable.

In case of superannuation funds and recognized provident funds, including EPF, the same norm of 40% of corpus to be tax free will apply in respect of corpus created out of contributions made on or from 1.4.2016.

Limit for contribution of employer in recognized Provident and Superannuation Fund of Rs. 1.5 lakh per annum for taking tax benefit. Exemption from service tax for Annuity services provided by NPS and Services provided by EPFO to employees.

Reduce service tax on Single premium Annuity (Insurance) Policies from 3.5% to 1.4% of the premium paid in certain cases.
PROMOTINGAFFORDABLE HOUSING

- 100% deduction for profits to an undertaking in housing project for flats up to 30 sq. metres in four metro cities and 60 sq. metres in other cities, approved during June 2016 to March 2019 and completed in three years. MAT to apply.
- Deduction for additional interest of Rs. 50,000 per annum for loans up to Rs. 35 lakh sanctioned in 2016-17 for first time home buyers, where house cost does not exceed Rs. 50 lakh.
- Distribution made out of income of SPV to the REITs and INVITs having specified shareholding will not be subjected to Dividend Distribution Tax, in respect of dividend distributed after the specified date.
- Exemption from service tax on construction of affordable houses up to 60 square metres under any scheme of the Central or State Government including PPP Schemes.
- Extend excise duty exemption, presently available to Concrete Mix manufactured at site for use in construction work to Ready Mix Concrete.

RESOURCE MOBILIZATION FOR AGRICULTURE, RURAL ECONOMY AND CLEAN ENVIRONMENT

- Additional tax at the rate of 10% of gross amount of dividend will be payable by the recipients receiving dividend in excess of Rs. 10 lakh per annum.
- Surcharge to be raised from 12% to 15% on persons, other than companies, firms and cooperative societies having income above Rs. 1 crore.
- Tax to be deducted at source at the rate of 1% on purchase of luxury cars exceeding value of Rs. ten lakh and purchase of goods and services in cash exceeding Rs. two lakh.
- Securities Transaction tax in case of 'Options' is proposed to be increased from .017% to .05%.
- Equalization levy of 6% of gross amount for payment made to non-residents exceeding Rs. 1 lakh a year in case of B2B transactions.
- Krishi Kalyan Cess, @ 0.5% on all taxable services, w.e.f. 1 June 2016. Proceeds would be exclusively used for financing initiatives for improvement of agriculture and welfare of farmers. Input tax credit of this cess will be available for payment of this cess.
- Infrastructure cess, of 1% on small petrol, LPG, CNG cars, 2.5% on diesel cars of certain capacity and 4% on other higher engine capacity vehicles and SUVs. No credit of this cess will be available nor credit of any other tax or duty be utilized for paying this cess.
- Excise duty of '1%' without input tax credit or 12.5% with input tax credit on articles of jewellery [excluding silver jewellery, other than studded with diamonds and some other precious stones], with a higher exemption and eligibility limits of Rs. 6 crore and Rs. 12 crore respectively.
- Excise on readymade garments with retail price of Rs. 1000 or more raised to 2% without input tax credit or 12.5% with input tax credit.
- Clean Energy Cess levied on coal, lignite and peat renamed to 'Clean Environment Cess' and rate increased from Rs. 200 per tonne to Rs. 400 per tonne.
- Excise duties on various tobacco products other than beedi raised by about 10 to 15%.
- Assignment of right to use the spectrum and its transfers has been deducted as a service leviable to service tax and not sale of intangible goods.

PROVIDING CERTAINTY IN TAXATION

- Domestic taxpayers can declare undisclosed income or such income represented in the form of any asset by paying tax at 30%, and surcharge at 7.5% and penalty at 7.5%, which is a total of 45% of the undisclosed income. Declarants will have immunity from prosecution.
- Surcharge levied at 7.5% of undisclosed income will be called Krishi Kalyan surcharge to be used for agriculture and rural economy.
- New Dispute Resolution Scheme to be introduced. No penalty in respect of cases with disputed tax up to Rs. 10 lakh. Cases with disputed tax exceeding Rs. 10 lakh to be subjected to 25% of the
minimum of the imposable penalty. Any pending appeal against a penalty order can also be settled by paying 25% of the minimum of the imposable penalty and tax interest on quantum addition.

- One-time scheme of Dispute Resolution for ongoing cases under retrospective amendment.
- Penalty rates to be 50% of tax in case of under reporting of income and 200% of tax where there is misreporting of facts.
- Disallowance will be limited to 1% of the average monthly value of investments yielding exempt income, but not exceeding the actual expenditure claimed under rule 8D of Section 14A of Income Tax Act.
- Time limit of one year for disposing petitions of the tax payers seeking waiver of interest and penalty.
- Mandatory for the assessing officer to grant stay of demand once the assesse pays 15% of the disputed demand, while the appeal is pending before Commissioner of Income-tax (Appeals).
- Monetary limit for deciding an appeal by a single member Bench of ITAT enhanced from Rs. 15 lakhs to Rs. 50 lakhs.
- 11 new benches of Customs, Excise and Service Tax Appellate Tribunal (CESTAT).

SIMPLIFICATION AND RATIONALIZATION OF TAXES

- 13 cesses, levied by various Ministries in which revenue collection is less than Rs. 50 crore in a year to be abolished.
- Revision of return extended to Central Excise assesses.
- Additional options to banking companies and financial institutions, including NBFCs, for reversal of input tax credits with respect to non-taxable services.
- Customs Act to provide for deferred payment of customs duties for 15 importers and exporters with proven track record.
- Customs Single Window Project to be implemented at major ports and airports starting from beginning of next financial year.
- Increase in free baggage allowance for international passengers. Filing of baggage only for those carrying dutiable goods.
- Expansion in the scope of e-assessments to all assessees in 7 mega cities in the coming years.
- Interest at the rate of 9% p.a against normal rate of 6% p.a for delay in giving effect to Appellate order beyond ninety days.

Source: indiabudget.nic.in/ub2016-17/bh/bh1.pdf
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Defects Elimination by Using Forging Simulation for Valve Body
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Automotive Research Association of India - Forging Industry Division*

Problem Definition

Forging valve body of approx. 400 kg is very challenging. In conventional forging process, valve body was forged in two stages, viz., heating, pre-form, heating, finisher using hammer followed by trimming operation. During finisher process, a big lap (Crack) formation was observed as shown in Figure 1. In conventional process, initial 2-3 blows were required to blow off the scale. From 4th blow actual metal flow starts. Forging operation takes only few seconds and it was difficult to visualize how metal flows and how lap was formed. Thus it was difficult to produce defect free component on time to meet customer requirements. The confidence in "First Time Right" was becoming challenging for this new part development.

The use of computer simulation helps in understanding the metal flow inside the cavity. The simulation findings and method of tracking lap formation is discussed in subsequent sections of this article.

Simulation Methodology

Assumptions & input parameters, considered for simulation of existing forging process, are as follows:
- Actual furnace temperature was considered higher than specified temperature by considering transfer time of 60s, the specified temperature of billet was 1230°C on hammer. Dies temperature was 200°C.
- Material of Billet is SAE 4130 (Alloy steel), Die material is DB6.
- Lubrication used - Oil
- Press Capacity - 16 T Hammer, striking height of 1500mm, top Mass of 2570 kg and Maximum Energy of 392 kJ.
- Die geometries and billet 3D model were created with the help of drawings.
- Only Finisher process was simulated.

The existing forging sequence was as shown in figure 2. In pre form stage, heated Round Corner Square (RCS) billet was used to prepare a preformed shape as shown in fig. 3. The pre-form shape was then heated and transferred to finisher stage. Finally finisher process was carried out. Out of this, only finisher process was simulated. Fig. 3 shows, preformed shape billet placed between top and bottom die.

* Automotive Research Association of India - Forging Industry Division

Figure 1 - Cracked area marked in circle shown by red color
As shown in Figure 4, at the end of small flange, lapping formation takes place. Various result parameters viz. temperature, force/energy prediction, die wear/stresses, grain flow etc. were analyzed. Figure 5 shows sectional view of area of cracked zone and grain flow image, which clearly shows that grains are gathered and crossed each other.

A detailed study was conducted to understand the possible reason for lap formation. Various design parameters were cross verified, which include flash thickness and land width calculation, parting line radius, stock size calculation and complexity factor [2], [3], [4]. Lap formation was analyzed by using various modules like reverse analysis module, grain flow prediction module, point tracking module etc. Of all the available modules, reverse point tracking module was utilized to identify the root cause of the defect. Figure 6 shows points considered for reverse tracking. The conclusion from reverse point tracking shows that, the defect was generated from front face of the billet. (Fig 7)

Thus, the results from simulation were validated with physical test results. The simulation methodology thus developed is available for further modification process to eliminate the defects and optimize the process.
Taking into consideration forging process and analysis of simulation results, changes were carried out in initial billet location in finisher operation. With these modifications, some improvement was observed, but still problem of lap formation was not totally eliminated. So, it can be inferred that, only changing billet locations was not sufficient. Modifications in terms of different billet shapes and locations were tried. Out of these modifications, best one was selected.

Modified Forging Process

The modified forging sequence is as shown in figure 8. In this setup, pre-forming stage was eliminated. Modified billet geometry of RCS billet of dimensions 330 was used. In addition to billet section modification, billet placement location in the dies was also changed as shown in fig.9. Same input parameters and assumptions, as used during existing forging simulation, were used for simulating the modified forging process.

In simulation it took 45 numbers of blows to complete the process. Fig. 10 shows, final forged component with flash. The modification resulted in no lap/crack generation inside the impression. In addition, the component was checked by analyzing grain flow and fold analysis to confirm that the component is defect free. Fig.11 shows component produced by modified process with grain flow lines parallel to each other indicating defect free component. Thus, using modified process, defect free component was produced by eliminating one heating and pre-forming operation. These modifications in turn improved productivity, saves significant energy and time. Table 1 compares existing process and modified process in terms of stages required, no. of heating, no. of blows required etc.

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Existing Process</th>
<th>Modified Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial Billet</td>
<td>RCS 330</td>
<td>RCS 330</td>
</tr>
<tr>
<td>No. of heats</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Stages</td>
<td>Pre-form + Finisher</td>
<td>Finisher</td>
</tr>
<tr>
<td>No. of Blows</td>
<td>10 + 30</td>
<td>45</td>
</tr>
<tr>
<td>Defects</td>
<td>Lap, non-uniform flash</td>
<td>No lap, uniform flash</td>
</tr>
<tr>
<td>Cut weight</td>
<td>484 kg</td>
<td>484 kg</td>
</tr>
</tbody>
</table>

Figure 8 - Modified sequence of forging

Figure 9 - Modified setup with direct RCS billet

Figure 10 - Fill up analysis Component fully filled

Figure 11 - Crack free component : Grain Flow
Physical Trial

Actual forging of the component was carried out with modified process. Inputs such as position of billet, number of blows, lubrication, energy per blow etc. was taken from simulation. A batch of 50 components was forged. All the samples were found to be satisfactory without any forging defect, this established good correlation with predicted results. Fig. 12 shows final shape of forged component from simulation and physical trial. Table 2 compares simulation data and actual data in terms of billet weight, stages required, no. of blows required, defects etc.

Table 2: - Comparison between Simulation Data Vs Actual Data

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Simulation Data</th>
<th>Actual Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Billet Size and Weight</td>
<td>RCS330 x 570 L 484 KG</td>
<td>RCS330 x 570 L 484 KG</td>
</tr>
<tr>
<td>No. of Stages</td>
<td>Direct Finisher</td>
<td>Direct Finisher</td>
</tr>
<tr>
<td>Defects</td>
<td>No Lap, Uniform Flash</td>
<td>No Lap, Uniform Flash</td>
</tr>
<tr>
<td>No. of Blows</td>
<td>45</td>
<td>45-48</td>
</tr>
<tr>
<td>Image</td>
<td>As shown in fig. no. 12</td>
<td>As shown in fig. no. 12</td>
</tr>
</tbody>
</table>

The modified process resulted in reduction in energy consumption & time required to produce components and ultimately increased productivity. Also due to elimination of one heat there will be less scale loss, which results into less input weight. Considering the range of cost of heating from Rs 3 to 5 per kg, the saving in heating cost due to elimination of one heat cycle is in the range of Rs. 1450 to 2400 for the given input weight of 484 Kg. And considering 50 to 200 pieces per month for one year, approximate saved cost will be in the range of Rs. 8 Lakhs to 50 lakhs.

Thus the entire exercise of computer simulation helped to arrive at optimum forging process with no forging defects with added benefit of reduction in time, cost, energy consumption, material wastage and improved product quality.

Conclusions

- Computer simulation was able to capture the defects occurred in existing forging process.
- Simulation results gave insight about the forging process and it helped to find the possible reasons for the defects.
- All the forging defects (i.e. folds, cracks, etc.) were eliminated by using proper modification in forging process.
- Modified forging simulation process helped in eliminating two operations in forging cycle viz. heating and preforming.

Results of the simulation were validated by shop-floor trials and excellent correlations in the results were established.
Acknowledgement

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Since the middle of 2012, one common trend has been observed among all the commodities traded across the world be it agricultural cash crops, minerals and metals or fuels, their prices were falling. This trend is continuing till date. One might claim this to be a natural business cycle phenomenon observed in any market – boom followed by bust. However, the surprising part is the nature of the fall which shows a “cliff diving” trend. Is it because there is very little inflation working worldwide, rather deflation in the developed economies? Well, the answer is in negative. The commodity prices are falling relative to the overall price level (represented by the value of dollar). This indicates that something more must be going on.

The objective of this article is to enquire into the reasons behind the fall in commodity prices and the consequences thereof. Also, another question that comes to our mind is whether this fall is good or bad for us as a country aiming to become a manufacturing powerhouse. The article focuses specifically on commodities used by the forging industry: nickel used for making stainless steel, iron ore a major raw material of the steel industry and Brent crude oil considered a benchmark indicator for other fuel prices.

Commodity-specific Reasons

Ever since its liberalization in 1980s China has grown rapidly with its pillars being infrastructure, manufacturing and exports. It accounts for the largest production of crude steel producing more than half of what the total world does. The fact that the iron ore price reached its peak of $180 per ton in 2011-12 is because of China's massive infrastructural stimulus given post financial crisis of 2008. Iron ore being the principal raw material for steel manufacturing, it was imported in huge quantities by China from Brazil, Indonesia and Australia. China accounts for more than 75% of world’s sea borne iron-ore trade. However with its economy slowing down post 2013, the domestic demand weakened thus resulting in reduction in imports of iron ore by substantial amount. On the other hand, the iron ore producers Vale of Brazil, Rio Tinto & BHP Billiton of Australia kept on increasing output to eliminate competition. As a result, towards the end of December 2015 the price of iron ore (62% Fe grade) came down to as low as $ 42 per tonne, CFR (Cost and Freight, Tiajin Port), China.

Its steel industry for the first time contracted in 2015 after 35 years with crude steel production dropping by 2.3%. Already burdened with overcapacity, weak domestic demand has led to record quantity of exports of 112 million tons in 2015, 20% increase over 2014. With Chinese steel flooding the world market, steelmakers all over the world struggling to compete with such low prices. 37 cases have been filed against Chinese producers on anti-dumping grounds in 2015.

Nickel is the industrial metal which has been hit worst in the year 2015. Prices have continued to fall at levels last seen in April 2003 even beating the troughs of the global financial crisis. The small size of the global nickel market has resulted in higher fluctuations in price thus leading to record lows of $4600 per tonne spot price on London Metal Exchange, February 2016. The same was around $14,600 per tonne one year back. After Indonesia, world’s largest producer of nickel ore, had imposed ban on exports of unprocessed nickel ore in 2014, prices were expected to increase. On the contrary, Philippines and Malaysia started supplying more than adequate; this coupled with weakening demand for stainless steel in Europe led to piling of inventories on the London Metal Exchange at a record level of 470,756 metric tonnes which is 70% more than the 2014 level. Poor outlook for China’s struggling steel sector also weighed upon the nickel prices as China being the largest consumer (44% of global nickel produced) primarily uses it to make stainless steel.
Oil is among the most over-supplied of all the commodities in the current context. Even as oil prices were said to sink by more than 70 per cent since June 2014, stocks reached all-time high of 3 billion barrels in 2015, according to International Energy Agency. This was due to record output as a result of OPEC’s (Organization of the Petroleum Exporting Countries) decision to keep pumping above its target of 30 million barrels a day to maintain market share and squeeze out higher-cost producers. Brent crude oil dipped below $26.21 after international sanctions on Iran to restrict its nuclear work were lifted by major world powers in January 2016. It is said to be the deepest downturn in global oil market since the 1990s.

The once normal rates like $90 or $100 per barrel now seem a distant dream for oil producers. Why so? A few decades back, say from 1993 to 2008 the price of oil rose significantly. This was majorly fueled by the demand generated from the emerging markets particularly China and India. It reached a record peak of $145 per barrel in July 2008. However prices dropped sharply during the financial crisis to $30 per barrel but sharply rebounded back to $82 per barrel in 2009. On 31st Jan 2011, the Brent price hit $100 a barrel following the political unrest in Egypt. The next three and a half years that is till middle of 2014 the price mostly ranged from $90-$120 per barrel.

Since the mid-2014 oil prices started falling sharply as the domestic production of United States doubled over the last several years. Therefore, oil producing states like Saudi Arabia, Algeria, Nigeria, Venezuela, which once used to sell oil to United States, suddenly started competing for Asian markets, and thus the producers were forced to drop prices. Canada, Iraq and Russia also added on to the oversupply. On the other hand, with the developed nations switching on to energy efficient vehicles and slowing down of industrial activity have weakened the demand for oil over a period of time. Now with the emerging markets slowing down as well the demand has further reduced. However the production ramped up even if the prices dropped sharply. This is because neither of the OPEC countries nor America wanted to reduce production to drive out competition. However in February 2016 OPEC members Saudi Arabia, Qatar, Venezuela along with Russia announced to freeze output at January 2016 levels.

The Bigger Picture

In the last couple of years, the oil prices plummeted along with the price of iron ore. So did gold, silver and platinum. And the same held true for sugar, cotton and soybean prices! Such a huge swing in price of almost all the commodities suggests that macroeconomic factors are at work. The story can be better explained by the concept of commodity super-cycle which can be defined as decades-long price movement in a wide range of commodities. The latest super cycle occurred during 2000-2012 following the commodity price depression in 1980s and 1990s. The boom was largely due to demand from the emerging markets such as the BRIC countries, particularly China, from 1992 to 2013 leading to concerns over long term supply availability. There was a sharp downturn in prices during 2008-09 because of the sovereign debt crisis but continued its upward trajectory as soon as demand recovered in 2010. The commodity market was the fastest to recover.

The reasons behind this super cycle can be explained from both the demand and supply side point of view. The demand side of the picture highlights the Chinese economy with its voracious appetite for industrial commodities thereby making it the largest commodity consumer in the world. Its import of fuels, minerals and grains is said to have multiplied 16 times since 2000. The growing middle class in the emerging markets boosted demand for homes, food, cars in general pulling the aggregate demand. At the same time, the U.S. economic stimulus package weakened U.S dollar relative to other global currencies which acted as an added bonus thereby making commodity imports affordable for other nations. On the supply side, global supply of natural resources was hamstrung by a variety of factors including drought in major grain growing regions, turmoil in oil producing regions and rising labour

and operational costs in mining facilities. Meanwhile low interest rates in the developed nations particularly USA and Europe led the investors to search for alternative investment destinations outside the traditional markets. Hence investment in commodities and emerging markets appeared more attractive to them thus leading to soaring commodity prices.

The fear of high commodity prices exacerbated the fear of higher prices in future thus causing industries and governments to hoard their inventories. China for example filled its warehouses with copper, iron ore and other commodities of industrial use. Crude oil tankers were said to populate the seas with no immediate destinations to go. Oversupply accompanied by demand deficit led to the plunging of prices.

The cycle eventually came to an end post 2012 with a bust of commodity price bubble. This was mainly triggered China's going into recession and attempting to transit from an export oriented economy to a domestic consumption led economy accompanied by a shift from manufacturing to services. However another reason working in background of this whole context is the monetary policy of the United States of America.

One of the important yet often forgotten determinants of the commodity prices is the monetary policy. Going back to 1970s, 2002-2004 or our familiar 2008 sub-prime crisis- these time periods had one thing in common – falling real (inflation adjusted) interest rates. Similarly rise in real interest rates in the 1980s had sent the dollar prices of the commodities tumbling. This implies increasing money supply in the economy increases commodity prices; the reverse happens when money supply is reduced that is when interest rates rise. Thus when Fed increases the money supply, money flows into the commodities, among other places, and so bids their prices up; prices fall when interest rate increases and money is pulled out of the economy. But how does this whole causal mechanism work?

There are four channels through which the real interest rate (adjusted for inflation) affects the commodity prices. Expectation of higher interest rates in future leads to the following – it reduces the price of storable commodities by increasing the incentive for extraction today rather than tomorrow. Secondly, expectation of higher interest rates decreases firm's desire to carry inventories. Thirdly, it encourages speculators to shift out of commodity contracts into treasury bills. Finally, it appreciates the domestic currency and reduces the price of internationally traded commodities in domestic terms (even if the price has not fallen in terms of foreign currency). An expectation of lowering of real interest rate in future would have an opposite effect implying lower cost of carrying inventories and increasing commodity prices has happened in 2007-08 and 2010-11. In the following figure, real commodity indices have been plotted against Fed's 3-month Treasury bill rate. It reveals the inverse relationship between the commodity price index and real interest rates - with commodity price spikes in 1970s, 2008 & 2011 explained by zero or negative real interest rates.

Source: http://www.hks.harvard.edu/fs/jfrankel/CP.htm

The Project Syndicate: Why are commodity prices falling? By Jeffrey Frankel
The Federal Reserve ended its policy of quantitative easing in October 2014. Investors were anticipating a hike in interest rates since then. Eventually in December 2015, the rates were increased from near zero to twenty five basis points i.e. 0.25%. This increase came after nearly a decade in order to maintain price stability in the U.S. economy. The Bank of England is expected to follow a similar path of limited yet gradual increase in interest rates as said by its governor Mark Carney. However, the other central banks like the European Central Bank have decided to continue with quantitative easing, Bank of Japan is expected to move the interest rates to a negative territory and similar policy is expected from People's Bank of China to stimulate growth. As a result a stronger US Dollar backed by higher interest rates tends to depress the values of the other major currencies including the weakening emerging market currencies\(^3\). The commodities being mostly priced in dollars, a stronger USD has reduced purchasing powers of global raw material buyers and made other assets like bonds and equities more attractive to investors. Thus money from the emerging markets will now flow into the US economy. This is known as the capital flow reversal. Forward looking speculators shifted out of commodities at present in anticipation of a higher rate in future which eventually happened by the end of 2015. The exchange rate channel has already been working as we can see a weakening Yuan and other emerging market currencies.

Impact

The World Bank has lowered the forecast for 37 out of 46 commodity prices in its October 2015 issue of World Economic Outlook and the April forecasts are too expected to be on the same lines. They are said to have plunged to two-third of their peaks to the lowest level since 1999. Such a huge swing in prices is obviously attributed to China whose growth rate of 6.9% considered being the lowest in 25 years. It is expected to fall to 6% by 2017 according to International Monetary Fund forecast. Growing debt, overcapacity in the manufacturing and housing sector and over dependency on exports has eventually slowed down its growth.

A slowing China has dragged down with itself emerging markets like Brazil and Indonesia whose exports largely consist of metals and minerals like iron ore, coal and copper etc. With China rebalancing its economic activity towards service and domestic consumption based path, it will be challenging for the emerging markets and developing economies to grow unless they enact productivity enhancing reforms typically for Brazil, Russia and Middle Eastern countries. The growth which these countries had seen in the past was mostly because of investments in extractive industries. Thus once the commodity super cycle ended, they started to slow down. They grew at just 4% in 2015 and expected to grow at 4.3% in 2016\(^4\).

Dramatic decline in imports and manufacturing activity in a number of emerging economies including China has weighed down heavily upon global trade as these countries account for more than 70% of global growth. Weakening growth prospects in these economies have affected the commodity prices as they have been the main source of demand since 2000. This has in turn led to reduction in global trade. As a result we see that the Baltic Dry Index has fallen to 300 points (February 4 2016) from 11,793 points in May 2008. The Baltic Dry Index basically measures the cost of moving raw materials such as metals, ores, coal, grains and fertilizers by sea. It had started falling since August 2015 when it came down to a level of 1,151 points triggered by the devaluation of Chinese currency Yuan and slowing down of the economy. China is the world’s largest importer and exporter of several commodities and now that it has stopped trade activities to a large extent leading to a grim climate for the Indian Ocean and Asia-Pacific region trade.

Looking at the implications of fall in commodity price on the Indian economy the following areas are expected to have a positive outlook. Firstly, it will help improve our Current Account saving billions of

\(^3\)Financial Times: http://ig.ft.com/sites/when-rates-rise

\(^4\)World Economic Outlook Update, January 2016, International Monetary Fund
dollars on crude oil prices, given the fact that India is one of the largest importers of crude oil. Therefore we see a reduction in price of petrol, diesel, paint, tyres. Every one dollar fall in crude oil prices leads to lower down current account deficit by $1 billion. India has saved up to $31 billion on crude oil prices in the year 2015-16. The airfares are also expected to reduce by almost 15% if the airlines pass on lower fuel costs to the consumers. Cost of car ownership will also come down leading to higher growth in sales.

However in case of steel the situation is different than expected. With low priced Chinese steel flooding the Indian markets, the Indian government has imposed the minimum import price (MIP) of $341-$752 per tonne on certain steel items in February 2016. Also, with compulsory BIS (Bureau of Indian Standards) certification made effective from 15th March 2016, the prices are expected to rise further up to Rs 2,000 per tonne.

Looking at the current developments at the global level we see that oil prices have climbed up to $40 per barrel (a rise of 46% from the lowest level) by mid February. Iron ore prices have increased by 19 percent that is to $62 per tonne spot price as on 8th March 2016. Interestingly this is a case of deviation from fundamentals and is purely sentiment driven. The investors are expecting further monetary easing by the Chinese central bank to boost the ailing manufacturing industry. Along with iron ore other base metals like copper and steel have also witnessed increase in prices for similar reasons. However this growth is not self-sustaining because huge stocks of inventories are still piled up in the warehouses and tankers. Unless this oversupply is balanced by generation of adequate demand through price reduction, the fluctuations will continue unfortunately involving painful repercussions for the emerging markets and developing countries.

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2 http://articles.economictimes.indiatimes.com/2016-01-13/industry/69735438_1_steel-industry-bis-certification-steel-ministry
Indian Automobile Industry-Foreseeing the Prospects
Shrabana Mukherjee
Management Trainee, AIFI

The automobile industry forms the crux of the Indian forging industry. Despite the earnest attempt of diversification to non-auto sector, automotive sector continues to contribute 60 per cent of the total forging production1. This study aims at examining the evolution of the Indian automotive industry till 2015-16. The categories taken into consideration include- a. Passenger Vehicles, b. Commercial Vehicles, c. Three-wheelers, d. Two-wheelers and e. Tractors. It also strives to predict the growth prospects of these categories during 2016-2020.

The Journey till date

The Indian automotive industry embarked upon a new journey in 1991 with the introduction of the New Economic Reforms. This had led to the de-licensing of the sector and subsequent opening up for 100 per cent foreign direct investment (FDI) through the automatic route. Since then almost all the global majors have set up their facilities in India augmenting the level of production of vehicle from 2 million in 1991 to 9.7 million in 2006.

In the last 25 years, the Indian auto industry has emerged as one of the largest in the world with an annual production of 23.37 million vehicles in FY 2014-15, following a growth of 8.68 per cent over the last year. The automobile industry accounts for 7.1 per cent of the country’s gross domestic product (GDP). The growing numbers of young population and the bulging middle class segment with increase in purchasing power has made the two-wheeler segment the leader of the Indian automobile market with about 81 per cent market share. Moreover, the growing interest of the companies in exploring the rural markets further aided the growth of the sector. The overall passenger vehicle (PV) segment has 13 per cent market share. In FY 2014-15, automobile exports grew by 15 per cent over the last year.

The graphs below depict the growth of the various segments of the auto industry between 2009-10 and 2014-15. The Indian auto industry experienced a dark patch during 2012-13 and 2013-14, in its otherwise smooth run. High inflation, soaring interest rates, low consumer sentiment and rising fuel prices along with economic slowdown are the major reasons for the downturn of the industry. Except for the two-wheelers, all other segments in the industry have been weakening. There is a negative impact on the automakers and dealers who offered high discounts in order to push sales. To match the decline in demand, automakers have resorted to production cuts and lay-offs, due to which capacity utilization for most automakers remains at a dismal level.

However, the industry has started to revive from 2014-15 onwards. Let us look into each of these segments individually.

Figure 1: Production Trend- Passenger Vehicles

Source: SIAM

1Source: Indian Forging Industry Report-2016
After facing a slight downturn in 2013-14, the passenger vehicles (PVs) segment has perked up. The industry produced a total of 30.92 lakhs PVs during April 2015 to February 2016 as against 29.32 lakhs during April 2014 to February 2015. Thus, the PVs have witnessed a growth of 5.46 per cent over the period mentioned. The PVs had witnessed a growth of 4.16 per cent during April 2014-February 2015 over April 2013-February 2014.

Growth in sales of passenger vehicles in India was the fastest among the eight largest auto markets in the world in the first 11 months of 2015 as vehicle purchases slowed in China and declined in Japan and the US. The pace of growth made India the world’s fifth largest passenger vehicle market by volume, surpassing Brazil where sales declined the most. China continues to be the world’s biggest auto market by volume. Growth in India was fuelled by positive customer sentiment in cities, gradual uptick in the economy and hope that the economy will do much better in the coming quarters. According to data provided by the Society of Indian Automobile Manufacturers (SIAM) and Organisation Internationale des Constructeurs d’Automobiles (OICA), a Paris-based federation of international automobile manufacturers, India sold as many as 2.54 million passenger vehicles in the 11 months.

The commercial vehicles segment has experienced a downward trend since 2012-13. After two years of down cycle, some segments of the domestic Commercial Vehicle (CV) have shown signs of recovery in FY 2014-15. The CV segment has manufactured 7.01 lakhs vehicles during April 2015-February 2016 as against 6.28 lakhs in April 2014-February 2015, thereby registering a robust growth of 11.62 per cent. The CV segment had registered a negative growth of 1.4 per cent during the same period over the previous year.

The growth in this segment has mostly been contributed by the Medium & Heavy Commercial Vehicle (M&HCVs). The production of M&HCVs increased from 2.39 lakhs (April 2014-February 2015) to 3.04 lakhs (during April 2015-February 2016), registering a considerable growth of 27.2 per cent. The light commercial vehicles (LCVs), on the other hand, are still trailing behind. During the same period, the LCVs have registered a marginal growth of 1.8 per cent. The LCVs had registered a negative growth of 11.39 per cent between April 2013-February 2014 and April 2014-February 2015.

The Indian CV market ranks among the top six global markets and is likely to witness robust growth in the next decade as the country strives to develop a modern infrastructure spanning the metros, Tier 1, 2 and 3 towns. Recognising the growth potential of India, almost all the major global OEMs have set up base here and are eyeing a slice of the large market. Home-grown players like Tata Motors (44% market share currently) and Ashok Leyland (18% market share currently) have dominated the market for the past decade and more. The same decade has also seen premium European players like MAN...
Truck, Daimler Trucks, Scania and Volvo enter the Indian market. This has turned the M&HCV market very competitive, resulting in some very modern trucks and also improved dealer networks and after sales practices, with a sharp focus on total cost of ownership.

In the domestic market, **Tata Motors** manufactured 3.16 lakhs units during April 2015-February 2016 as compared to 3 lakhs units during the same period in the preceding year. **Mahindra & Mahindra**, as a result of its outstanding performance in the small commercial vehicle and pick-up segment, has become the second largest player with a market share of 24.54 percent in the overall CV segment. During April 2015-February 2016, the company sold a total of 1.73 units against 1.59 units during the same period in the previous year. **Ashok Leyland**, which sold 1.23 lakhs units in as compared to 0.94 lakhs units in during the same period in the previous year. **Force Motors** registered 13.37 percent growth, selling 21, 394 units in April 2015-February 2016 as against 18, 871 units in April 2014-February 2015. While most CV manufacturers saw sales growth in 2015, **Piaggio Motors** and **AMW Motors** saw their sales decline by 27.3 percent and 70 percent respectively.

Despite being the largest three-wheeler industry, in terms of domestic sales and exports, the Indian three-wheelers segment is yet to see a full-fledged recovery. After witnessing a positive year in 2014-15, this segment has again faced a dip in 2015-16. The 3W segment has produced 8.6 lakhs units during April 2015 and February 2016, registering a negative growth of 0.90 per cent. This is due to the tough competition received by the 3W goods carriers from the small commercial vehicles, such as Tata Ace.
While the year 2015 came as a relief for the Indian passenger car market, it gave a halt to the two-wheeler industry which grew tremendously over the last decade or so. The two-wheeler sector recorded an impressive volume CAGR of 10 per cent in the last 10 years, and it had been the driving force of an otherwise dull automobile industry, particularly in the last 5 years. However, the 2-wheeler industry started witnessing a slowdown as soon as the calendar year 2015 began.

The 2W segment has manufactured 171.67 lakhs units during April 2015-February 2016 as against 170.32 lakhs units during the same period in the previous year, registering a marginal growth of 0.79 per cent. This is quite less than the growth rate of 10.39 per cent recorded during April 2014-February 2015 over April 2013-February 2014. The slump in the 2W industry is mainly due to the sluggishness in the motorcycles market. The motorcycles industry accounts for nearly 70 per cent of the market share in the 2W industry. Between April 2015 and February 2016, this industry saw a decline of 2.41 per cent. Interestingly, the scooters/scooterette industry registered an impressive growth of 10.3 per cent during the same period. The graphs below depict the growth trends of motorcycles and scooters between 2009-10 and 2014-15.

![Figure 4(a): Production Trends of Motorcycles](source: SIAM)

The rate of growth of the motorcycles industry has been positive between 2009-10 and 2014-15, except for 2012-13. However, the growth rate has been declining, as could be deciphered from Figure 4(a). The growth rate in 2010-11 over 2009-10 was 24.65 per cent which declined to 14.06 per cent in 2011-12. The growth rate has further declined to 4.39 per cent in 2014-15 over 2013-14.

![Figure 4(b): Production Trends of Scooters/scooterette](source: SIAM)
On the other hand, it could be seen that the rate of growth of scooter industry has been on a constant rise, except in the year 2012-13. The production grew by 28.43 per cent in 2014-15 over 2013-14. During the initial days of motorcycles, scooters had lost due to poor mileage. However, the new models of scooters have proved to provide good mileage. Rapid urbanisation, more numbers of female drivers (both working women and college girls) and senior citizens and greater utility have all contributed to increased demand for scooters. Greater utility implies more storage facility and ability to ferry families more comfortably. Also, the topmost scooter manufacturers in India claim that scooters provide fatigue-free riding. For city riding conditions where heavy traffic with a lot of stop & go commuting, automatic transmission becomes handy by providing convenient ride with no fatigue of gear shifting. With self-start option and ease in driving, these automatic scooters have been a big hit among both male and female and young old.

The demand for tractors in India is largely determined by factors such as rainfall and governmental policies regarding the well-being of the farmers. In the above graph, we could see that the demand for tractors has been the highest in 2013-14. This is due to- (a) favourable monsoon (6 per cent above the average) (b) strong water reservoir content (114 per cent of the previous year’s level) (c) increase in minimum support prices (MSPs) by the UPA Government in March 2013 and (d) greater focus on agriculture, with 27 per cent increase in allocations to Rs. 570 billion.

During April 2015-January 2016, this segment has manufactured 4.84 lakhs units as against 5.39 lakhs units during April 2014-January 2015, which is 10.2 per cent less. The slump in the tractor market is mainly due to dry spell of monsoons for the last two years. Moreover, the rise in MSPs has also been moderate.

**The Journey Ahead**

**Automotive Mission Plan (2016-2026)**

The first Automotive Mission Plan was implemented for 2006-2016. This year marks the end of the first AMP. A review of the AMP 2016 would reveal to what extent we have achieved or fell short of the specified targets. *Firstly*, the automotive industry has achieved the target of incremental employment creation of 25 million jobs over the last decade. *Secondly*, Indian automotive industry has bypassed the target 1, 57, 500 crore due to a significant quantum of investments from foreign and domestic OEMs as well as component manufacturers.
Thirdly, the cumulative domestic sales volume targets of commercial vehicles, passenger vehicles and tractors have been achieved. However, auto-components, two-wheelers and three-wheelers have fallen short of their targets. The auto-component sector witnessed a major a shortfall from the target of 1,20,000 crore. Fourthly, India has succeeded to emerge as a global hub for small cars. As of financial year 2014-15, around 31 per cent of the global sale of small cars includes those manufactured in India. Furthermore, India has also gained world-class recognition with respect to diesel and petrol engines of small capacity, commuter two-wheeler and three-wheeler, low-powered tractors, engine and transmission-related auto-components and components requiring less complex and scale in manufacture.

The second AMP has been framed keeping in mind two lessons from the previous AMP. The first pertains to including more branches of the Government (central, state and local levels) in implementing AMP. Secondly, the AMP is considered to be the guiding document for all policies impacting the manufacture and use of automotive products in India. This is to avoid red-tapeism or bureaucratic responses in unforeseen situations.

The Automotive Mission Plan 2016-2026 (AMP 2026) is the 'collective vision of the Government of India and the Indian Automobile Industry on where the Vehicles, Auto components, and Tractor industries should reach over the next ten years in terms of size, contribution to India’s development, global footprint, technological maturity, competitiveness, and institutional structure and capabilities.' In other words, AMP 2026 aims to define the trajectory of evolution of the automotive ecosystem in India. This plan seeks to benefit multiple stakeholders of the Indian automobile industry, both in India and abroad, including automotive vehicle manufacturers, auto component manufacturers and tractor manufacturers. The core objectives of the AMP 2026 can be stated as follows:

(a) AMP 2026 aims at boosting the Indian automobile industry as the main driver of the 'Make in India' campaign. In the coming decade, India is expected to rank among the top three automotive manufacturers in the world with the automotive sector contributing more than 12 per cent of the country’s GDP and constitute more than 40 per cent of the manufacturing sector. As per this objective of AMP 2026, Indian automotive industry is expected to grow 3.5 to 4 times of the current value of USD 74 billion to USD 260 billion to 300 billion. By 2026, passenger vehicles is probable of increasing between 9.4 and 13.4 million units, commercial vehicles between 2.0 and 3.9 million units, two wheelers to grow to 50.6 and 55.5 million, and tractors to 1.5 and 1.7 million units. The auto-component industry is likely to grow between Rs. 593, 500 crore and Rs. 732,000 crore.

(b) AMP 2026 intends to make the Indian automobile industry a significant contributor of the 'Skill India' programme and make it one of the largest job creating engines of the country. The Indian automobile industry has the potential to create 65 million jobs (both directly and indirectly) in the next 10 years. This would be over and above the 25 million jobs created in the last decade. Moreover, the automobile industry has numerous forward and backward linkages with over two dozen industries across manufacturing and service sectors, across rural and urban areas and across formal and informal sectors.

(c) The focus of the AMP 2026 is to provide 'safe, efficient and comfortable mobility' for every person in the country. In other words, it aims to provide the consumer a choice to access multiple options of mobility.

(d) AMP 2026 targets at improving the net exports of the Indian automobile industry by many times. It recognizes that the Indian automobile industry (both vehicles and auto components) has the potential to scale up exports by 35-40 per cent of its total output in the coming decade. The AMP 2026 prescribes strategies to improve competitiveness, technological advancements, infrastructural investments and branding.

(e) Lastly, the AMP 2026 aims at subjecting the automotive industry to a comprehensive and predictable policy regime that would govern it in a stable and sustainable manner. AMP 2026
envisages implementation of 'End of Life' policy for automotive vehicles and components. Also, BSV norms are to be adopted by 2019 and BSVI norms to be implemented by 2023 for the passenger vehicles segment.

Major Investments

The Indian auto industry has attracted foreign direct investment (FDI) worth US$ 13.48 billion during the period April 2000 to June 2015, according to data released by Department of Industrial Policy and Promotion (DIPP).

Some of the major investments and developments in the automobile sector in India are as follows:

- Global auto major Ford plans to manufacture in India two families of engines by 2017, a 2.2 litre diesel engine (code-named Panther), and a 1.2 litre petrol engine (code-named Dragon), which are expected to power 270,000 Ford vehicles globally.
- The world's largest air bag suppliers AutolivInc, Takata Corp, TRW Automotive Inc and Toyoda Gosei Co are setting up plants and increasing capacity in India.
- General Motors plans to invest US$ 1 billion in India by 2020, mainly to increase the capacity at the Talegaon plant in Maharashtra from 130,000 units a year to 220,000 by 2025.
- US-based car maker Chrysler has planned to invest Rs 3,500 crore (US$ 525 million) in Maharashtra, to manufacture Jeep Grand Cherokee model.
- Mercedes Benz has decided to manufacture the GLA entry SUV in India. The company has doubled its India assembly capacity to 20,000 units per annum.
- Germany-based luxury car maker Bayerische Motoren Werke AG's (BMW) local unit has announced to procure components from seven India-based auto parts makers.
- Mahindra Two Wheelers Limited (MTWL) acquired 51 per cent shares in France-based Peugeot Motorcycles (PMTC).

Union Budget 2016-17 and the Indian Auto Industry

The Union Budget 2016-17, presented by the Finance Minister Arun Jaitley, has introduced infrastructure cess. This cess levies a 1 percent tax on passenger cars – less than 4 meters long and with engines smaller than 1,200cc – which only run on petrol, compressed natural gas or liquefied petroleum gas. In addition, small diesel cars less than 4 meters in length with engines below 1,500cc will be taxed at 2.5 percent while bigger diesel cars will levy an infrastructure cess of 4 percent. Surprisingly, the government did not impose any taxes on two- and three-wheelers, which may bring a rise in demand for these types of vehicles. The finance minister has also introduced a ‘luxury tax to collect tax at source at the rate of 1% on purchase of luxury cars exceeding value of Rs 10 lakh.” Moreover, the customs duty on commercial vehicles will increase from 10 to 40 percent.

This led to strong reactions from the automotive industry, particularly from the passenger vehicles manufacturers. The Government has also introduced the new tax on cars sales aimed at fighting high levels of air pollution and congestion. Indeed India has some of the most polluted cities in the world, such as New Delhi, which is even more polluted than Beijing. However, soon after the temporary ban of sales of large diesel cars in Delhi by the Supreme Court, the new tax represents further disappointment for vehicle manufacturers as they were expecting much more from the Union Budget 2016. There were expectations regarding promotion of alternate fuel technologies, reduction in excise duties, introduction of a scrap page policy, and introduction of Goods and Services Tax (GST).

To cover these new levies, automobile manufacturers have to increase the price of the vehicles subject to infra cess. As a result, Maruti Suzuki India Limited (MSIL) announced that the price of their models would go up in the range of Rs 1,441-34,494. Honda Cars India has also announced an increase of prices in a range of Rs 4,000 to Rs 80,000 for the mainstream models while prices are likely to go up to
Rs 4-5 lakh for luxury cars. The 3-5 per cent increase of Mercedes Benz India entire model range took effect from March 15, 2016. The increase of prices of some vehicles is more than likely to have a negative effect on the overall demand in the automobile market. Consumers’ demand is expected to go up until April when the infra cess will take effect, and then gradually decrease.

Initially, SIAM had anticipated a growth of PVs to be around 10 per cent in 2016-17. According to the SIAM Deputy Director, March is supposed to be a good month with respect to sales. However, post the Budget announcements, this March the sales are likely to drop.

However, one positive Budget announcement has been the allocation of Rs. 970 billion over the next fiscal year on improving and building new roads and highways. This is expected to boost the automobile industry with a lagged effect.

Future Predictions

The Table below predicts the growth of the Indian automobile industry between 2015-16 and 2020-21.

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<th>Year</th>
<th>Passenger Vehicles</th>
<th>Commercial Vehicles</th>
<th>Three Wheelers</th>
<th>Two Wheelers</th>
<th>Tractors</th>
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<td>5.67</td>
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The forecasts have been computed using linear forecast in MS-Excel. Linear forecasting uses past values to predict the future values. Hence, the values might differ largely if other factors are taken into consideration.

Indian automobile industry has huge growth potentials. According to the market research firm JD Power Asia Pacific, India would become the third largest market in the world after China and USA with respect to light vehicles by 2020. By 2020, China’s light vehicles market is expected to reach 35 million units, while that of the US will rise to 17.4 million units. As per the report, of the projected light vehicle sales of 11.9 million units in India by 2020, passenger cars will account for 9.28 million units and light trucks another 2.69 million units.
According to Booz & Company, India is likely to overtake the US, in terms of sales of light vehicles, by 2035. They also stated that India has the capacity to manufacture 6 million plus passenger vehicles per annum by 2020.

Mahindra & Mahindra, India’s largest tractor manufacturing company, has predicted the tractor industry to grow by 5-6 per cent in 2016-17, provided the monsoons remain normal.

**Future Trends in the Automobile Industry**

With the auto-expo 2016, the Indian automobile industry promised a blend of technology and automotives. Automakers plan to make their cars smarter—the kind of cars that can access the internet, read out emails, messages and social media updates, put out displays on an LED screen, pull up a route map, or make calls—all on the command of voice or call an ambulance in an accident. With the recession trend breaking its leashes form the past two years, 2016 is expected to get back on track with the sales of automobiles in the country.

Tata Motors’ Zest, Hyundai Motor India Ltd’s Xcent, and Ford India Pvt. Ltd’s Figo—compact sedan concepts that were on display at the auto show—will boast of similar technologies after their commercial launches.

- Almost self-governing cars are predicted to be on the streets by 2020
- More than half the cars on the streets are going to be powered by diesel by 2020
- Industry watcher Gartner indicates that 30 percent of motorists want parking info. The facility is likely to come up after glitches in the infrastructure catch up.
- High Performance Hybrid cars are likely to gain greater popularity among consumers.

The Indian automobile industry has a prominent future in India. Apart from meeting the advancing domestic demands, it is penetrating the international market too. Favoured with various benefits such as globally competitive auto-ancillary industry; production of steel at lowest cost; inexpensive and high skill manpower; entrenched testing and R & D centres etc., the industry provide immense investment and employment opportunities.
Shrabana & Srejita (S&S): Tell us about your childhood, schooling and higher education?

Mr. Aayush Patodia (AP): I was fortunate to have completed my education in the Oxford of the East (Pune). I have done my schooling from St. Vincent’s High School and post schooling, I pursued my engineering in Production Engineering from College of Engineering, Pune.

I was fortunate to take up a sandwich-course during my engineering. It gives you a working experience for six months in both the third and the fourth years along with six months of theory. That was a changing decision of my life. Engineering taught in colleges is mainly theory. For instance, most engineering colleges have manual lathe machines. But in reality, hardly 5% of work is done on manual lathe machines and 95% work is done on CNC machines. So, I would say those six-six months of work has helped me start my career in terms of managing operations much faster than an engineer completing his 4 years in college would learn.

S&S: Who has been your biggest influence in life?

AP: I have been influenced the most by my dad. The reason for that would be the discipline that he had taught us from the younger days. Not just discipline with respect to work but discipline with respect to money, friends and family and health. He had this amazing talent of making all his co-workers, customers, suppliers and known associates feel like a close knit family.

S&S: Did you ever think of not joining your family business and pursue some other profession? If yes, what?

AP: We have two family businesses- one is forgings & gears and other is an auto-bulb unit. Actually for me it was never about gears or forgings or bulbs. It was always about business. There was never a time when I have thought of not getting into the family business. Business has always been my passion-making a product, selling it and making money out of it. Also one can indirectly help a lot of people who are attached with your business. Since childhood I have always been a part of this extended family, meeting them in the social events of the company. I just could not wait to complete my engineering and join the family business.

S&S: What is the upside of working in a family business? What is the downside?

AP: I was attending a vendor meet where the MD of the company had said an interesting thing- family business means 20% family and 80% business. Irrespective of whether it's family business or a professional business, it is business. Family is there to support one another or a succession could happen. But you would still have to slog over 8-12 hours a day and take care of the desired output. So I
would say family business is just a name. Unless you work hard, neither of your customers nor your
suppliers nor your employees respect you. I think family business is even tougher since living up to a
certain tradition or a benchmark puts further pressure on your shoulders.

S&S: What superpowers would you like to have?

AP: Wow! I would say what better than Iron Man. Though it is not a superpower but it is technology at
its best. I would love to have that kind of power right now. And I also love the care free attitude with
which Robert Downey Jr. carries the role.

S&S: If you could time travel back to the first day of joining the business, would you do certain
things differently?

AP: Definitely, Yes. After I took charge of this business in totality, I was able to make decisions faster.
As long as my father was there, I would let him take the decisions. I had this typical mentality of
passing the problems to the him. But I believe if a person starts taking decisions from the beginning,
right or wrong, you learn more. I have succeeded in my decisions in the last 7-8 years since there was
always someone to guide me. So, one thing I would have liked to change is to start taking charge and
make decisions rather than waiting for someone to give you the charge to take decisions.

S&S: What has been the best business decision taken by you till date?

AP: Outsourcing. Do what you are good at, focus on your core business and outsource the rest.

S&S: Where do you see PreciForge and Gears 10 years from now?

AP: Our vision is to create a company which is a multi-product, multi-customer and multi-location
company. This would give ease to the customers for not having to go to too many suppliers for making
one assembly or product. When we started this company, we were supplying only forgings. Then in 8
years, we have vertically and backward integrated into everything. We are supplying assemblies and
fully finished products to our customers. Today a customer does not come to us for forging. He gives
us a drawing. All the backward integration, the bought-outs are done by us. We provide him with a
final product that is of value to him. The customer does not have the time to manage multiple
suppliers.

So our goal would be to be at least a five-product company in five locations by 2020.

S&S: You are running a company at a very young age. There must be many people, senior to you by
age, working under you. Has this ever created any problem?

AP: There is an unsaid rule across the globe that when two people meet, one easily understands who
the preacher is and who the learner is. So if you, as an entrepreneur, know your stand, dealing with the
seniors is very easy. If you feel that the other person has genuine knowledge, then you should be ready
to absorb everything. But if you meet a person who has just got years behind him and no genuine
knowledge, then in time to come he would start following you. He would understand that you are far
ahead in thought process or in execution. Of course, there is a third kind who have excessive ego. They
are always out of the race and there is no point in actually talking about them. So either you absorb or
you impart knowledge.

You know, about 9 years back I had zero knowledge about forgings. Of course I knew the basics from
my engineering days. But today, I have prepared a training module which I am going to give to my
people on the setup that we have and the important forging characteristics of our business. That is only
because I have been able to absorb over the years from the learned employees rather than saying, ‘I am your boss and I would not learn anything from you.’ I feel good when at times some of them come up to me and even ask for solutions. So, I would say experience is not about years you’ve put in, but what you’ve put in those years.

S&S: What are your thoughts about the corporate social responsibility (CSR)?

AP: I believe that CSR should not be done for just the sake of it but for the purpose of giving back to the society. It could be a very small thing, like, we have built 7-8 toilets in a girls’ school. This would help them to have separate toilets of their own. General hygiene, I believe, is basic and very important. Having separate toilets in the vicinity is very important. We have also funded 5 eco-mobile toilets. These toilets could be placed in those villages without sewage systems and are completely green and eco-friendly.

Rather than just contributing some funds without knowing what it would be used for, I think SMEs should appreciate such small and meaningful contributions. An eco-mobile toilet costs Rs. 20,000. I am sure every member company of AIFI can definitely donate Rs. 20,000 a year. So if you have a company in any village or inaccessible area, you can talk to the Gram Panchayat and donate one toilet a year. This would go a long way in giving back to the society.

S&S: Has PreciForge & Gears come up with any new innovation in the recent years?

AP: We are basically trying to break through barriers that have never been tried in the forging industry before. We are trying to get to near net shape in what we are doing. The most important thing for every organisation is to revisit your processes or product frequently. And there should be some improvement in it. And that is what we are trying to do. We have, in fact, set up a formal structure to do it which gets reviewed every year. We are planning to add a new product line to our group very soon.

S&S: How do you plan to lessen the carbon footprint of your company?

AP: A lot of companies still run their equipment on furnace oil and on other combustible oils which are not clean leaving a lot of fumes. I believe that companies should start thinking about solar power which is also very cheap. The cost of solar power has gone down than what it was 5 years back. We have set up a 0.6 MW solar power plant which has reduced our dependency on MSEB by about 15-20%. So we are generating 20% of our entire factory's consumption on our own in a completely clean way.

Also a lot of new induction technology has come up in the recent years which are far greener and efficient than LDO or furnace oil. At our end, we are 100% induction-based and we do not have a single FO or LDO fired furnace.

S&S: Can you share some of the strategies/reward mechanism you adopt to incentivise your employees?

AP: We have three reward mechanisms. One is where our operation head takes a daily plant walk through audit. Whenever he comes across some really exemplary work done i.e. where effort has been more than the normal, the person is rewarded with a simple thing such as a pen or a small cash reward in an envelope or a helmet on the spot itself. Basically the person is rewarded on the shop floor so that his colleagues are also part of the appreciation process and hence it works as a motivation for people in the organisation. This happens on a daily basis.

The second is where we have a Kaizen competition. Kaizen simply refers to the improvement
activities done by people. So the maximum number of Kaizens done by a person and the best Kaizen are rewarded on a monthly basis. It's kind of a competition. For instance, in our assembly area there is a pipe that supplies compressed air. The machine that produces this compressed air consumes a lot of power. So during the lunch break when the assembly is shut they should generally shut the valves so that there is no wastage of the compressed air. But this used to never happen for last seven years. One day one of our employees found a solution to it. A lever was there already there to shut it but it was almost 20 feet high so nobody could access it. So he brought the lever to the shoulder height and during the lunch break he closes it and stops the compressed air from being wasted. It might be a simple idea but the idea of improvement which he has installed in his juniors is commendable. So the point is to improve even by small efforts because if you don't improve you go behind. There is no stagnant water in this business. Imagine 125 million people in India trying to improve. How amazing that would be! But say we are 550 people in our company, and all of us trying to improve every day, doing one good idea every day, it brings an altogether different level of efficiency. So that's the second level. On the third level, we have our HoDs wherein they have a target for improvement and they are rewarded depending on the targets achieved. They have an annual target in this case.

S&S: On a scale of 1 to 10 (1 being the worst and 10 the best), where would you rank India in terms of ease-of-doing-business?

AP: See it depends. I will give you two views. Someone who has been born and brought up in India, for him to do business here is not very difficult. So if you ask me to quote a number, it would be anywhere between 7 and 8 but for someone who is not from here it would be between 4 and 6.

Well some things are so “Indian” that if you are not used to them you will feel very offensive. You will feel like someone is evading your privacy. Or say, for example we have got used to excessively chasing people for getting our work done. That’s a grass root problem and it applies everywhere whether it’s a government organisation or private organisation.

But I guess the current government has taken some steps which are truly worth appreciating. The number of points that we need to touch upon to start a business or the approvals required has gone down drastically. So if you compare the situation 10 years back and today, doing business in India has become very simple, the manufacturing industry per se.

S&S: According to you, is the Union Budget 2016-17 industry-friendly?

AP: I have not gone through it yet fully. But if we talk with respect to AIFI, I feel AIFI primarily consists of SMEs. An individual company is a very small speck of the GDP. SMEs put together have a large contribution but considering at an individual level, say aorganisation like us, is a very small speck with respect to the entire Indian economy. So our business irrespective of whether we are doing well or not does not depend on the budget or allocation of money. It depends on our expertise to get the business. So I would rather tell all the SMEs that don’t look towards the government or the budget or a subsidy to really fund your business. Have confidence in your business, go out into the market and grab a business and do well. The consumption levels in our country are very high. In the last few years how many companies have you seen to add on capacity? According to the BDB data, 13% companies have shut down year-on-year. This implies 25% of the capacity has been wiped out off the market on itself. So it’s not always about growing but it is sometimes about rationalising. So this downturn that happened eliminated the inefficient ones. Does a two percent increase or decrease in excise duty really propel your market to double? So all SMEs should focus on playing through their own strengths rather than government policies.
S&S: The current rail budget plans to increase the competitiveness of the Indian railways through goods traffic by reviewing the freight structure on a whole. In such a situation, do you think, the manufacturing industry (which is usually more dependent on road transportation) would shift to rail transport?

AP: Absolutely. See in the manufacturing business the inputs are all core products you have steel, cement, sponge iron, coal etc. Transferring these from one point to another is very expensive by road and very cheap by rail. But the problem is that a lot of government hassles are involved. But I am sure if the rates are improved, it will be a huge benefit for the industry. Steel or cement costs will get reduced. Iron ore price will come down and things will improve. Also it’s more reliable and safe. Even the passenger segment, if further improved, will help businesses to grow and ensure connectivity.

S&S: Do you consider the current automation technologies of the Indian forging industry affordable and implementable by the small and medium forging units?

AP: I think SMEs are far behind in terms of automation. This is more because of the mind-set of the promoters. Of course, the upfront costs for implementing automation are higher. But from a long term point of view it is definitely very effective. Moreover, a lot of low cost automation technology is available in India today which needs to be explored because being always human-dependent is not suitable for consistent quality output. You surely need people for the business. But I believe that there are a lot of processes in the forging industry where ensuring safety is required. Forging done manually is not very safe. Accidents have happened in the past. So if we use automation, further efficiency as well as safety would be ensured.

S&S: What sort of training programmes should be arranged by AIFI and for which level of employees?

AP: Most of the members of AIFI are small and medium enterprises (SMEs). So the supervisors or the people working under them need to be trained; especially the supervisors. Because these are the people who keep on shifting jobs to get better pay scale but at the end of the day they are not really well trained. Once a month training where these companies would be paying Rs. 500-1000 per person could be arranged. If AIFI conducts a training programme with a standard course materials focusing on issues like quality, manufacturing, maintenance (for example maintenance for presses, hammers or induction heater) that would be helpful. Otherwise these things are usually outsourced or the machine manufacturer is called. These training programmes would be beneficial particularly for the smaller companies who may not be able to afford such in-house training for the employees.

S&S: Do you believe that the Association has been successful as the spokesperson of the Indian forging industry? What should be the road map of the AIFI?

AP: The Forging Association has rightly represented the industry at the national level to the government or other bodies. My suggestion for the association could be – today forging industry per se is not a very attractive industry, people don't want to be in this environment in general. Therefore, making this industry more attractive to young and educated people is the need of the hour. So as AIFI started few years back, it should encourage its members to employ fresh candidates from engineering colleges. PreciForge and Gears employed four employees from College of Engineering, Pune (COEP). They were assigned under mentors and trained. Some of them are still with us and are doing an excellent job. SMEs are the real place where they can grow and learn. In a bigger organisation one is usually stuck in one department. But in an SME you have an idea of what's happening in the forge shop, in the tool room, in the machining. So you tend to learn a lot of things.
When I was in COEP, 80% of the people in my batch opted for IT jobs. I know the salary is better there and the work is less and you get work in a cleaner environment. Hence, if we as the industry don't take any initiative to get them, our human resources are going to get scarcer and scarcer. So the forging units, along with the association should make it a policy to hire through engineering colleges.

S&S: There has been a recent but gradual change in the governing body of AIFI with the participation of young entrepreneurs/leaders. Have you ever thought of taking up such responsibilities of the Association?

AP: Sure why not! If I am able to add value to it then, definitely.

As told to Shrabana Mukherjee & Srejita Nandy
Focus : A New Feature

Letter to the Editor

We have been thinking for some time how to make our Association Journal, FOCUS, more interesting. We think one way of doing this is to include letters from the readers themselves.

From the next issue of Focus, we intend to start a new segment- Letter to the Editor- where readers could share their experiences on various subjects or express their views on different matters. These could be technical, commercial or managerial. The length of the letter should not exceed one page.

We also welcome any suggestion from you on topics that you would like to read or to improve the quality of Focus.
## Key Economic Indicators

### Macroeconomic Indicators (July-September, 2015)

<table>
<thead>
<tr>
<th></th>
<th>In Rupees Billion (at 2011-12 Prices)</th>
<th>Q-o-Q Growth (%) (2015-16 Q3 on 2014-15 Q3)</th>
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<tr>
<td><strong>Gross Domestic Product (GDP)</strong></td>
<td>28,523.39</td>
<td>7.3</td>
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<tr>
<td><strong>Current Account Deficit (CAD)</strong></td>
<td>-468*</td>
<td>-2.09*</td>
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<tr>
<td><strong>Foreign Investment</strong></td>
<td>697</td>
<td>14.68</td>
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*Negative sign indicates Current Account Surplus

### Macroeconomic Indicators (Base: 2012=100)

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<thead>
<tr>
<th></th>
<th>Y-o-Y Growth (%) (2015-16 over 2014-15)</th>
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<tr>
<td><strong>Consumer Price Index (CPI)</strong></td>
<td>4.8</td>
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<tr>
<td><strong>Wholesale Price Index (WPI)</strong></td>
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<td><strong>Index of Industrial Production (IIP)</strong></td>
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### Core Sectors

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<th>Q-o-Q Growth (%)</th>
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<tr>
<td><strong>Agriculture, forestry &amp; fishery</strong></td>
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<tr>
<td><strong>Manufacturing</strong></td>
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<tr>
<td><strong>Mining &amp; quarrying</strong></td>
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<tr>
<td><strong>Electricity, Gas, Water supply and other utility services</strong></td>
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<td><strong>Services</strong></td>
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### Items

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<tr>
<td><strong>Minerals &amp; Metals</strong></td>
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<td>Iron ore</td>
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<td>Coal</td>
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<td>Finished Steel</td>
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<td><strong>Major Crops</strong></td>
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<tr>
<td>Wheat</td>
<td>95.76</td>
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<tr>
<td>Rice</td>
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<tr>
<td>Pulses</td>
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<td>Oilseeds</td>
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*Source: Central Statistical Organisation (CSO), Government of India.*
AIFI Initiatives at a Glance
(January 2016 - March 2016)

- The third meeting of the Managing Committee for the year 2015-16 took place on 18th March, 2016 in New Delhi. A Biennial Conference has been planned to be organized in the first week of December, 2016.

- Northern Region Meeting was held on 18th March, 2016 in New Delhi.

- An interactive meeting was held with the non-member companies in Faridabad on 17th March, 2016.

- Southern Region Meeting was held on 16th February, 2016 in Chennai, Tamil Nadu.

- A meeting with the press was held on 25th February, 2016 in Chennai, Tamil Nadu. Mr. S Muralishankar (Super Auto Forge Ltd.) and Mr. Vidyashankar Krishnan (MM Forgings) addressed the media on the issue of adverse impact of high steel prices on the forging industry.

- One-day training programme was organized by AIFI, in collaboration with Transvalor SA (France) and NX Technosys Pvt. Ltd. (Pune, Maharashtra) on 'Simulation Technologies for Metal Forming Industry'. The training programme was held in Pune (15th February 2016), Chennai (17th February 2016) and New Delhi (19th February 2016). In all 56 delegates attended the programmes.

- During the quarter January-March 2016, Western Region Meetings were held on 29th January, 26th February and 29th March. In the month of January, representatives of Maharashtra State Power Generation Company (MAHAGENCO) addressed the power situation in Maharashtra. In March, a presentation on 'Solar Energy and the Forging Industry' was made by Maharashtra Energy Development Agency (MEDA).

- The Association Published the 2016 edition of the Forging Directory in March 2016. The directory comprises details about 168 member companies.

- The Indian Forging Industry Report-2016, based on the survey conducted by BDB India Pvt. Ltd. was launched on 21st March, 2016 at the AIFI office premises, Pune. The survey report covers 384 forging units (both AIFI members & non-members) across India.

Launch of Indian Forging Industry 2016 Report in presence of. Amitabh Chandra, Secretary General, AIFI (second from left) and KC Mani, Managing Director, BDB India Pvt. Ltd. (third from left)
SME sector seeks open rules, institutional finance (Reprinted from Times of India, February 25, 2016, Pune): More institutional funding at cheaper rates for micro, small and medium enterprises (MSMEs), easing up of inspector raj and interest rebate are some of the key areas, which experts believe, should be considered in the Union Budget to propel the growth of the MSME sector.

The MSME sector contributes about 38% to the gross domestic product (GDP) and provides employment to over 10 crore people. In his budget speech last year, the finance minister Arun Jaitley had said there are over five crore small business units, which run small manufacturing, trading or service businesses. As many as 62% of these are owned by SC/ST/OBC.

"These bottom-of-the-pyramid, hard-working entrepreneurs find it difficult, if not impossible, to access formal systems of credit," he conceded, adding, "I, therefore, propose to create a Micro Units Development Refinance Agency (MUDRA) Bank, with a corpus of Rs 20,000 crore, and credit guarantee corpus of Rs 3,000 crore."

According to government data on Mudra website, the financial institutions have sanctioned about 2.73 crore loans. The loans disbursed under the scheme totals Rs 1.02 lakh crore. This works out to an average of Rs 37,476 per loan - clearly insufficient to grow an enterprise, experts said.

"One of the felt needs of Indian forging units is to keep up with the technological progress in the industry. However, as the industry is capital intensive, many of the units particularly those in the SME sector are unable to bear the financial burden of additional investment... A technological upgradation scheme must be introduced for the forging industry on the same lines as for the textile industry. This would enable the forging units to avail bank loans at approximately 5% lower than the market rate towards acquiring modern technology. This would, in turn, make the Indian forging industry more competitive in the international market," said Ranbir Singh, President, Association of Indian Forging Industry.

Also, the industry wants SMEs below a certain size be freed from inspector raj.

"We will abide by the government norms and the units employing less than 100 people, should be given concessions. So, they don't have to spend their time to follow so many laws. If this happens, they will grow faster and do a good job in becoming high-quality ancillary suppliers. We can't have ancillary suppliers who employ only 10 people," said Arun Firodia, Chairman, Kinetic Engineering.

Nitin Bankar, President, Pimpri Chinhwad Small and medium scale industries association, said, "SMEs don't get anything from government tenders for railways, defence, road building etc. Such tenders must be more open to let SMEs participate."

According to Shishir Joshipura, Managing Director, SKF India, "The tax structures must be made simple and predictable for SMEs and manufacturing to grow."

Forging Industry Demands Transparency In Steel Pricing (Reprinted from Financial Express, February 26, 2016, Chennai): The Association of Indian Forging Industry (AIFI), the apex body of the sector and a key player in the auto component manufacturing sector, has demanded transparency in steel pricing by aligning to a weighted index of prices of essential inputs for steelmaking and relaxation in mandatory BIS certification for carbon steel imports.
“Currently, the industry is faced with an unprecedented crisis due to factors like steel pricing issue, minimum import price (MIP) on steel imports and compulsory BIS certification. The forging industry being a critical part of the Indian manufacturing industry stands to get adversely impacted and these challenges need immediate attention,” said Muralishankar Sambasivam, Vice-president, AIFI.

Addressing media persons on Friday, he said apart from catering to the automotive sector, solar, aerospace, railways and wind sector, the forging industry also plays a key role in contributing to the forex by way of huge exports.

As per a survey conducted by AIFI in 2016, the estimated turnover of 384 forging units operating in FY15 was Rs 6,100 crore, providing employment to around 100,000 people. The investment in plant & machinery also increased from Rs 15,500 crore in FY14 to Rs 27,833 crore in FY15. Overall production of forgings increased from 21.1 lakh tonne to 22.5 lakh tonne, he pointed out. “The key challenge and concern before us is the global slowdown, which has roiled commodity markets and lowered steel prices to more-than-a-decade-low levels in the last 18 months.

Prices of major input materials like steel scrap, coke, iron ore have dropped by more than 30% globally over a year. Internationally prices for plain carbon steel used for the forging industry has come down to as low as $390-$450/tonne,” he said.

Cutting iron-ore prices is key to reviving forging industry (Reprinted from Hindu Business Line, February 26, 2016):Reducing iron ore prices and removing mandatory Bureau of Indian Standards certification for steel imports can revive the Indian forging industry, according to S Muralishankar, Vice-President, Association of Indian Forging Industry.

Addressing media persons, Muralishankar said one of the major challenges faced by the industry is the disparity in the pricing of iron ore, an essential raw material for making steel. Indian steel and its allied industries have been going through a rough patch for the past 18 months when the global prices of major input materials like scrap, coke and iron ore dropped by over 30 per cent. The drop in raw material prices was reflected in production of plain carbon steel used for forging industry that have come down to Rs. 27,000-Rs. 30,000 per tonne internationally. But the rate has not fallen in India in part due to the stagnant iron ore price, which stands at Rs. 5,500 per tonne as opposed to Rs. 3,000 a tonne for imports.

Muralishankar said raw materials amount to 50 per cent of the total cost, denting profit margins. “In order to be competitive, we had to maintain our cost to match the international pricing level,” he added.

Vidyashankar Krishnan, Vice-Chairman and Managing Director, MM Forgings, said slashing iron ore prices to Rs. 2,500 per tonne, will not only bring down cost of steel but will also encourage more exports with better price points. “To facilitate this, a mechanism to ensure pricing transparency in line with global standards should be implemented,” he added.

Mandatory BIS certification has also impacted the industry as the exporters have to go through the process that takes an additional 3-4 months. Krishnan said, “These steel mills are approved by their respective certifying agencies and do not want to go through the trouble of BIS certification since export to India is very small portion of their overall production,” he added.

Forging Industry in a flux due to high steel prices (Reprinted from Times of India, 26 February, 2016):The forging industry, which makes components like steering, gear boxes, supplies more than 60% of its products to auto parts makers.
Domestic steel prices are ruling at 35,000-36,000 per tonne, while global steel prices are falling at $400 to $450 per tonne (Rs. 27,493- Rs. 30,930) for a similar grade of alloy steel. Players in the industry feel that the price parity has led them to lose out on the domestic and international business.

"Domestic prices are higher and with the minimum import price levied on imported raw material (to avoid dumping from China) it becomes expensive for domestic players to manufacture components for the auto industry and others," said Muralishankar Sambasivam, VP, Association of Indian Forging Industry - an umbrella organisation for the forging sector.

Drop in steel demand from China coupled with excess production capacity has impacted steel manufacturers worldwide. Additionally, Indian manufacturers are facing a hostile import scenario, with rise in cheap imports from South Korea, Japan, and China.

To provide temporary respite from imports, the government has increased minimum import price (MIP) on steel. The MIP - imposed on 173 steel products - ranging between $341 and $752 per tonne.

**Cut ore prices: Forging Industry (Reprinted from The Hindu, 26 February, 2016, Bengaluru & Chennai):** The Association of Indian Forging Industry (AIFI) has urged the Centre to slash the price of iron ore immediately to help the steel industry become more competitive.

AIFI Vice President S. Muralishankar recently told reporters: “The forging industry is facing an unprecedented crisis due to factors such as steel pricing, minimum import price of steel and compulsory BIS certification. This sector, being a critical part of the Indian manufacturing industry, stands to get adversely impacted and these challenges need immediate attention.

“The auto-components industry is one of the key sectors contributing to foreign exchange reserves. If the steel prices are not adjusted in line with the global trend, then the Indian auto component industry will become uncompetitive and will lose out to other countries. The Centre should slash the price of iron ore by Rs. 2,500 per tonne,” he said.

There are over 380 forging units operating in the country with a total turnover of Rs.28,000 crore, of which export revenue is Rs.6,100 crore. In the year 2014-15, total production of forgings was 22.5 lakh tonne.

Following a 30 per cent drop in input costs such as steel scrap, coke and iron ore, steel mills across the globe have adjusted their selling prices.

International prices of plain carbon steel have also come down. However, the significant drop in input costs was not seen in finished Indian steel prices. This made it unviable for domestic firms to manufacture and export, said MM Forgings Vice Chairman and Managing Director Vidyashankar Krishnan. Compared to imported steel, domestic prices had been on the rise since 2008. And, over the last 18 months, the difference between the prices of imported and domestic steel has increased sharply to Rs. 6,000 per tonne.

Original equipment manufacturers and other major users have started importing finished forgings from Korea and Taiwan as imports are cheaper.

Import of iron ore has become viable due to a sharp decline in global prices. Freight rates have also fallen heavily, adding to the viability of imports, Mr. Krishnan said.
Discuss the broad contours of the Indian forgings industry and its contribution to the manufacturing sector.

Mr. Singh: The Indian forging industry is an integral part and a major contributor to the manufacturing sector. Forgings are required by almost the entire manufacturing sector, from general engineering, capital goods, to power generation and distribution, to name a few, which are the backbone of the manufacturing sector. Besides, we have defense, railways and the automotive and the aircraft industry. The Indian forging industry is recognized globally for its technical capabilities. With an installed capacity of around 37.7 lakh tonnes per annum (tpa), Indian forging industry has a capability to forge variety of raw materials like carbon steel, alloy steel, stainless steel, super alloy, titanium and aluminium.

Tell us about the two extremes of the Indian forgings industry—the large players in the organized sector and the small/tiny unorganized players.

Mr. Singh: Forging units are usually classified basis the installed capacity of the forging unit. The forging units may be classified on the basis of physical capacity. So we have: 1. Very Large (capacity above 75,000 tpa); 2. Large (capacity between 30,000 and 75,000 tpa); 3. Medium (capacity between 12,500 and 30,000 tpa); 4. Small (capacity between 5,000 and 12,500 tpa) and 5. Very Small (capacity below 5,000 tpa).

Based on this classification 87 per cent of the total number of units falls under the small and very small category, while only about 5 per cent are large and very large units. The balance of about 8 per cent constitutes the medium sized units.

What is the current membership of AIFI and what has been the growth in membership in recent years?

Mr. Singh: The AIFI is an all-India body of the Indian forging industry and has close to 220 members across India. Currently, there are about 175 (ordinary) members and about 45 associate members of the association. The AIFI family commands large market share of about 80 per cent of the total production of the Indian forging industry. Since its inception AIFI has witnessed a steady growth in membership and we expect it to grow to about 250 within the next two years.

The products manufactured by the members range from rough forgings and machined parts like crankshafts, connecting rods, camshafts, shifted fork, steering components, crown propeller shafts, gear box components; crown wheel and pinions, front axle beams, rear axle shafts, earth moving link, railway wheels, flanges, pipe fittings to industrial valves.

What is the representation of MSMEs in AIFI’s membership? Is AIFI consciously trying to increase membership in this category?

Mr. Singh: About 62 per cent of the members of the AIFI represent the MSME sector. Presently there are no special programmes for this sector that are run by the Association. However, membership fee payable by a member is on a graded scale and is linked to its sales. Special programmes of the government of India for the MSMEs are disseminated by the AIFI. The association has been trying to increase its membership across all sizes of forging units.
We understand that the automotive industry is the biggest user of the forgings industry. Are there other emerging application industries?

Mr. Singh: The automotive sector currently accounts for about 61 per cent of the forging sales, while the non-automotive sector contributes about 39 per cent. However, going forward in order to de-risk and reduce its dependence on the automotive sector, the Indian forging industry is consciously making efforts towards upgrading technologies and diversifying product range to expand its customer base to emerging sectors including aerospace, energy, oil & gas, heavy engine parts, defence, construction equipment, power generation, power transmission and distribution. Today Indian forging industry is also trying to diversify into areas like electrical industry, oil and wind sectors.

How is the Indian forgings industry faring in terms of exports?

Mr. Singh: The industry is increasingly tapping opportunities arising out of the growing trend among global automotive OEMs to outsource components from manufacturers in low-cost countries. As a result, the Indian forging industry has been making significant contributions to the country’s growing exports.

The Indian forging industry, as a part of the manufacturing sector, has played a significant role in the Indian economy, with an estimated size of around Rs.20, 200 crore in FY13. Of this, approximately Rs. 4,500 crore was attributed to exports in the same period.

With setting up of international purchasing offices (IPO) by major global OEM and Tier-1 industries lot of forging companies in India are expected to play a bigger role in their sourcing strategy. In order to meet their expectations the Indian forging industries have already expanded their operational spectrum to cater to finished and ready to assemble parts rather than supply of simple forgings.

With business sentiments having improved in India, in the coming years we expect to see improved business activity which will consequently push the demand for forging products as well as exports.

What are the key priority areas of AIFI to promote the growth of the Indian forgings industry?

Mr. Singh: AIFI’s key role is to promote and develop the Indian forging industry so as to meet the demands and expectations of the stakeholders. This, it seeks to achieve by improving and providing a conducive business environment for its members. AIFI also keeps its members abreast of the latest technology in forging and market intelligence.

Some of the key activities also include building and strengthening database of its members; developing, maintaining and promoting global standards; participating in and organizing conventions, seminars, conferences, etc;

AIFI is also actively involved in emerging areas like technology up-gradation and achieving cost efficiencies with energy conservation by collaborating with government institutions like PCRA and other developmental institutions.

The association also regularly interacts with suppliers of raw material (mainly steel producers), user industries (primarily the automobile industry) and educational institutions in the field of forging technology.
Encourage proactive dialogue between the industry and Government (both in terms of suggestions for policy making and problem-solving), as also between the industry and the market (User industries — domestic and global).

What does the “Make in India” campaign mean to you with respect to the Indian forgings industry?

Mr. Singh: The Make in India initiative has definitely been a good move in the right direction to give the necessary boost to the overall manufacturing sector. It has created an all-round positive business environment and sentiments. The campaign has definitely been fruitful for certain segment of the forging industry and we are anticipating an increase in demand from the non-auto sector in the medium and long term.

Having said this there are certain issues that needs immediate attention. The need of the hour is to address issues like faster clearance of mega infrastructure projects which have been pending for quite a long time. Investments in the development of overall infrastructure being executed on priority, both in the public and private sectors, will result in pickup of demand, among other things, in commercial vehicles, construction industry and capital goods sector. All these will have a multiplier effect on the Indian forging industry.

The Indian Commercial vehicle Industry is flat today. Unlike the European and American countries, India does not have the system of scrapping the old vehicles. Even today we find the trucks manufactured during the 1970s plying in the highways. Once the government implements the latest emission norms, it will force the older vehicles to go out of the road thereby creating market for new vehicles and it can kick-start the growth in the commercial vehicle sector which is a major customer for the forging industry.

How do you see the road ahead for the Indian forgings industry and what would be the principal growth drivers?

Mr. Singh: The Indian forging industry needs to leverage the market opportunity through focused approach on increasing productivity, upgrade of technology rather than mere capacity expansion. The industry has to constantly look for opportunities to increase productivity. The future of the industry does not look as dismal as it was 2-3 years back. It will not be out of place to assume a growth rate of about 10 per cent from FY17 onwards.

Today the global market demands high quality and consistency in production and there is a huge liability for failure. In this context, cheap labour does not have much relevance. Hence the forging Industry is looking for automated production to achieve the above objectives.

Several forging plants are being shut down in the developed nations and it is up to the Indian forging community to grab the opportunity.
AIFI CORNER…

Training Programme at Pune
(15.02.2016)
Training Programme at Chennai (17.02.2016)

Training Programme at New Delhi (19.02.2016)

Southern Region Meet at Chennai (25.02.2016)
Interactive Meeting With Non-members at Faridabad (17.03.2016)

Western Region Meets at Pune
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