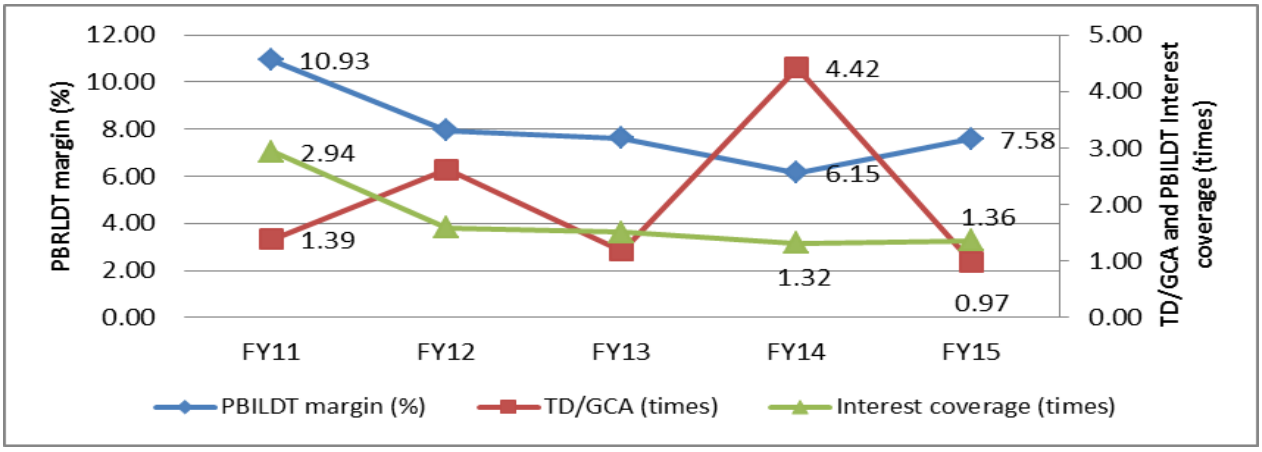
Indian transformer industry: Stable outlook with a few signs of revival

The Indian Electrical Equipment (IEE) industry, which includes power generation and transmission & distribution (T&D) equipment, is estimated to be worth Rs.1.40 lakh crore in FY15 (FY refers to the period April 1 to March 31). The transformers sub-segment comprises around 10% of the total IEE industry and had an aggregate installed capacity of around 4.20 lakh mega volt ampere (MVA) as on March 31, 2015.

Over past few years till FY14, entities in the Indian Transformer Industry witnessed decline in profitability and deterioration in debt coverage indicators, as depicted in exhibit 1. However, FY15 witnessed a reversal in profitability trend with a marginal improvement over FY14.

Exhibit 1: Financial performance of transformer manufacturers



Note: Median financial parameters of listed transformer manufacturers, which form around 85% of the industry in terms of turnover for FY14, have been considered

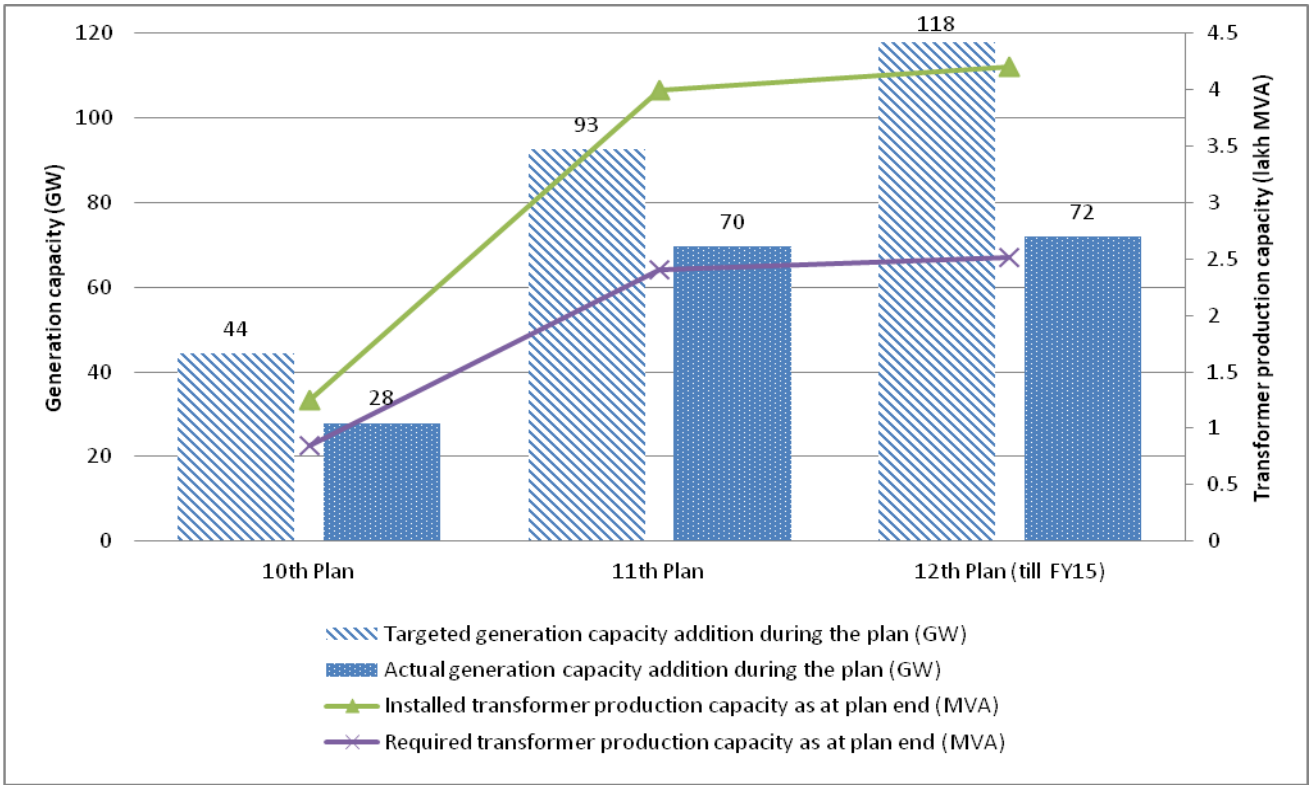
1. The key factors that led to subdued financial performance:

1.1 Huge transformer manufacturing capacity build-up

Government of India (GoI) planned huge power generation capacity addition for 10th and 11th five year plans (FYP). However, the addition lagged behind the targets, mainly due to delays in land acquisition, environmental and forest clearance issues, uncertainty over fuel linkage and tightening of credit flow.

The domestic transformer manufacturing entities almost doubled their manufacturing capacity to around 4 lakh MVA at the end of 11th FYP, based on expected addition in power generation capacity. However, with lower capacity additions in generation sector, the transformer manufacturing capacities remained underutilized. Considering requirement of 7 MVA of transformers for 1 MW of power generation, the present transformer manufacturing capacity could suffice an annual domestic power generation capacity addition of around 60 GW.

Exhibit 2: Targeted and actual power generation capacity addition over last three plans



Source: Central Electricity Authority (CEA) & Indian Electrical and Electronics Manufacturers' Association (IEEMA)

As depicted above, over past three FYPs, the installed capacity exceeded the required capacity, leading to heightened competition, lower profitability and lower cash accruals.

1.2 Reduction in orders and surge in imports

Apart from slippage in power generation capacity addition, a slowdown in investment cycle and weak financial health of the state power utilities affected the demand for transformers and resulted in lower order inflows. High AT&C[1] losses of around 25%[2], is one of the reasons for weak financial health of state power utilities, which has affected their ability to execute their capex plans fully.

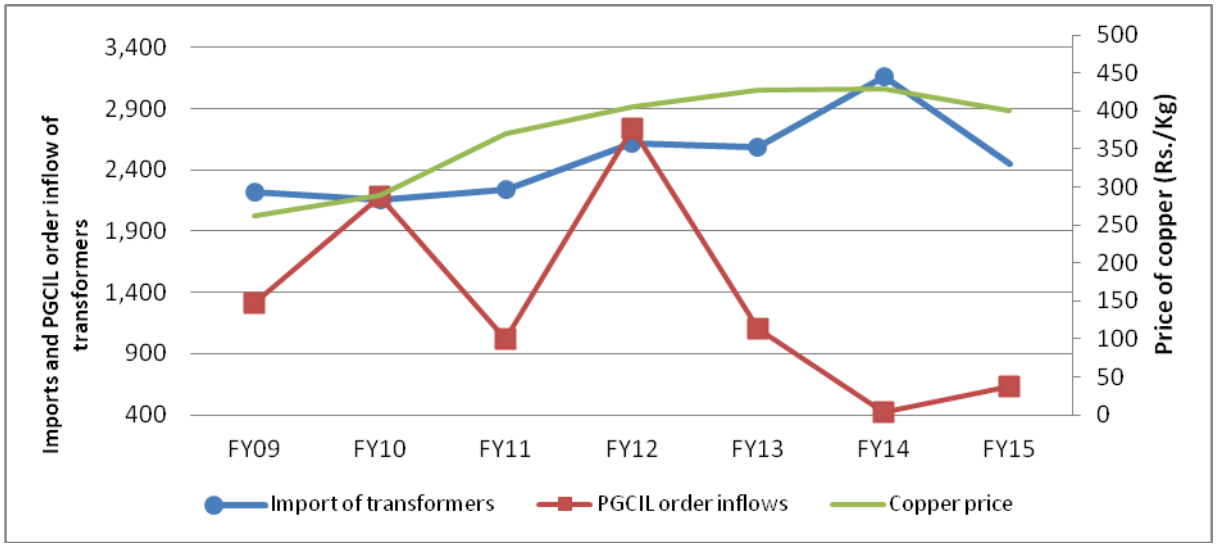
Furthermore, imports of transformers in India increased over past few years, as depicted in exhibit 3. Reduced order flow alongwith increase in imports, mainly in higher KV class, adversely impacted plant utilization. Majority imports were from China, which comprised 39% of total FY14 imports[3]. Competitiveness of Chinese transformer manufactures is mainly due to subsidized material prices, export incentives and low cost of funds.

[1] *Aggregate technical and commercial*
[2] *CEA*
[3] *IEEMA*

1.3 Increase in material costs

Price of copper, which is a key raw material forming around 30-35% of total transformer cost has increased over the years, as depicted in exhibit 3.

Exhibit 3: Imports of transformers, transformers orders from PGCIL and price trend of copper



Source: Ministry of Commerce and Industry, GoI, Capitaline and Index Mundi

Furthermore, cold rolled grain oriented (CRGO) steel, another key raw material forming around 20% of the total transformer cost is fully imported in India with no domestic manufacturing facility. Hence, the transformer manufacturers remain susceptible to forex movements. To address concerns related to high transformer failures rates, GoI introduced 'Steel Quality Order' in 2012 to mandate the use of Bureau of Indian Standards (BIS) certified CRGO. However, the order does not apply to imported transformers or laminated cores, which results in lack of level playing field for domestic manufacturers vis-à-vis their global counterparts.

1.4 Increase in working capital borrowings and high working capital intensity

Lower cash accruals, delayed payments from clients including state power utilities and private players and delays in project execution resulted in tightening of liquidity, as reflected by an increase in the median gross operating cycle[4] of listed transformer manufactures from 166 days in FY11 to 240 days in FY14. This was largely funded through incremental bank borrowings in light of lower accruals. As a result, the median overall gearing also increased from 0.27x as at the end of FY11 to 0.60x as at the end of FY14.

Further, the operations of manufacturers in India are more working capital intensive vis-à-vis their global counterparts, mainly due to relatively higher inventory holding and receivable period, lack of adequate

[4] *Average Receivable days + Average inventory holding days*

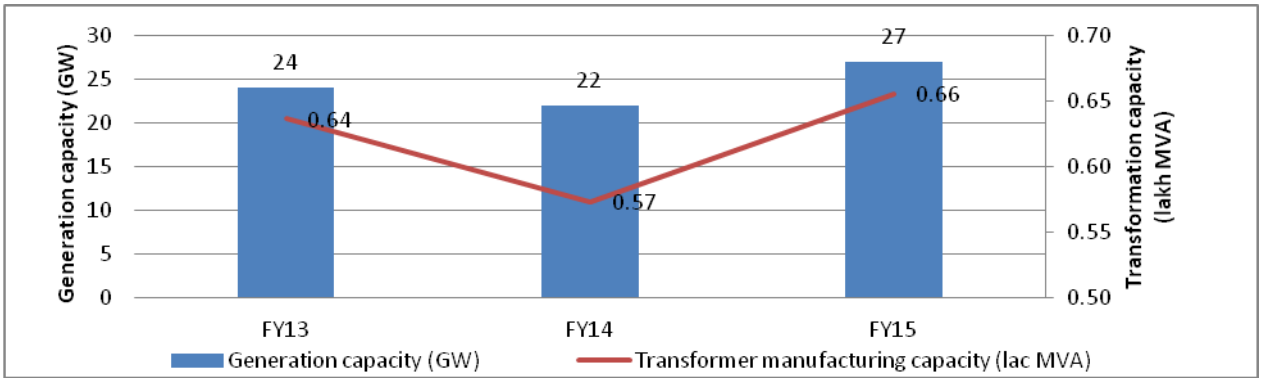
mobilization advances[5] and absence of adequate price variation clauses in contracts. Average inventory holding and receivable period in India is around 75-80 days[5] and 125-135 days[5] respectively, as against a global average of 50-55 days[5] and 55-75 days[5]. This is mainly due to lack of product standardization, delays in processes of testing and issuance of completion certificates and delays in receipt of payments.

Deterioration in performance also adversely affected the credit quality of transformer manufacturers, as indicated by a modified credit ratio (MCR)[6] of 0.75 in FY14.

2. A few signs of revival

- After a subdued performance over the past few years, the transformer industry witnessed improvement in the median PBIDT margin and debt coverage indicators in FY15 (exhibit 1). This was mainly due to a pick-up in the order inflows and moderation in raw material prices.
- Power generation and transformation capacity addition picked up in FY15, as depicted in exhibit 4, which resulted in higher order inflow. Also the orders from Power Grid Corporation of India Ltd (PGCIL; the central transmission utility of India) increased by 50% y-o-y to Rs.630 crore in FY15.
- The credit quality of transformer manufacturers also improved as reflected in the MCR of 1.00 in FY15 as against 0.75 in FY14.

Exhibit 4: Power capacity addition in first three years of 12th FYP



Source: CEA

[5] *Ministry of Heavy Industries and Public Enterprises (MHIPE)*

[6] *MCR = (Rating Upgrades + Rating Reaffirmations) / (Rating Downgrades + Rating Reaffirmations); MCR of less than 1 indicates greater proportion of credit rating downgrades vis-à-vis rating upgrades*

3. Key growth drivers

3.1 Investments planned in power sector

India is expected to add 278 GW of generation capacity in the next seven years till FY22 including conventional and non-conventional energy sources. A total investment of Rs.13.73 lakh crore is planned for the power sector for 12th FYP, which is likely to fuel the demand for transformers.

CARE has calculated the expected order inflow for transformers for FY16 and FY17 through below three methods:

3.1.1 Orders based on targeted power generation capacity addition

Orders for transformers are based on requirement of 7 MVA transformers for 1 MW of power generation capacity. Considering the realizations of leading transformer manufacturers in the industry for different KV class transformers, orders of around Rs.13,070 crore are expected to materialize in FY16 and FY17 each.

3.1.2 Orders based on capex from PGCIL and State T&D utilities:

PGCIL has an annual investment plan of Rs.22,500 crore and the share of transformers is expected at 7%, as per CARE estimates.

Further, the aggregate annual capex plans of the state power distribution utilities (discoms) and power transmission utilities (transcos) is expected to be around Rs.76,348 crore each during FY16 and FY17, if the same remains in line with FY15. However, considering the capex materialization rate of 11th FYP[7] and track record of share of transformers in total orders, orders of around Rs.14,794 crore from discoms and transcos are expected to materialize in FY16 and FY17 each.

3.1.3 Orders based on total investment planned in T&D sector in 12th FYP:

GoI has planned an investment of Rs.1.80 lakh crore for transmission and Rs.3.06 lakh crore for distribution sectors in the 12th FYP[8]. Considering the capex materialization rate of 11th FYP[6] and track record of share of transformers in total orders, orders of around Rs.14,024 crore for distribution and transmission sectors is expected to materialize in FY16 and FY17 each.

3.1.4 Exports and replacement demand

Exports for FY16 and FY17 are expected to be in line with FY15. Further, the transformers installed during 1985-90 are expected to be replaced during 12th FYP, considering average transformer's life of 25 years.

[7] *Report of working group of power on 12th FYP*
[8] *MHIPE*

Exhibit 5: Expected annual transformer orders for next two years till FY17

Sr. No.	Method description	Expected annual order value (Rs. crore)
1	Targeted power generation capacity addition	13,070
2	Capex from PGCIL and State T&D utilities	14,794
3	Total investment planned in T&D sector in 12th FYP	14,024
	Expected annual order inflow	**~ 14,000**

Considering the above, demand of transformers is likely to sustain with an annual order inflow at around Rs.14,000 crore each for FY16 and FY17.

3.2 Development of inter-regional capacity

GoI plans to increase the inter-regional power transfer capacity from 28 GW at the end of 11th FYP to 66 GW at the end of 12th FYP. India's cross-border electricity transmission interconnection with Bangladesh, Nepal, Bhutan and Sri-Lanka is also being expanded, which is likely to boost the demand for transformers.

Further, according to the Indian Energy Exchange, congestion between western and southern region transmission corridor restricted the transfer of electricity in southern region in March 2015. Thus, the integration of southern grid to national grid is expected to open up opportunities for equipment suppliers in T&D sector including transformers.

3.3 Export potential

Export of transformers is expected at around 20% of FY15 aggregate turnover of Indian transformer industry. The global annual transformer orders are expected to be in the range of Rs.1.86 to Rs.1.90 lakh crore[9] over the next few years. Indian transformer manufacturers have a nominal share of around 1.61% in the global demand and thus exhibit a good export potential, mainly in the lower kV segment.

4. Conclusion and way ahead

Indian transformer manufacturers witnessed improvement in financial performance in FY15, with moderation in raw material prices and revival in order inflows. Amidst a few early signs of revival in performance and expected pick-up in demand, the outlook is expected to be stable in near to medium term. CARE believes that planned investments in power sector, replacement demand, export potential and development of inter-regional capacity is likely to sustain the demand of transformers in near to medium term.

[9] *MHIPE*

5. Credit rating perspective

In light of the foregoing, the income of transformer manufacturers is likely to sustain in near to medium term. Further, moderation in inflation and expected reduction in interest rates has the potential to improve the profitability due to high working capital borrowings. CARE believes that no incremental long-term debt would be raised considering the present surplus manufacturing capacity. However, extent of working capital borrowings would depend on timeliness of payments from state power utilities and private players.

Going forward, enhanced share of private sector participation would be crucial to boost execution in power generation sector which would also lead to faster roll out of transformer orders.

Overall, credit quality of Indian transformer manufacturers is expected to remain stable in near to medium term with a stable outlook on industry.

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