23 May 2012 | 48 pages

Exide Industries (EXID.BO)

Initiate at Buy: Recharged to Lead

- **Dominates India's storage battery industry** — With ~74% market share in the OEM space and 50-55% in the organized aftermarket, Exide is the leader in auto batteries. Our Buy rating is based on the following: 1) We think it is a better play on secular auto demand; additionally, replacement demand is a natural hedge against cyclicality; 2) A gradual decline in the share of unorganized players (est. at ~50% of aftermarket) bodes well for Exide with its strong brand positioning; 3) The widest dealer network vs. peers.

- **Better play on the auto growth story** — With ~65% of net revenues from autos, and within that 70% from the aftermarket, Exide looks well placed to capture India's auto sector growth over the next 2-5 years. A broad client base, including major auto OEMs, makes Exide's battery sales relatively immune to fluctuations in individual market shares of OEMs. It has a strong consumer franchise in the aftermarket business.

- **Target price Rs149: Earnings recovery to support valuations** — We value Exide at Rs149 using an SOTP valuation. We value the parent business at Rs140 based on 18x Sept 13E EPS, a ~15% premium to its long-term average given that 1) Exide is recouping market-share losses in the aftermarket and 2) margins are improving after bottoming in 2Q12 . We value Exide's investment in ING Vysya Life Insurance at Rs9, based on 1x FY12 investment.

- **23% earnings CAGR over FY12-15E to be front-loaded** — We forecast a net revenue CAGR of ~15% over FY12-15 and an earnings CAGR of ~23% CAGR (FY12-14E earnings CAGR is a tad higher at ~25%). This reflects a weak base in FY12 (when volumes and margins declined sharply) and margin recovery driven by a better mix, with aftermarket sales forecast to increase ~16% in FY13E.

- **Risks** — 1) Lower than expected volume recovery in the aftermarket segment, 2) Lead price rise could suppress margins, 3) Higher competitive intensity could erode market share; 4) Investment in subsidiaries/associated firms without commensurate returns.

■ Initiation of Coverage

Buy	**1**
Price (23 May 12)	Rs115.05
Target price	Rs149.00
Expected share price return	29.5%
Expected dividend yield	1.5%
Expected total return	**31.0%**
Market Cap	Rs97,793M
	US$1,767M

Price Performance
(RIC: EXID.BO, BB: EXID IN)

Statistical Abstract

Year to 31 Mar	Net Profit (RsM)	Diluted EPS (Rs)	EPS growth (%)	P/E (x)	P/B (x)	ROE (%)	Yield (%)
2010A	5,371	6.69	88.2	17.2	4.4	31.0	0.8
2011A	6,185	7.28	8.7	15.8	3.6	24.9	1.3
2012E	4,612	5.43	-25.4	21.2	3.2	15.9	1.3
2013E	5,966	7.02	29.4	16.4	2.8	18.2	1.5
2014E	7,263	8.54	21.7	13.5	2.4	19.4	1.9

Source: Powered by dataCentral

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See Appendix A-1 for Analyst Certification, Important Disclosures and non-US research analyst disclosures.

EXID.BO: Fiscal year end 31-Mar — **Price: Rs115.05; TP: Rs149.00; Market Cap: Rs97,793m; Recomm: Buy**

Profit & Loss (Rsm)	2010	2011	2012E	2013E	2014E
Sales revenue	37,940	45,536	51,070	59,996	68,208
Cost of sales	-22,614	-28,910	-35,337	-40,846	-45,862
Gross profit	15,326	16,626	15,734	19,150	22,346
Gross Margin (%)	40.4	36.5	30.8	31.9	32.8
EBITDA	**8,894**	**8,788**	**6,839**	**8,805**	**10,678**
EBITDA Margin (%)	23.4	19.3	13.4	14.7	15.7
Depreciation	-807	-835	-1,007	-1,132	-1,282
Amortisation	0	0	0	0	0
EBIT	**8,088**	**7,953**	**5,832**	**7,673**	**9,396**
EBIT Margin (%)	21.3	17.5	11.4	12.8	13.8
Net interest	-106	-60	-53	-4	-3
Associates	0	0	0	0	0
Non-op/Except	124	1,511	673	855	983
Pre-tax profit	**8,106**	**9,404**	**6,452**	**8,523**	**10,376**
Tax	-2,735	-2,740	-1,840	-2,557	-3,113
Extraord./Min.Int./Pref.div.	0	0	0	0	0
Reported net profit	**5,371**	**6,664**	**4,612**	**5,966**	**7,263**
Net Margin (%)	14.2	14.6	9.0	9.9	10.6
Core NPAT	5,371	6,185	4,612	5,966	7,263
Per share data	**2010**	**2011**	**2012E**	**2013E**	**2014E**
Reported EPS (Rs)	6.69	7.84	5.43	7.02	8.54
Core EPS (Rs)	6.69	7.28	5.43	7.02	8.54
DPS (Rs)	0.96	1.50	1.50	1.75	2.14
CFPS (Rs)	6.74	6.55	6.55	8.33	9.73
FCFPS (Rs)	5.37	3.36	4.28	5.30	6.79
BVPS (Rs)	26.11	32.26	35.97	41.00	47.07
Wtd avg ord shares (m)	803	850	850	850	850
Wtd avg diluted shares (m)	803	850	850	850	850
Growth rates	**2010**	**2011**	**2012E**	**2013E**	**2014E**
Sales revenue (%)	11.8	20.0	12.2	17.5	13.7
EBIT (%)	69.6	-1.7	-26.7	31.6	22.5
Core NPAT (%)	88.9	15.2	-25.4	29.4	21.7
Core EPS (%)	88.2	8.7	-25.4	29.4	21.7
Balance Sheet (Rsm)	**2010**	**2011**	**2012E**	**2013E**	**2014E**
Cash & cash equiv.	29	148	577	500	600
Accounts receivables	2,546	3,665	4,023	4,738	5,386
Inventory	6,068	8,590	9,681	11,395	12,432
Net fixed & other tangibles	7,144	9,018	9,941	11,380	12,598
Goodwill & intangibles	0	0	0	0	0
Financial & other assets	13,830	14,665	16,678	19,624	23,386
Total assets	**29,616**	**36,085**	**40,900**	**47,637**	**54,402**
Accounts payable	3,912	5,276	5,765	7,293	8,196
Short-term debt	0	0	0	0	0
Long-term debt	900	22	41	20	20
Provisions & other liab	2,607	3,363	4,520	5,470	6,175
Total liabilities	**7,419**	**8,661**	**10,326**	**12,783**	**14,391**
Shareholders' equity	22,198	27,425	30,573	34,854	40,010
Minority interests	0	0	0	0	0
Total equity	**22,198**	**27,425**	**30,573**	**34,854**	**40,010**
Net debt	**871**	**-126**	**-535**	**-480**	**-580**
Net debt to equity (%)	3.9	-0.5	-1.8	-1.4	-1.4

Valuation ratios	2010	2011	2012E	2013E	2014E
PE (x)	17.2	15.8	21.2	16.4	13.5
PB (x)	4.4	3.6	3.2	2.8	2.4
EV/EBITDA (x)	10.2	9.8	12.3	9.4	7.5
FCF yield (%)	4.7	2.9	3.7	4.6	5.9
Dividend yield (%)	0.8	1.3	1.3	1.5	1.9
Payout ratio (%)	14	21	28	25	25
ROE (%)	31.0	26.9	15.9	18.2	19.4
Cashflow (Rsm)	**2010**	**2011**	**2012E**	**2013E**	**2014E**
EBITDA	8,894	8,788	6,839	8,805	10,678
Working capital	-945	-2,015	-201	-19	-277
Other	-2,539	-1,205	-1,070	-1,707	-2,133
Operating cashflow	**5,410**	**5,568**	**5,568**	**7,079**	**8,268**
Capex	-1,098	-2,708	-1,930	-2,571	-2,500
Net acq/disposals	0	0	0	0	0
Other	-6,672	-426	-1,767	-2,877	-3,562
Investing cashflow	**-7,770**	**-3,134**	**-3,696**	**-5,448**	**-6,062**
Dividends paid	-952	-1,404	-1,487	-1,730	-2,106
Financing cashflow	**2,051**	**-2,315**	**-1,443**	**-1,707**	**-2,106**
Net change in cash	**-308**	**119**	**429**	**-77**	**100**
Free cashflow to s/holders	**4,312**	**2,860**	**3,639**	**4,508**	**5,768**

For further data queries on Citi's full coverage universe please contact CIRA Data Services Asia Pacific at CIRADataServicesAsiaPacific@citi.com or +852-2501-2791
For definitions of the items in this table, please click here.

Contents

Investment Thesis, Valuations

Investment Thesis

TP of Rs149 is based on SOTP methodology. Rs140 for the base business and Rs9 for investment in ING Vysya Life Insurance

We initiate coverage of Exide Industries with a Buy rating and a target price of Rs149. Our target price is based on a sum-of-the-parts methodology, valuing the parent business at 18x Sept 2013E EPS, resulting in a value of Rs140, and the company's investment in ING Vysya Life Insurance at Rs9.

Positives

Being immune to individual market-share trends among auto OEMs, Exide is in our view a better play on the Indian auto growth story

1. **Better play on the Indian auto growth story:** We think Exide is a better way to play the passenger car / two-wheeler demand story in India over the next few years, rather than through OEMs. With ~65% of net revenues from autos, and within that 70% from the aftermarket, Exide looks well positioned to capture the growth of the passenger and two-wheeler market over the next decade. The auto replacement market is estimated to account for 60-65% of Exide's operating profits. The battery business is far more consolidated than the OEM business – cars, two-wheelers or commercial vehicles – wherein competitive intensity will continue to escalate as international OEMs continue to invest in India to participate in the passenger-vehicle growth story. See our notes on industry assumptions for 4Ws, Maruti Suzuki India (MRTI.BO), and for 2Ws, India Two-Wheeler Industry - Rising Pressures.

Figure 1. Exide Industries: Capacity Expansion

	FY10	FY11	FY12E
2W Batteries (units)	10mn	16.6mn	21mn
4W Batteries (units)	8.4mn	9.7mn	12.2mn
Industrial Batteries (mAh)	1,980mAh	2,260mAh	2,420mAh

Source: Company, Citi Investment Research and Analysis

Aftermarket business has higher margins where Exide has significant pricing power (at least among organized players)

2. **Exide's aftermarket business is a strong consumer-franchise business:** What we find appealing about the aftermarket isn't merely the high margins associated with it, but also the attendant consumer buying behavior that enables these margins to remain high. A battery is a critical piece of equipment (a car won't start without it) whose cost as a % of the cost of the vehicle is disproportionately low. The benefit it accords is significantly higher than the cost associated with it, and thus the ability to price it with a relatively high margin. In the aftermarket, a battery costs Rs4,000-5,000. Its effective life is 3-4 years. The cost / year is thus around Rs1,000-1,500. Compared the capital cost of the car, it is modest – around 1-2%. Versus the annual gasoline / diesel oil required to drive around 10,000 km / year, the cost is again fairly modest – around 3-5% (depending on whether gasoline / diesel).

   We have seen buying behavior in other sectors which tend to enjoy high margins on account of this behavior. For instance, in the home repainting market, the cost of repainting a 1,000 sq foot home whose capital cost is Rs100m will be around Rs20,000-30,000 – around 0.2-0.3% – far lower than the cost of furniture, furnishings and white goods. Moreover, this repainting will last at least 4-5 years – on an annual basis, the cost is lower when compared with the annual expenditure of running a household.

Slow but gradual shift from unorganized to organized players in the replacement segment

3. **A secular shift from the unorganized to organized segment in the aftermarket:** A consistent decline in taxes, increasing brand awareness and consumer 'up-trading' to a certain extent have resulted in the share of the unorganized segment of the battery market consistently shrinking from ~60% to ~50% at present. Over time, we expect this shrinkage to continue, which will benefit players like Exide, which are strongly positioned in the organized aftermarket (market share of >50%). The organic growth of 10-12% in distribution should support these initiatives. At present,

Exide has 40,000 touch-points (dealer+retail outlets), compared with 19,000 of its nearest competitor Amara Raja.

ING Vysya Life Insurance has been a drain on cash flow without commensurate returns. However, equity infusion into IVL appears to have been curtailed in FY12, a net positive from cash flow and returns perspectives

4. **Investments into insurance business being curtailed:** Since acquiring a 50% stake in FY06, Exide has, on average, invested ~Rs800m annually into ING Vysya Life Insurance. With no commensurate returns (IVL has been consistently reporting losses), this investment has historically been suppressing the return ratios. As at end FY12, ~24% of Exide's capital employed is invested in IVL. This depresses Exide's RoCE. The bright spot, though, is that the pace of these investments appears to be declining – IVL's provisional FY12 balance sheet seems to indicate that there has not been any incremental equity inflow into the company in FY12. We believe that this is an indication that Exide is curbing further investment into IVL, which augurs well for cash generation as well as RoCE for the company going forward.

Negatives

With lead cost being >50% of revenues, lead price fluctuations could significantly impact margins

1. **Volatility in input costs and its subsequent impact on margins:** Lead, the key input cost (around ~55% of revenues), is a highly volatile commodity and whilst prices can be passed through with a lagged impact, it does tend to impact margins in the short term. This volatility detracts from the stability in earnings that consumer franchise businesses typically enjoy.

Competition is tough…especially from organized players

2. **Heightened competitive intensity in the auto replacement / OE markets and also the power back up (inverter / UPS segments):** Over FY11, Exide hiked prices vs. competition, but the brand premium couldn't sustain, and Exide was forced to cut prices over FY12 - in 2QFY12 for the industrial battery segment and certain categories in the automotive segment (per management, primarily 2Ws and truck batteries). The company undertook another price cut in April 2012, this time for its passenger car, jeeps and tractor batteries. Per management, these two price cuts were for different sets of battery segments and the overall blended price cut was ~2%. Exide's profitability was adversely impacted over FY12, and whilst we reckon margins could recover over FY13, there is the possibility that pricing action by competition could impact demand.

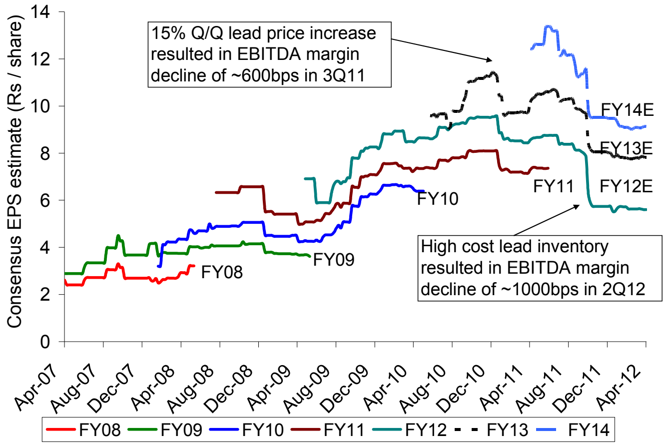
Valuation

We value Exide at Rs149 based on an SOTP methodology. We value the base business at Rs140, based on 18x Sept 2013 EPS. Over the past few years, the business has enjoyed a multiple of 14-18x. We arrive at 18x as follows: a) We estimate that around 60% of FY13E earnings will be generated by the auto replacement sector; the auto OE and industrial equipment businesses will account for the other 40%, b) For the replacement business, we ascribe a quasi-consumer multiple of 21x. The broader consumer sector is trading at 25-30x, so a discount of 20% to other names in the consumer space, c) For the other businesses we ascribe a broader market multiple of 15x. The blended multiple we thus arrive at is 18x.

Our target multiple of 18x is slightly on the higher side given past trends, but we think this is somewhat merited as earnings are recovering post a sharp earnings downgrade in FY12 (driven by adverse mix shift in auto / aftermarket revenues and a depressed gross margin on account of high cost lead inventory).

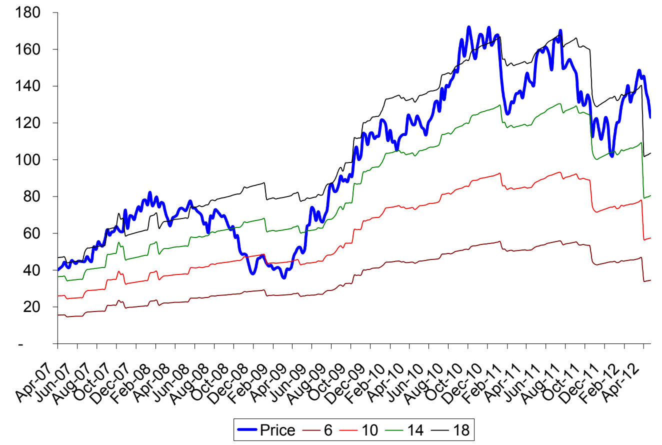
We value ING Vysya Life (IVL) Insurance at Rs9 based on 1x Exide's investment in the company. We value the insurance business at book value (Exide's share) given the lack of clarity on IVL's earnings.

Figure 2. Exide Industries: Evolution of Consensus EPS Estimates



Source: Factset, Citi Investment Research and Analysis

Figure 3. Exide Industries: 1 Yr Fwd Dynamic P/E (x)



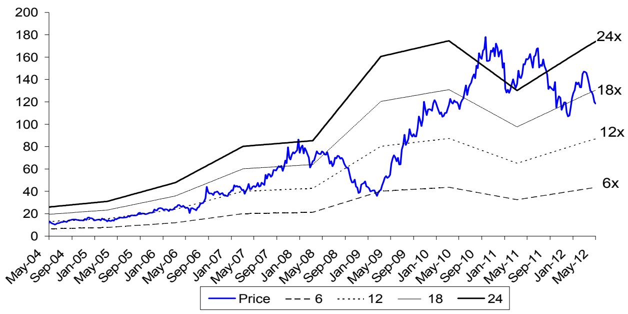
Source: Factset, Citi Investment Research and Analysis

Figure 4. Base Business Target Price under various scenarios

	Target multiple	FY13	Average of FY13 / FY14	FY14	Comments
Bear case	15x	105	117	128	Multiple contracts to 15x if earnings disappoint; expected recovery in after market volumes is delayed; little evidence of recouping lost market share
Base case	18x	126	140	154	Market share recovery in aftermarket is in line with expectations, lead costs remain range-bound, margin trajectory satisfactory
Bull case	20x	140	156	171	Margins recover beyond 16% in 1-2 Qs, earnings upgrades drive short-term multiple expansion as earnings catch up with the stock price. Management outlook for existing business is healthy, new initiatives in 2-wheelers, trucks, inverters are ahead of expectations

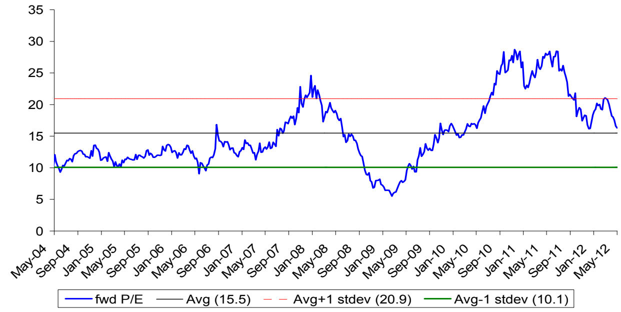
Source: Citi Investment Research and Analysis

Figure 5. Exide Industries: P / EPS (x) Band Chart



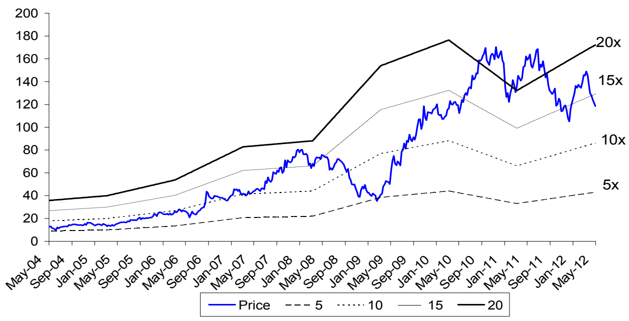
Source: dataCentral, Company, Citi Investment Research and Analysis

Figure 6. Exide Industries: 1 yr Fwd P / EPS Trends



Source: dataCentral, Company, Citi Investment Research and Analysis

Figure 7. Exide Industries: P / CEPS (x) Band Chart

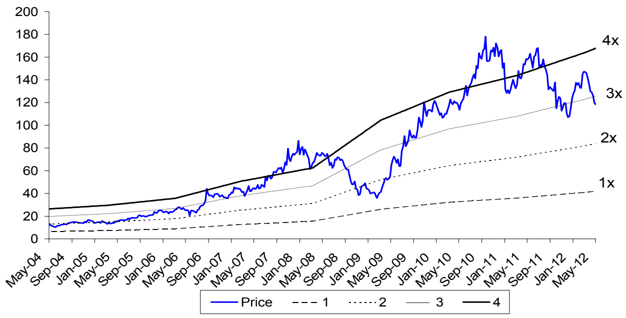


Source: dataCentral, Company, Citi Investment Research and Analysis

Figure 8. Exide Industries: 1-yr Fwd P / CEPS Trends

Source: dataCentral, Company, Citi Investment Research and Analysis

Figure 9. Exide Industries: P / BVPS (x) Band Chart

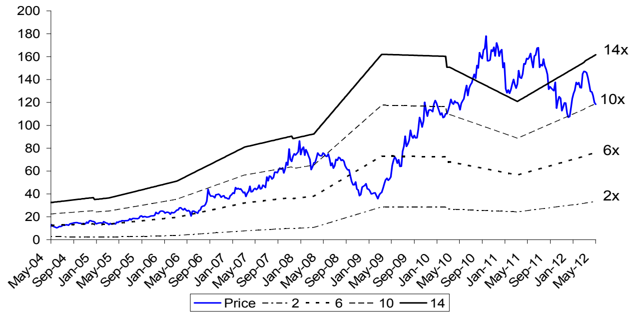


Source: dataCentral, Company, Citi Investment Research and Analysis

Figure 10. Exide Industries: 1 Yr Fwd P / BVPS Trends

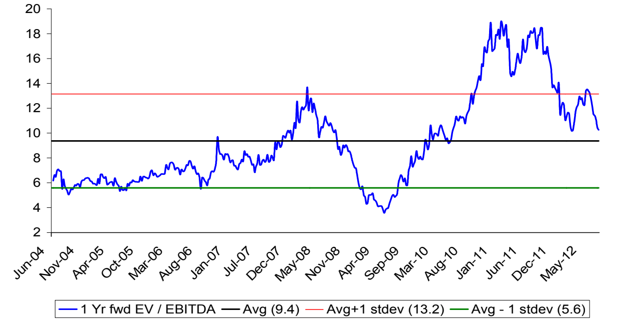
Source: dataCentral, Company, Citi Investment Research and Analysis

Figure 11. Exide Industries: EV / EBITDA (x) Band Chart



Source: dataCentral, Company, Citi Investment Research and Analysis

Figure 12. Exide Industries: 1 yr Fwd EV / EBITDA Trends



Source: dataCentral, Company, Citi Investment Research and Analysis

Background & Business Description

Figure 13. Exide Industries: Plant Locations

Source: Company

Exide is primarily a lead-acid storage battery manufacturer that manufactures and markets storage batteries in the automotive, industrial and submarine segments. The company recently made a foray into manufacturing invertors. Exide is the market leader in the automotive lead storage battery industry in India with around 74% share in the OEM market and ~25% market share in the overall aftermarket segment (including the unorganized segment), and a strong player in the industrial lead storage battery segment (second to Amara Raja). Exide has the widest network of dealers and distributers in India with around 13,000 dealers for the automotive segment and 2,200 dealers for the industrial segment.

The company commenced operations in India in 1916 when Chloride Electrical Storage Co. (CESCO), UK, set up trading operations in India as an import house. In 1947, the company was incorporated as Associated Battery Makers (Eastern) after having started manufacturing batteries at the Shamnagar factory in 1946. The name of the company was changed to Chloride India in 1972 and further changed to Chloride Industries in 1988. The company was a part of the Chloride Group Plc, UK, till 1991 and was acquired by the Rajan Raheja group in 1993.Chloride Industries was renamed Exide Industries in 1995. The acquisition of industrial operations of Standard Batteries helped Exide to 1) gain production capacity, hence higher volumes, through four new production facilities, 2) target the lower end of the market since the price of SF brand batteries was, on average, lower than Exide brand, and 3) benefit from the technical collaboration with Furukawa Batteries, Japan.

Figure 14. Exide Industries: Milestones

Year	Milestone
1916	Chloride Electric Storage Co. (CESCO) UK sets up trading operations in India as an import house.
1946	First factory set up in Shamnagar, West Bengal.
1947	Incorporated as Associated Battery Makers (Eastern) Limited on 31 January 1947 under the Companies Act.
1947	Incorporated Chloride International Limited (previously Exide Products Limited)
1969	Second factory at Chinchwad, Pune
1972	The name of the Company was changed to Chloride India Limited
1976	R&D Centre established at Kolkata
1981	Third factory at Haldia, West Bengal
1988	The name of the Company was changed to Chloride Industries Limited
1995	Chloride Industries Limited renamed Exide Industries Limited
1997	Fourth factory at Hosur, Tamil Nadu
2003	Commissioned plant at Bawal, Haryana

Source: Company

Figure 15. Exide Industries: Acquisition History

Year	Acquisition Details
1994	Technical collaboration with Shin Kobe Electric Machinery Co. Ltd., Japan, a subsidiary of the Hitachi Group
1998	Acquired industrial undertakings of Standard Batteries Ltd from Cosepa Fiscal Industries Limited
1999	Acquired 51% Shareholding in Caldyne Automatics Ltd
2000	Acquired 100% stake in Chloride Batteries S E Asia Pte Limited , Singapore
	Acquired 49% stake in Associated Battery Manufacturers (Ceylon) Limited, Sri Lanka (ABML)
2003	Formed new JV with ESPEX in UK (51% stake)
2004	Increased stake in ABML to 61.5% from 49%
2005	Acquired 50% stake in ING Vysya Life Insurance
2007	Increased stake in Caldyne Automotives Ltd to 100% from 51%
	Acquired 100% stake in Chloride Metals Ltd (earlier Tandon Metals Ltd)
	Acquired 26% shareholding.in CEIL Motive Power Pty Ltd. A Joint Venture in Australia.(divested in FY10)
2008	Acquired 51% stake in Chloride Alloys India Ltd (formerly Leadage Alloys India Ltd)
2010	Increased stake in Chloride Alloys India Ltd (formerly Leadage Alloys India Ltd) to 100% from 51%
2012	Technical collaboration with East Penn Manufacturing Co. Inc, USA - manufacturer of lead-acid battery and accessories for the automotive, telecommunications, UPS, commercial, marine, and motive power markets.

Source: Company

Subsidiaries

The company has seven subsidiaries, including three foreign subsidiaries, aiding in manufacturing and marketing of products in India and foreign markets. Apart from these, Exide also has a 50% stake in ING Vysya Life Insurance Company.

Refer to annexure 2 for details on the subsidiaries.

The total investment in the subsidiaries is ~28% of the overall capital employed for FY12. Rs7.4bn is invested in ING Vysya Life Insurance – this comprises ~85% of the overall investments in subsidiary and associate concerns.

Management

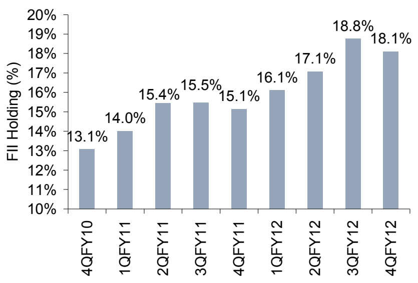
Exide's management comprises highly qualified and experiences professionals. Mr R G Kapadia, the Chairman of the Board of Directors, has been a Director since June 1991 and specializes in taxation and accountancy. Mr R B Raheja, the Vice Chairman, is also an experienced professional who has been with the company since 1991. Mr T V Ramanathan, MD & CEO, has ~43 years of professional experience and has been on Exide's board since 1996.

Refer to annexure 3 for more details on the board of directors.

Shareholding Pattern

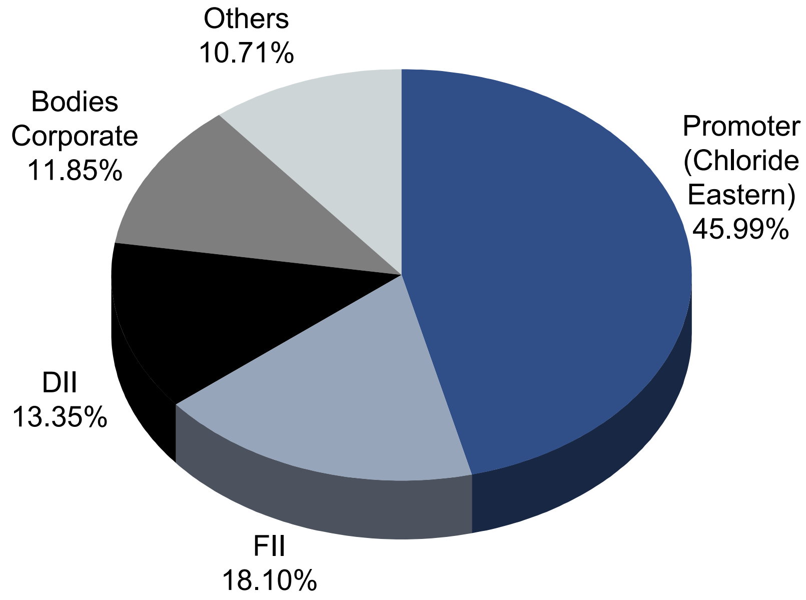
The Rahejas (promoter family) hold ~46% of the company. The FII holding over the past nine Qs has increased from ~13% to ~18%

Figure 16. Exide: FII Holding (% of total shares)



Source: BSE, Citi Investment Research and Analysis

Figure 17. Exide Industries: Share Holding Pattern (as at March 2012)



Source: BSE

Refer to annexure 4 for more details on share capital history.

Production Capacity

End FY11 capacity of ~28m batteries – across 7 locations. Overall capacity utilization of ~87% at end FY11. Installed capacity has increased at a ~12% CAGR over the past 7 years

Figure 18. Exide Industries: Plant-wise Capacities (as on May 2011)

Plant Location	Capacity		
	Auto (mn units)	MC (mn units)	Industrial (mAh)
Bawal, Haryana	-	7.2	
Taloja, Maharashtra	2.30	-	-
Ahmednagar, Maharashtra	-	5.2	-
Chinchwad, Maharashtra	2.16	4.2	-
Shamnagar, West Bengal	1.68	-	450
Haldia, West Bengal	1.92	-	960
Hosur, Tamil Nadu	1.80	-	960

Source: Company

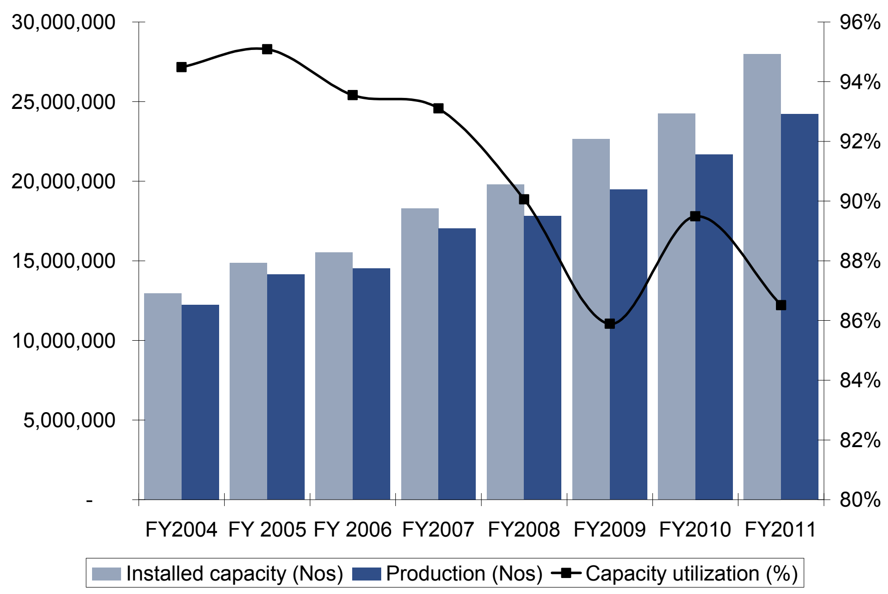
Figure 19. Exide Industries: Capacity Expansion Plans

	FY10	FY11	FY12E
2W Batteries (units)	10mn	16.6mn	21mn
4W Batteries (units)	8.4mn	9.7mn	12.2mn
Industrial Batteries (mAh)	1,980mAh	2,260mAh	2,420mAh

Source: Company, Citi Investment Research and Analysis

Decline in capacity utilization is primarily due to low sales to the telecoms sector. While the telecoms sector as a whole underwent a decline, mgmt also consciously moved away from the sector citing low margins

Figure 20. Exide Industries: Production Capacity (FY11)

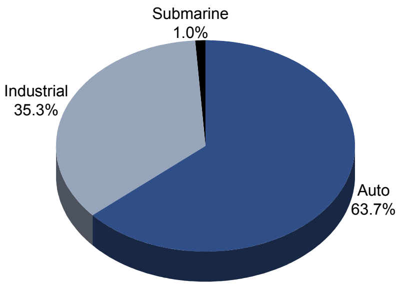


Source: Company

Revenue Mix

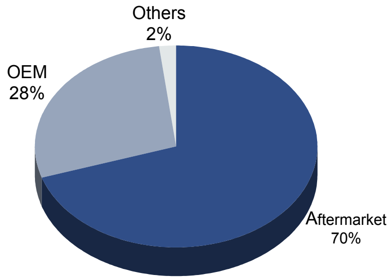
The auto segment comprised roughly 62% of Exide's net revenues (ranging from 61.5% to 63.7%) over FY09-11. The industrial business comprises primarily end-user industries like power back-up, traction and infrastructure. The sub-division of revenues between aftermarket vs. OEM (for auto) and by end-user industry (for industrial) is shown below.

Figure 21. Exide Industries: Overall Sales Revenue Breakdown (FY11)



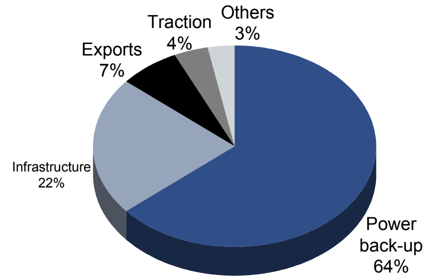
Source: Company

Figure 22. Exide: Automotive Sales (FY11)



Source: Company

Figure 23. Exide: Industrial Sales (FY11)



Source: Company

Marketing and Distribution

The company sells its products through the following channels:

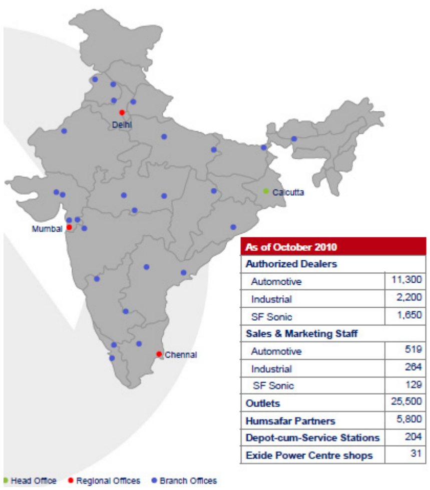
1. Direct sales to OEMs as company fitments – Exide's client base in both the industrial and the automotive segment covers the leading names in the respective sectors. Its key clients within the auto segment are the leading OEMs in 2W and 4W spaces. Within the industrial segment, the customers are far more diverse.

   Refer to annexure 5 for more details on clients

2. Sales to customers through dealers, to cater to replacement demand; and

3. Sales to customers through online ordering portal, called The Battery Mall (exidereachout.com).

Figure 24. Exide: Marketing Network



As of October 2010	
Authorized Dealers	
Automotive	11,300
Industrial	2,200
SF Sonic	1,650
Sales & Marketing Staff	
Automotive	519
Industrial	264
SF Sonic	129
Outlets	25,500
Humsafar Partners	5,800
Depot-cum-Service Stations	204
Exide Power Centre shops	31

Source: Company

Over the past few years, the company has reorganized the marketing and distribution into a hub and spoke model, with batteries from the factories sent to 4 warehouses located in different parts of the country, from where they are sent to ~203 depots across major markets. From these depots, dedicated vehicles carry batteries to dealers. This format enables Exide to retail products at slightly lower dealer margins vs. competition. The physical distribution has also enabled Exide to reach out to customers in B and C class cities and provide better after sales and warranty services. The company has used its initiative 'Project Kisan' to gain share from the unorganized sector in the rural markets. As early as FY08, management had noted that retail sales under Project Kisan rose 31% Y/Y, with the company covering 331 districts and 35,000 villages. The 'Humsafar' model under which batteries are sold through motor garages, enables the distribution of Exide's products directly at the customers' homes.

In the domestic automotive market, the company sells its products under Exide, SF, Sonic and Standard Furukawa brands, with Exide and SF as its flagship brands. In the international market the products are sold mainly under Dynex, Index & Sonic brands.

In the domestic industrial battery market, the company sell its products under Exide, Index, SF, CEIL & Power Safe brands and in the international markets mainly under CEIL, Chloride and Index brands.

Technical Collaborations

Most leading battery manufacturers in India have a technical tie-up with one of the global leaders in the industry – Amara Raja has a tie-up with Johnson Controls, Tata AutoComp GY Batteries has a technical tie-up with GS Yuasa, and Prestolite (Tudor) has technology from Exide Technology. Exide also has entered into various technical tie-ups (the most significant being the tie-up with Furukawa, whereby it acquired the SF brand).

Figure 25. Exide Industries: Technical Collaborations

Collaborating company	Technology Imported	Year of import	Valid up to
Shin-Kobe Electric Machinery Co Ltd., Japan	Automotive and VRLA Lead Acid Storage Batteries	Since 1994-95. Current arrangement since 1 April 2010	31-Mar-15
Furukawa Battery Ltd., Japan	Lead Acid Storage Batteries for Automotive applications	Since 1997-98. Current arrangement since 30 Dec 2010	30-Nov-15
Furukawa Battery Ltd., Japan	VRLA Lead Acid Storage Batteries for Motorcycles	9-Mar-07	30-Nov-15
Changxing Noble Power Sourcing Co. Ltd., China.	Deep Cycling E-bike batteries for Electric Bicycles & Scooters	15-Jun-08	14-Jun-10
Furukawa Battery Ltd., Japan	Automotive batteries for Idling Stop System	1-Feb-10	31-Jan-15
East Penn Manufacturing Co. Inc, USA	Manufacture of automotive, motive power, standby, telecom, UPS, solar and traction batteries. Also, technical assistance and support to the two captive smelters	20-Jan-12	

Source: Company, Citi Investment Research and Analysis

Competitive Positioning

Within the automotive battery business, we believe Exide has 3 competitive advantages over peers:

- Sheer scale of operations, which stems from a first-mover advantage that is difficult to dislodge given the direct distribution model and the brand's strong consumer connect.
- Premium pricing and better mix with higher auto aftermarket revenue, which results in better gross margins.
- Captive smelters provide a healthy cost benefit compared with peers.

Significant Scale of Operations and Robust Market Share

Exide has a distribution network which is very similar to, and reminds us of, Asian Paints, a company which dominates its respective industry (paints) and that has similar replacement characteristics to those of batteries.

For the aftermarket segment, which is a quasi consumer goods business, the company needs to reach the end customer to the maximum extent possible. With the widest dealer network among storage battery companies in India, Exide can leverage its expanse to bolster its aftermarket volumes

Exide transfers goods from the factory to over 200 depots (increased almost 10x in the last two years). From the depots the products are transferred to ~13,000 dealers directly. These dealers are serviced twice a week on average – more often in the larger cities. Management is on a drive to continue to improve dealer returns by increasing their asset turns (which drives down the investment required). While this sounds easy in practice, it is difficult to replicate given just in time delivery across so many states and myriad locations. Exide continues to add >1000 dealers / year (the network's organic rate of growth is ~10-12% pa). To contrast the scale, Exide's total touch points are almost 40,000 – (dealers + retail outlets) compared to key competitor Amara Raja's ~19,000 touch points (dealers + retail).

These strengths have enabled Exide to maintain a market share of >70% in the OEM industry and ~25% in the replacement market (though the company exited FY12 with a market share of ~27% in March 2012). This replacement share includes the organized and the unorganized segments – if one were to consider the fact that the share of the unorganized sector in the replacement market is around 50%, this implies that in the organized replacement market, its market share is >50%, creditable given its competitor Amara Raja has a market share of approximately 25%.

Despite these strengths, though, Exide's market share in the replacement market has come under pressure. Management has indicated that the loss in share in the replacement market was due to a shortfall in capacities as management curtailed capacity expansion in FY09 and was then surprised by the OEM offtake in FY11. This resulted in management consciously curtailing sales to the replacement market, with a view that loss in OEM market share would be very difficult to regain, though loss in the replacement market could be regained – but at a price, and with a time lag. We don't dispute this strategy, given a) the consolidated nature of the OEM markets (2-3 players account for >80% of most of the OE sub segments), and b) the fact that every OEM sale generates at least 1-2 incremental sales (90% chance of 1st replacement, substantially less in the 2nd and beyond replacement cycles).

In our recent interactions with management, they indicated that market shares in the replacement market have trended up gradually – from a low of 24% in Sept 2011 to 25.4% in February 2012. Mgmt noted that market share in aftermarket was ~27% during 4Q FY12.

Pricing at a Premium to Peers

Given its market share advantage, well entrenched distribution and strong consumer connect, Exide tends to price its products at a slight premium of around 5-7% compared to peers. This may not appear much but is meaningful (for instance, it is the difference between a 25% and 30% EBITDA margin). Like a typical market leader in a quasi-consumer business, Exide tends to be the price leader too.

Why then did Exide cut prices?

Owing to a strong brand image, Exide does exercise pricing power in the replacement market, but only to an extent

Over the past few months, the debate has been whether Exide's business model is broken, and the quasi-duopoly structure of the industry forever dented. We think the issue is largely one of brand premiums. We've noted especially in the consumer sector that the leader's price premium cannot be stretched beyond a point.

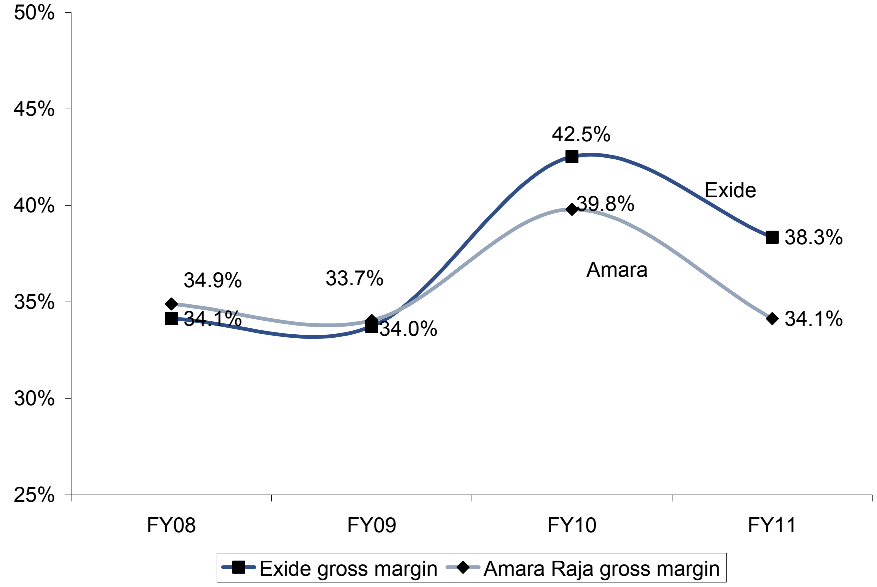
Exide mgmt stated that it increased prices in FY11 to compensate for lower margins (as it was diverting volumes slated for the replacement market to OEM market). The price differential thus stretched to 12-15% between Exide and its peers. With the benefit of hindsight, this differential proved to be far too much. On a Rs4,000-5,000 battery the amount was Rs480-750. Not meaningful, when one considers the buying behavior – a typical battery is bought every 2.5-3.0 years and accounts for a negligible portion of running costs, e.g. a battery is replaced in 3 years on a car that's run 30,000 km; the fuel expenses on the car (assuming petrol car, giving 15 kmpl, running 10,000 km / year) equate to Rs150,000 – less than Rs1,000 doesn't swing the needle meaningfully from a cost perspective; from a consumer perception perspective, it apparently matters. Exide subsequently cut prices by ~10-15% in 2QFY12[1]. This however resulted in lower primary offtake, as dealers strove to liquidate high cost inventories before purchasing the lower priced batteries.

We think this situation has passed, and Exide should continue to claw back market share, albeit at a cost – reflected in our forecasts with margins at ~16% in FY14E – lower than the 19% in FY11. Exide's robust pricing also results in superior gross margins, though admittedly, some element of the GMs is a function of mix and costs.

[1] Source: Economic Times

Higher gross margins reflect better pricing and sourcing from captive smelters

Figure 26. Exide vs. Amara Raja — Gross Margin Comparison (%)



Source: Citi Investment Research and Analysis

Captive Smelters Confer Cost Advantage

Per Exide management, the captive sourcing of lead from two of its subsidiaries now accounts for >50% of its overall lead consumption – and is expected to rise to >60% over the next 2 years. Given that lead procured through this format is supposedly around 8-10% cheaper than imported lead or lead procured from Hindustan Zinc, it should provide a fairly competitive cost advantage. A back of the envelope calculation implies that a c8% cost benefit on an input equivalent to 50% of revenues should result in a 4% margin benefit (assuming all benefits are retained). A quick comparison of the cost of lead procured by both Exide and Amara Raja over FY09-11 does provide some interesting takeaways.

As the table depicts, Exide's cost of lead / MT was only slightly lower than that of Amara Raja's over FY10-11, and more expensive in FY09, despite the meaningful cost advantage that the smelters provide.

Figure 27. Lead Consumption: Exide vs. Amara Raja

		FY09	FY10	FY11
Exide	Total lead consumed (MT)	154,908	174,519	203,121
Exide	Cost (Rs Mn)	17,222	17,539	23,414
	Rs / MT	111,174	100,497	115,273
Amara Raja	Total lead consumed (MT)	65,501	74,965	88,055
	Cost (Rs Mn)	6,681	7,729	10,216
	Rs / MT	101,992	103,102	116,018

Source: Companies, Citi Investment Research and Analysis, Companies

To get clarity on the full extent of advantage that captive smelters confer on Exide, we need to analyze the company on a consolidated basis rather than merely calculating the lead cost incurred by the standalone entity

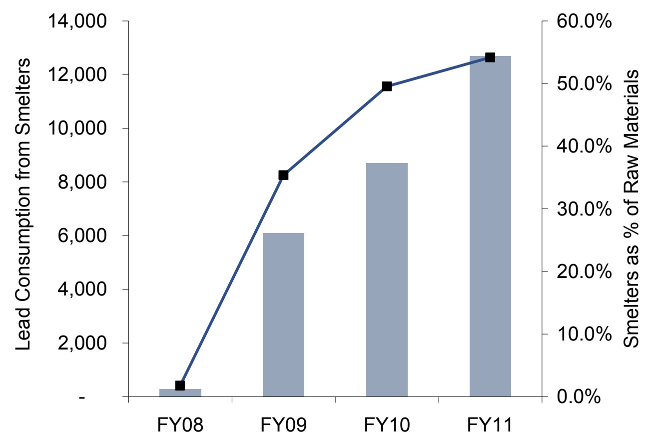
The smelters thus don't appear to provide any benefit but we also note that there are certain inter-company transactions (Exide sells goods to both these subsidiaries, which in turn are processed and re-sold to Exide). There is also an element of inter-company excise, which probably depresses Exide's GMs to a certain extent (Exide's COGS would also include the excise duty paid on lead sourced from Chloride Metals and Chloride Alloys). A quick comparison of the consolidated gross margins (which adjust for these inter company transactions) does seem to suggest that the lead smelters are conferring a benefit, which continues to increase as the proportion of smelter consumption increases.

Figure 28. Exide vs. Amara Raja — Gross Margin Trends

	FY08	FY09	FY10	FY11
Consolidated GMs (Exide)	34.5%	36.7%	45.1%	40.4%
Parent GMs (Exide)	34.1%	33.7%	42.5%	38.3%
Spread	0.4%	3.0%	2.6%	2.0%
Amara Raja GMs	34.9%	34.0%	39.8%	34.1%
Amara - Exide GMs	-0.8%	-0.3%	2.7%	4.2%
Amara - Consolidated Exide GMs	-0.4%	2.7%	5.3%	6.2%

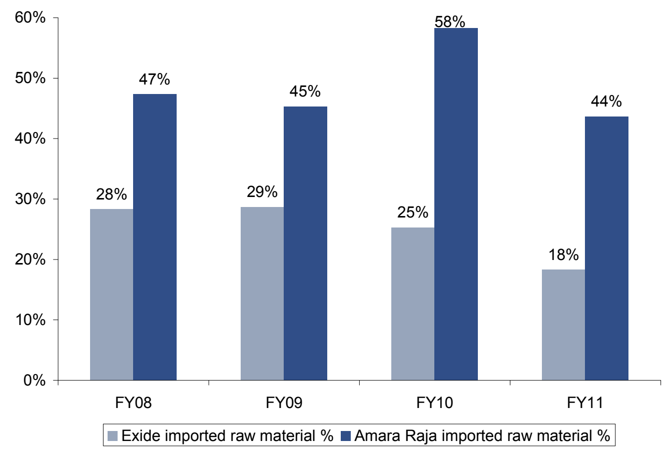
Source: Companies, Citi Investment Research and Analysis

Figure 29. Exide: Lead Consumption from Smelters, % Total Lead Consumed (Rs Mn, %)



Source: Company

Figure 30. Exide vs. Amara Raja: Imports as % of Raw Materials Consumed



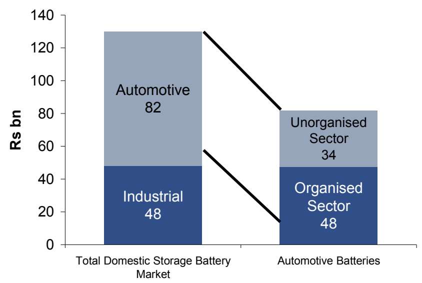
Source: Companies

A definite tangible benefit that the smelters provide is to ensure that Exide's relatively insulated from an FX perspective – critical given the volatility and depreciation that the rupee has experienced against the US$ and other currencies.

Lead Storage Battery Industry in India

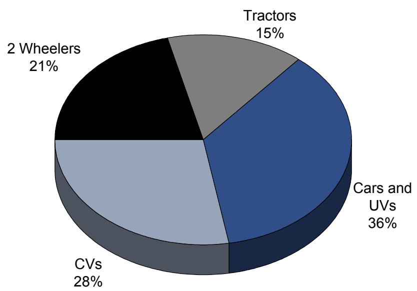
The lead storage battery industry in India is estimated at ~Rs130bn comprising the automotive (Rs82bn) and industrial (Rs48bn) batteries. The overall size of the unorganized sector is estimated at about Rs35bn.[2] The industry is broadly divided into three segments: 1) automotive batteries, 2) Industrial batteries and 3) submarine batteries (submarine batteries being insignificant in both volumes and value terms).

Figure 31. Indian Battery Market



Source: Amara Raja FY11 Annual Report

Figure 32. Indian Automotive Battery Segment



Source: Amara Raja FY11 Annual Report

Automotive Batteries

Automotive batteries in India account for ~63% of the overall storage battery business annually (FY11 as per Amara Raja). While the organized auto battery market is largely a duopoly with Exide and Amara Raja combined accounting for ~80% of overall OEM volumes, there is a large number of unorganized / smaller players (~50% of overall auto segment volumes), primarily in the replacement market. In the two-wheeler battery segment, AMCO is the second largest player. While the 2W segment is currently small in terms of volumes (due to mainly "kick-start" vehicles), the growth rate is expected to be higher for 2W batteries as compared to 4W batteries because 1) new model launches by OEMs have a higher share of battery powered (electric start) vehicles and 2) low base of battery sales for 2W results in an optically higher growth rate.

The automotive battery segment is further divided into 1) the OEM segment (original fitments in vehicles by automobile manufacturer) and 2) the aftermarket segment (replacement sales to vehicle owners). Sales to OEMs have a significantly lower margin compared with aftermarket sales. However, battery manufacturers assign a significant part of their overall production volume to OEM sales to 1) receive large bulk orders and 2) maintain the 'Original Equipment' status with the auto company (which would aid in aftermarket sales). Thus the aftermarket segment is relatively more stable (in terms of demand volume) as well as higher profitability. The replacement cycle of an automotive battery is determined by battery usage and other factors like charge balance, cumulative distance clocked by automobile, among others. On an average, a 4-wheeler battery life expectancy is about three years while for the 2-wheeler, battery life expectancy is around two years[3]. Thus, with the life of an auto battery being ~3-3.5 years on an average, a vehicle sale translates into approximately 4-6 battery replacements over its life cycle. Replacement sales – especially the first and second replacement cycles – tend to lag OE demand. From the 3rd cycle onwards, the market share of the unorganized players meaningfully escalates.

The Indian automobile sector has grown at a healthy 13% CAGR over FY03-11, with a sharp 27% CAGR in FY09-11. The growth rate has been highest for passenger vehicles (passenger cars and UVs), with domestic sales rising at a c26% CAGR in FY09-11. Commercial vehicle sales, a reflection of higher industrial activity, rose at an even healthier 33% CAGR over the same period. While domestic 2W volumes have risen at a robust ~26% CAGR, increasing usage of batteries (self start / kick start ratio improving) has resulted in a much stronger growth rate in battery sales to 2W OEMs.

In the automotive storage batteries market, Exide is the dominant player with >70% share in the OEM sales and ~25% in aftermarket sales volumes (significant presence of unorganized sector). Amara Raja is the second largest player, followed by smaller players like Tata AutoComp GY Batteries Ltd. (JV between Tata AutoComp Systems Ltd, and GS Yuasa International, Japan), Amco Batteries, TAFE and Tudor.

[2] All data attributed to Amara Raja FY11 Annual Report

[3] Source: Amara Raja

Besides the organized sector, there are a large number of smaller players, catering to mainly the replacement market. There has also been an influx of Chinese batteries in the Indian market, which have garnered significant share of the unorganized automotive battery segment owing to an aggressive pricing (albeit, at the expense of lower product quality)

Growth Outlook – Auto OEMs

Overall, the industry sub-segments in the auto OEM space should have growth ranging from 10-15% CAGR over the next few years. The rates of growth for the various sub-segments of the industry and growth potential for Exide are shown in the table below.

Figure 33. Auto OEMs – Industry / Exide Volume Outlook

Volume Outlook - OEMs	Industry (domestic)	Industry (domestic)	Comments on industry volumes	Exide's growth rate - Comments
Sub segment	**FY09-12**	**FY13-15**		
2w	22% CAGR	10-12% CAGR	Channel checks reveal inventory pile-up at end FY12 - growth outlook for FY13 subdued - high single digits as best case. MRPs of cash crops have declined. Rural centric schemes like NREGS have also peaked. Growth back ended into FY14/15, dependent on more secular drivers like penetration, etc.	Higher than this rate of growth, given shift towards electric start bikes. Exide's potential to gain share in this segment is negligible, given its dominant share with OEMs
Cars	18% CAGR	around 12-14% CAGR	Growth back ended - imminent fuel price hike on both petrol / diesel implies growth will be subdued - probably 5-7%. Pent up demand is increasing, though - prospects for very strong growth over FY14/15 increase if we have 2 consecutive years (FY12/13) of weak growth. Channel checks indicate there is still healthy growth in customer footfalls at dealerships.	In line with this pace of growth, or slightly lower, if other players focus in this segment. Limited scope for Exide to gain market share in OEM cars segment.
CVs - LCVs	31% CAGR	around 15% CAGR	Growth appears achievable, given burgeoning last mile demand. Mix though is skewed towards small LCVs (.5-1MT)	Represents a growth opportunity, per management - market share is low in this segment
CVs - MHCVs	23% CAGR	around 8% CAGR	Notoriously difficult to predict - diesel price hike could impact volumes. Thus far, buoyant freight rates augur well for MHCV growth in FY13. Longer term, growth should mimic industrial output growth. Potential demand kicker is completion of NSEW corridor.	Represents a growth opportunity, per management - market share is low in this segment

Source: Citi Investment Research and Analysis

Growth outlook: Organized Auto Replacement

The overall outlook appears fairly healthy for the replacement cycle over FY13-15 – based on the analysis in the following table, we conclude that the baseline rate of growth for the entire organized replacement market should be at around 13-15% in volumes. Volume growth should probably be slightly higher over FY13/14 to reflect growth in volumes in FY10/11 and then taper off over 2HFY14/15. FY15 appears that it might be a bit of a challenge for cars and MHCVs, given a replacement cycle of 2.5-3 years. FY15 should be strong for 2-wheelers and LCVs, though, as both segments have reported fairly healthy growth over FY12.

Figure 34. Auto Organized Aftermarket — Industry / Exide Volume Outlook

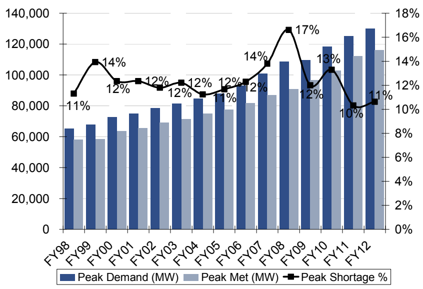
Volume Outlook - Aftermarket	Organized aftermarket	Comments	Exide's growth rate - Comments
Sub segment	**FY13-15**		
2w	c.12-15% CAGR	Organized aftermarket should grow at 12-15% CAGR, supported by volume growth (have considered 1st 3 replacements as organized segment) + some mix shift from unorganized to organized	Growth rate should be far higher, given the ramp up in capacities and modest share in the replacement market, mgmt attempts to increase distribution in smaller towns and focus on 2w segment
Cars	c.13% CAGR	Replacement cycle is over 2.5-3 years. Thus, 1st cycle replacement demand over FY3-15 should closely mimic OE volumes over FY10-12. Assuming cycles 1-4 are catered by the organized sector, replacement volumes should grow ~13% CAGR for cars	Should be slightly higher than replacement demand, given that Exide will attempt to recoup market share ceded over FY11
CVs	c.15% CAGR	Replacement cycle is ~2.5 years. Given the robust growth in LCVs over FY09-12, this should translate into solid growth for the replacement sector. We assume 1st 4 cycles are organized aftermarket. Forecast growth is ~14-15% CAGR, with upside risks if conversion from unorganized to organized is more rapid.	Limited data availability, difficult to quantify - Exide should grow ahead of industry, given thrust on trucks as a key focus area

Source: Citi Investment Research and Analysis, Company

Industrial Batteries Segment

Industrial storage batteries in India are primarily used for power back-up (~60% of overall industrial segment volumes), followed by usage in the infrastructure sector (railways, telecom, power) and traction. The industrial battery segment is around Rs48bn in revenues – Exide market share is the No.2 player in market share, compared to Amara Raja in this segment. The power back-up segment, comprising UPS and Inverter usage has reported strong growth over FY06-FY11, reflecting 1) higher demand / supply mismatch in the Indian power scenario, 2) increase in fuel prices, making hydrocarbon-fuel based generators progressively less economical as compared to battery powered options like inverter, and 3) increased demand for smaller UPS batteries, mirroring the rise in computer penetration. According to Schneider Electric estimates, the Indian inverter and power storage market is expected to grow ~3x (from ~Rs 50bn to ~Rs 140bn over FY10-FY15)

Figure 35. India Power Demand / Supply Gap



Source: CEA

The infrastructure batteries segment volumes primarily reflect the demand from the railways (train lighting, signaling, air conditioning, diesel locomotive starter), power sector (for network related usage) and telecom (transmission towers). While telecom sector demand has seen a significant slow down, with ~70% decline YoY, there has been an uptick in the demand from the power sector and railways (more coaches with increasing number of trains). Other applications in the industrial segment include defense, mining and solar power generation.

Growth Outlook: Industrial Batteries

There are 3 primary drivers for growth – a) power back-up systems (UPS / inverters) which account for around 60% of overall demand, b) infrastructure (which accounts for around 25-30%), and c) telecom segment (10-15% of volumes). Base power demand in India has grown at a ~6.4% CAGR over the past few years – given the shortage of power, though, the rate of growth of back-up systems is probably greater. Exide's mAh (million ampere hours) have grown at a 15% CAGR over the past 5 years but we reckon a large part of this would've been boosted by demand for batteries in telecom towers. This is one-time demand and is unlikely to recur at the same pace. We forecast around 11% CAGR over FY12-15 – somewhat in line with management's view that the industrial segment could grow at a 10-12% CAGR. Upside risks are from exports and emerging areas like the solar / traction segments (reported growth > 60% Y/Y in FY11).

Submarine Batteries

The submarine batteries segment's share in overall battery volumes is miniscule, at <1%. The major customers for this segment are the Indian navy and few foreign submarine operators (both civil and defense).

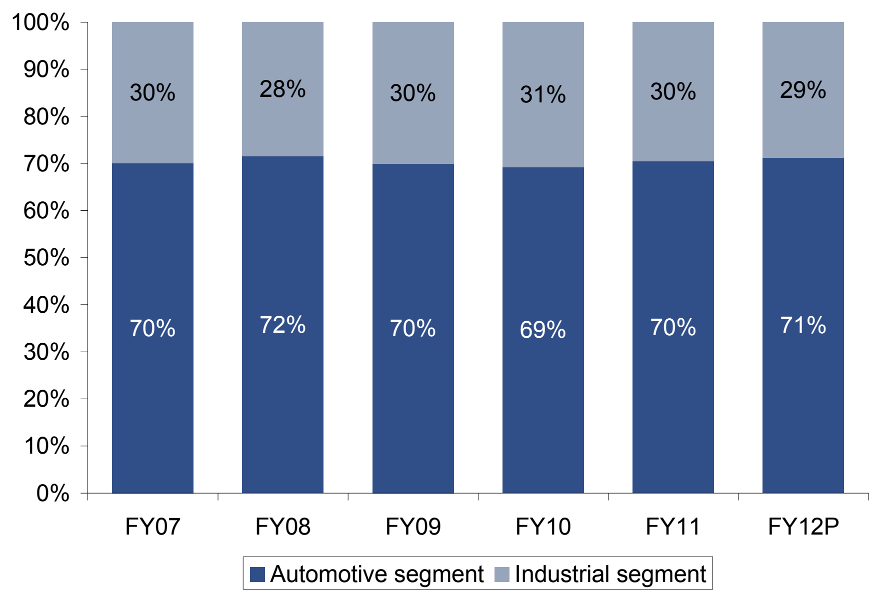
Financial Analysis

Exide's P&L reflects its positioning as a dominant player in an industry that isn't too volatile. It's characterized by steady revenue / EBITDA CAGR over the past 5 years – around a ~22% revenue CAGR over FY07-12E and a 17% EBITDA CAGR over the corresponding period.

EBITDA margins are far more volatile, though, and have fluctuated in a range of ~13-23%, reflecting a) the impact of a volatile commodity like lead (key input cost, 50-55% of revenues), wherein the impact cannot be passed on immediately in the short term (1-2 Qs), b) mix shifts between the replacement / OE market which impact margins (its estimated margins in the replacement market are meaningfully higher – at least 20-25ppt more than the OE segment).

Over FY07-12P, automotive / industrial segments revenues grew at healthy CAGRs of 22 / 20% respectively. Overall gross revenue growth has thus also been a robust 21%. However, over the period under consideration, the growth was front ended with ~50% YoY growth in FY08

Figure 36. Exide Industries: Gross Revenue Breakdown (%)

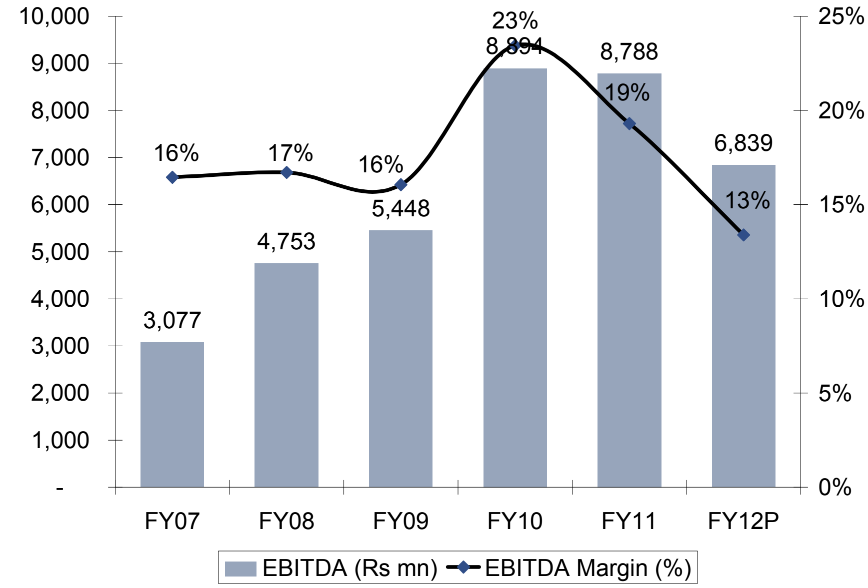


Note: This is gross revenue break-up which is slightly different from net sales break up due to variation in classification

Source: Company, Citi Investment Research and Analysis

Exide's EBITDA over FY07-12 grew at a robust 17% CAGR. Margins rose from 16% in FY07 to a peak of 23% in FY10 before tapering to 19% in FY11 and a low of13% in FY12

Figure 37. Exide Industries: EBITDA Trends

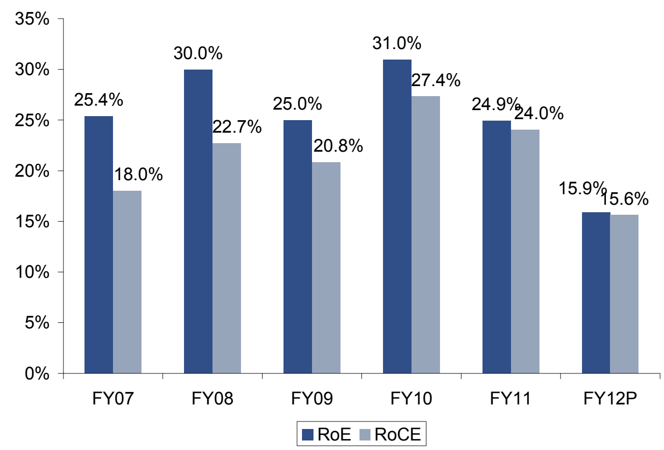


Source: Company, Citi Investment Research and Analysis

Net profits have grown at around 24% CAGR over FY07-12P, reflecting the reduction in interest costs as debt has been paid down.

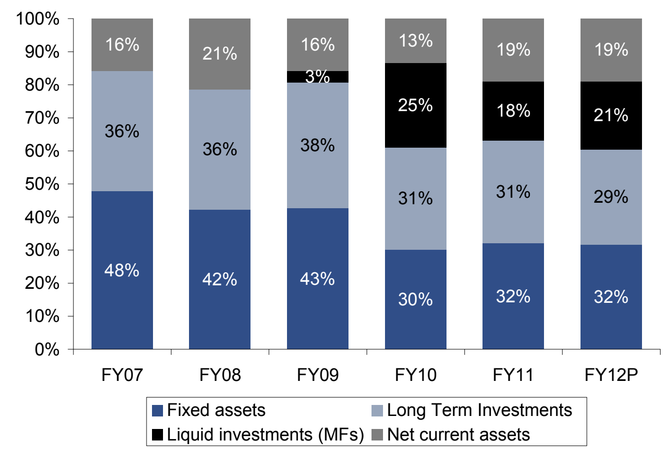
Exide's balance sheet is strong – virtually debt free, a consequence of Rs5.4bn in funds raised in FY10. RoEs have been consistently around or >25% over FY07-11, except in FY12 when we estimate that RoE slipped to ~16%, on account of margin pressures (mix shift + high cost inventory impacted margins).

Figure 38. Exide Industries: RoE / RoCE Trends



Source: Citi Investment Research and Analysis, Company

Figure 39. Exide Industries: Balance Sheet Structure



Source: Citi Investment Research and Analysis, Company

Exide's RoE and RoCE have been healthy over the years, reflecting strong margins. The decline in FY09 and FY11 reflect equity-raising in FY08 / FY10 respectively. We also note that RoIC of the company is significantly higher (27-46% over FY07-11) as the company has substantial investments in subsidiaries and associate companies (returns on which are not commensurate with the capital invested, for now).

Investments grew considerably over FY07-11 due to acquisitions of smelters and incremental equity infusion in ING Vysya Life Insurance.

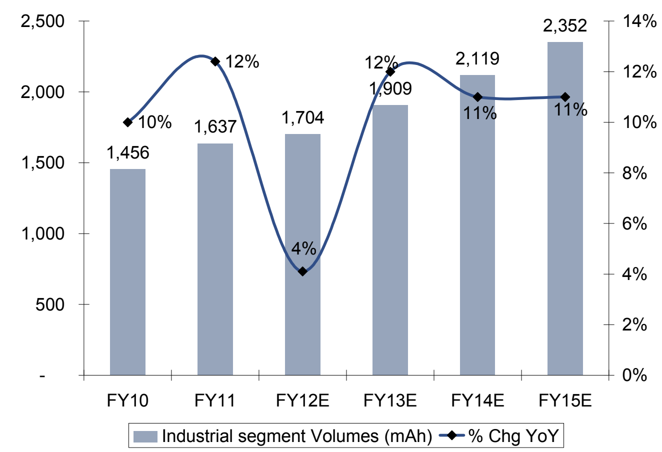
Strong Cash Flow Generation

To generate Rs100 of revenue, Exide incurs a capex of ~Rs21 (implying an asset turn slightly <5x). Investment in working capital is around Rs10. We've used data from FY04-11 to arrive at this analysis. This Rs100 generates an EBITDA of ~Rs16-17. Adjusting for a c30% tax rate, post tax cash earnings (without adjusting for depreciation) are ~Rs12 – implying a pay back of <3 years on an aggregate investment of Rs31 (Rs21 capex +Rs10 working capital).

Financial Forecasts – FY12-15E

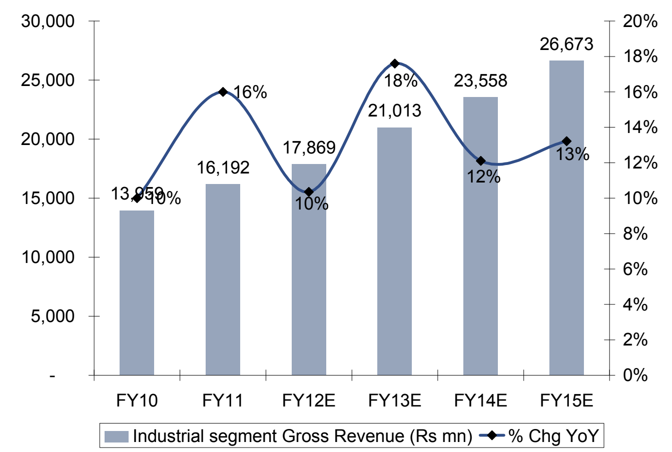
Over FY12-15E, we forecast a gross revenue CAGR of ~16%, which is underpinned by revenue CAGRs of 17% / 14% for the auto / industrial business respectively. For the industrial business, we expect a revenue CAGR of ~14% CAGR over FY12-15, mostly driven by volumes (~11% CAGR). Revenue CAGR in the auto business is forecast at ~17%**%,** driven by a ~14% volume CAGR in the automotive business.

Figure 40. Exide Industries: Industrial segment volumes (m A h)



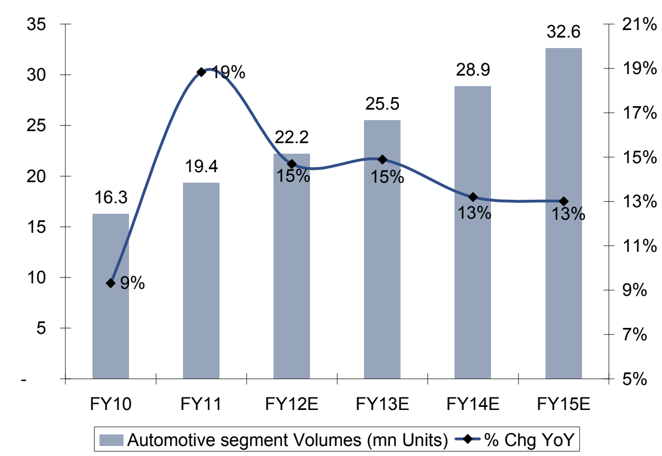
Source: Citi Investment Research and Analysis

Figure 41. Exide Industries: Industrial segment gross revenues (Rs mn)



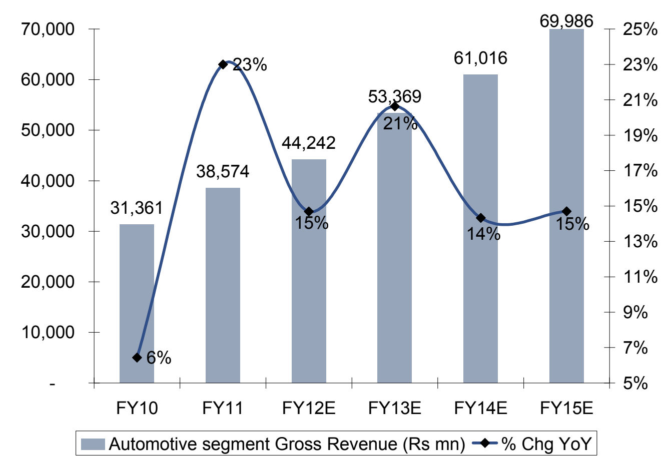
Source: Citi Investment Research and Analysis

Figure 42. Exide Industries: Automotive segment volumes (mn units)



Source: Citi Investment Research and Analysis

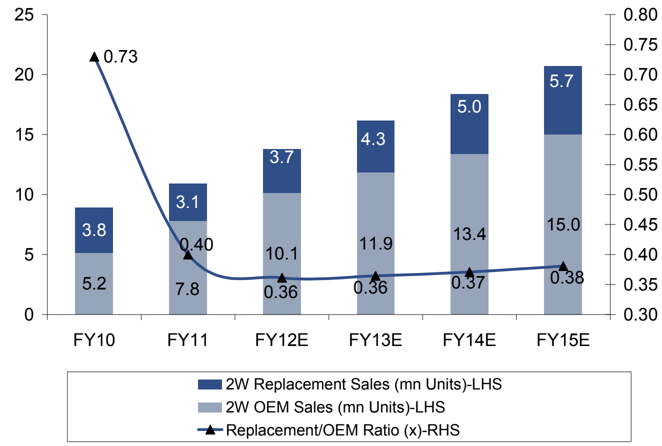
Figure 43. Exide Industries: Automotive segment gross revenues (Rs mn)



Source: Citi Investment Research and Analysis

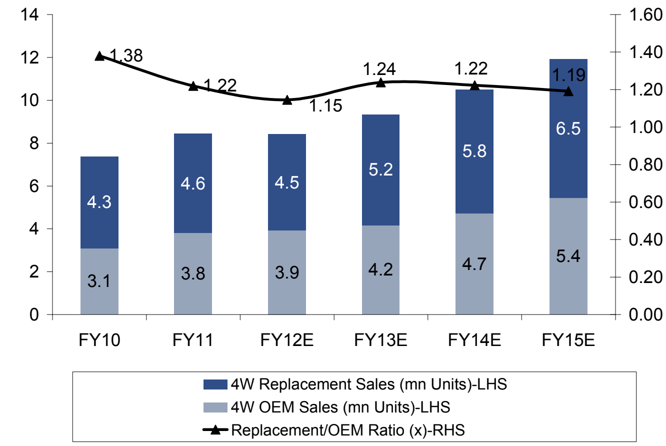
Our volume assumptions for OE / replacement demand broadly reflect our assumptions (refer to outlook in the industry sections). For two-wheelers, the broad underlying assumption is that the capacity being set up should attain full utilization in three years.

Figure 44. Exide: 2W Replacement / OE Forecasts



Source: Citi Investment Research and Analysis estimates / forecasts

Figure 45. Exide: 4w Replacement / OE Forecasts



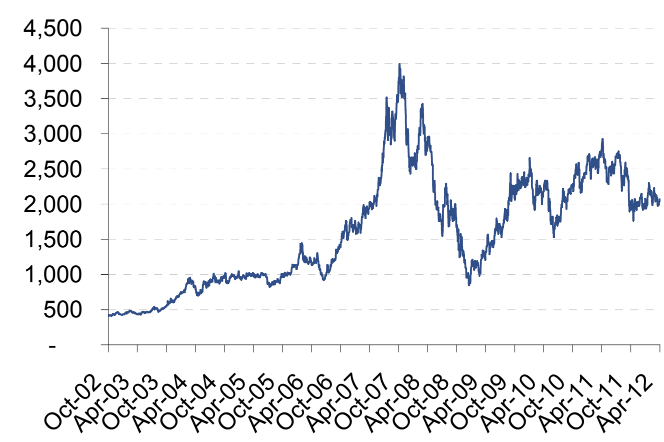
Source: Citi Investment Research and Analysis estimates / forecasts

The principal costs are lead and plastics – in FY12 we estimate these accounted for 55% / 13.5**%** of revenues respectively.

Lead – 1% change impacts EBITDA by ~4%, PAT by 5.5%, ceteris paribus

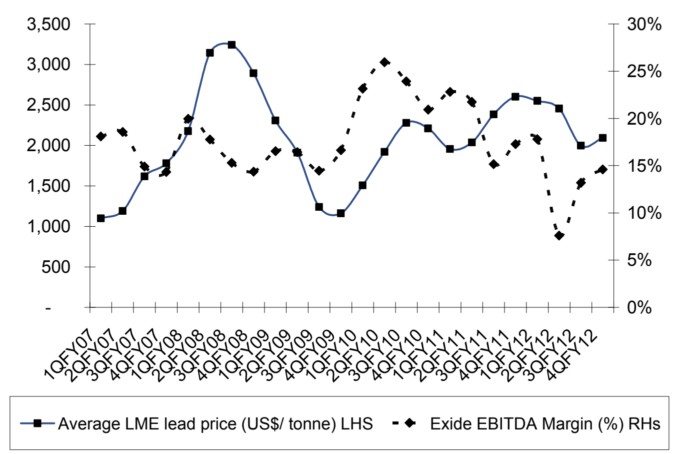
Exide's margin profile fluctuates in tandem with lead prices, typically with a 1-2Q lag. A crude sensitivity to lead is easily determinable – every 10% increase / decrease in lead results in a c550bps fall / rise in margins; on a 9% PAT margin (FY12E) this is equivalent to a 55% oscillation in profits. At an EBITDA margin of 13% (FY12E), this is equivalent to a c40% impact on EBITDA.

Figure 46. LME Lead Prices (Spot, US$ / tonne)



Source: Bloomberg

Figure 47. LME Lead Prices vs. Exide EBITDA Margins



Source: Company, Bloomberg, Citi Investment Research and Analysis

Impact of mix shift on margins: The auto replacement market typically enjoys very high margins. While difficult to quantify, we assume (based on checks with OEMs and correlating with prices in the aftermarket) that the margin differential between batteries for OEMs vs. the aftermarket is 20-25ppts. This implies that a c10% increase / decrease in aftermarket revenues can increase / decrease margins by 2-2.5% - which is substantial on a normalized PAT margin of around 10%.

~23% Earnings CAGR Forecast for FY12-15E

The forecast growth in PAT is in line with the growth in EBITDA (operating profits). We expect growth in PAT to be front-ended (FY13/FY14). The growth over FY15, admittedly, will be determined by trends evidenced in late FY13 and early FY14.

Financial Statements

We expect gross sales to grow at ~16% CAGR over FY12-15. While partly reflecting a very weak base of FY12, this growth would also be driven by volume increase as well as expected price hike due to excise duty increase. Net sales CAGR is ~16%- reflecting higher excise FY13 onwards

Gross margins in FY13 expected to be better than FY12 levels. That said, GM in FY13 would be lower than FY11 due to 1) excise duty hike, 2) constrained pricing power, especially after company cut prices in April

EBITDA margins to gradually recover to around 16% levels by FY14. EBITDA to grow at a CAGR of ~22% over FY12-15E

With a strong balance sheet (net cash), interest cost burden is negligible

Tax rate remains steady at around 30%

Earnings CAGR over FY12-15 is ~23%, with growth being front ended with ~25% CAGR over FY12-14 (primarily on a weak base of FY12)

Figure 48. Exide Industries: Profit and Loss Statement (Rs mn except per share data)

	FY10	FY11	FY12E	FY13E	FY14E	FY15E
Gross Sales	45,417	55,581	62,429	75,183	85,474	97,659
% change YoY	7.3%	22.4%	12.3%	20.4%	13.7%	14.3%
Excise	3,283	4,930	5,615	8,270	9,402	10,742
% of gross sales	7.2%	8.9%	9.0%	11.0%	11.0%	11.0%
Sales tax, VAT, Octroi etc	4,195	5,115	5,743	6,917	7,864	8,985
% of gross sales	9.2%	9.2%	9.2%	9.2%	9.2%	9.2%
Net Sales	**37,940**	**45,536**	**51,070**	**59,996**	**68,208**	**77,932**
% change YoY	11.8%	20.0%	12.2%	17.5%	13.7%	14.3%
	-					
Raw material expenses (inc traded good)	21,807	28,075	34,330	39,715	44,581	50,436
% of net sales	57.5%	61.7%	67.2%	66.2%	65.4%	64.7%
Other variable expenses	2,296	3,028	3,641	4,200	4,775	5,455
% of net sales	6.1%	6.7%	7.1%	7.0%	7.0%	7.0%
Employee expenses	2,252	2,829	2,862	3,350	3,700	4,500
% of net sales	5.9%	6.2%	5.6%	5.6%	5.4%	5.8%
Other fixed expenses	2,691	2,816	3,398	3,927	4,475	5,040
% of net sales	7.1%	6.2%	6.7%	6.5%	6.6%	6.5%
Total Operating Expenses	29,046	36,748	44,232	51,191	57,530	65,432
% of net sales	76.6%	80.7%	86.6%	85.3%	84.3%	84.0%
EBITDA	**8,894**	**8,788**	**6,839**	**8,805**	**10,678**	**12,500**
EBITDA Margin	23.4%	19.3%	13.4%	14.7%	15.7%	16.0%
Other income	124	835	673	855	983	1,210
Interest	106	60	53	4	3	3
Depreciation	807	835	1,007	1,132	1,282	1,432
Exceptionals	-	(676)	-	-	-	-
PBT	8,106	9,404	6,452	8,523	10,376	12,275
Tax	2,735	2,740	1,840	2,557	3,113	3,683
PAT	5,371	6,664	4,612	5,966	7,263	8,593
PAT (pre exceptional)	**5,371**	**6,185**	**4,612**	**5,966**	**7,263**	**8,593**
% change YoY	88.9%	15.2%	-25.4%	29.4%	21.7%	18.3%
Profit Margins						
Gross Margins (%)	42.5%	38.3%	32.8%	33.8%	34.6%	35.3%
EBITDA Margins (%)	23.4%	19.3%	13.4%	14.7%	15.7%	16.0%
Other income / EBDIT (%)	1.4%	8.7%	9.0%	8.8%	8.4%	8.8%
Other income / PAT (%)	2.3%	12.5%	14.6%	14.3%	13.5%	14.1%
EBDT (%)	23.5%	21.0%	14.6%	16.1%	17.1%	17.6%
Pre tax margins (%)	21.4%	20.7%	12.6%	14.2%	15.2%	15.8%
Tax / PBT (%)	33.7%	29.1%	28.5%	30.0%	30.0%	30.0%
Net profit margins (%)	14.2%	13.6%	9.0%	9.9%	10.6%	11.0%
EPS (Rs)	**6.7**	**7.3**	**5.4**	**7.0**	**8.5**	**10.1**
CEPS (Rs)	**7.7**	**8.8**	**6.6**	**8.4**	**10.1**	**11.8**
Book value FD (Rs)	**26.1**	**32.3**	**36.0**	**41.0**	**47.1**	**54.2**

Source: Company, Citi Investment Research and Analysis estimates

Equity infusion in FY07 and FY10 was to fund working capital requirements, repay debt, pay for technical collaborations and for acquisitions

Exide is virtually debt free and with the company generating healthy cash flow, we do not expect any equity-raising over the next 2-3 years

Gross block increase primarily reflects capacity additions that the mgmt has done over the years and also plans for the next 3-4 years. We estimate capex at around Rs 2.5bn / year over FY13-15

Investments include liquid assets (cash equivalents) and investment in subsidiaries. Overall, the company has a very health balance sheet structure with over Rs 7bn in cash and liquid investments (FY12P)

MF investments equivalent to around Rs11bn/ Rs12bn in FY13/FY14

The company appears to have curtailed investment in ING Vysya Life in FY12- a positive from cash flow and RoCE perspective

Figure 49. Exide Industries: Balance Sheet (Rs mn)

	FY10	FY11	FY12E	FY13E	FY14E	FY15E
SOURCES OF FUNDS						
Share Capital	850	850	850	850	850	850
Reserves & Surplus	21,348	26,575	29,723	34,004	39,160	45,261
Total Shareholders Funds	**22,198**	**27,425**	**30,573**	**34,854**	**40,010**	**46,111**
Secured Loans	2	1	-	-	-	-
Unsecured Loans	898	21	41	20	20	20
Total Debt	900	22	41	20	20	20
Deferred Tax Liabilities	590	675	825	825	825	825
Total Sources of funds	**23,688**	**28,121**	**31,440**	**35,699**	**40,855**	**46,956**
APPLICATION OF FUNDS						
Gross Block	13,365	15,612	17,612	20,112	22,612	25,112
Less: Accum. Depreciation	6,598	7,253	8,260	9,392	10,673	12,105
Net Block	6,767	8,358	9,352	10,720	11,938	13,007
Capital Work in Progress	378	660	589	660	660	660
Net Fixed Assets	7,144	9,018	9,941	11,380	12,598	13,667
Total Investments	13,354	13,780	15,546	18,424	21,986	26,025
Current Assets						
Inventories	6,068	8,590	9,681	11,395	12,432	14,222
Sundry Debtors	2,546	3,665	4,023	4,738	5,386	6,154
Cash and Bank Balance	29	148	577	500	600	700
Loans and Advances & Other CA	476	885	1,132	1,200	1,400	1,600
Total current assets	9,118	13,287	15,413	17,833	19,818	22,676
Current Liabilities	4,943	6,603	7,814	8,993	10,096	11,422
Provisions	985	1,362	1,646	2,945	3,450	3,989
Total current liabilities and provisions	5,929	7,964	9,460	11,938	13,546	15,411
Net Current Assets	3,190	5,323	5,953	5,895	6,272	7,265
Total Application of Funds	**23,688**	**28,121**	**31,440**	**35,699**	**40,855**	**46,956**

Source: Company, Citi Investment Research and Analysis estimates

Figure 50. Exide Industries: Cash Flow Statement (Rs mn)

	FY10	FY11	FY12E	FY13E	FY14E	FY15E
PBT	8,106	9,404	6,452	8,523	10,376	12,275
Tax Paid	(2,735)	(2,740)	(1,840)	(2,557)	(3,113)	(3,683)
Change in DTL	178	85	150	-	-	-
Add: D&A	807	835	1,007	1,132	1,282	1,432
Chg in Debtors	(236)	(1,120)	(358)	(715)	(648)	(768)
Chg in Loans & Advances	(89)	(409)	(247)	(68)	(200)	(200)
Chg in other CA	(1,683)	(2,522)	(1,092)	(1,714)	(1,037)	(1,790)
Chg in CL	1,136	1,659	1,211	1,179	1,103	1,326
Chg in Provisions	(74)	376	285	1,299	505	539
Change in Working Capital	(945)	(2,015)	(200)	(19)	(277)	(893)
Cash Flow from Operations	**5,410**	**5,568**	**5,568**	**7,079**	**8,268**	**9,131**
Capex	(1,098)	(2,708)	(1,930)	(2,571)	(2,500)	(2,500)
Change in Long term Investments	(1,193)	(1,423)	(318)	(187)	-	(500)
Change in liquid investments	(5,479)	997	(1,449)	(2,690)	(3,562)	(3,539)
Cash Flow from Investing Activities	**(7,770)**	**(3,134)**	**(3,696)**	**(5,448)**	**(6,062)**	**(6,539)**
Change in Debt	(2,272)	(878)	20	(21)	-	-
Change in Equity	50	-	-	-	-	-
Change in Reserves	5,226	(32)	24	44	(0)	-
Dividend and Dividend Tax	(952)	(1,404)	(1,487)	(1,730)	(2,106)	(2,492)
Cash Flow from Financing Activities	**2,051**	**(2,315)**	**(1,443)**	**(1,707)**	**(2,106)**	**(2,492)**
Extraordinary Items + Tax Adjustments + others						
Increase/(Decrease) in Cash	(308)	119	429	(77)	100	100
Opening Cash and Bank Balance	337	29	148	577	500	600
Closing Cash and Bank Balance	29	148	577	500	600	700

Source: Company, Citi Investment Research and Analysis estimates

Risk Factors

Downside Risks to Target Price, Estimates

- As a company whose revenues are substantially linked to derived demand from the auto sector, Exide's revenue profile is impacted by the same macro factors – interest rates, fuel costs, etc. The impact, though is with a lagged effect, and the cyclicality is blunted by the preponderance of replacement sales in overall demand.
- Lead is a large constituent of costs – it has been an increasingly volatile commodity in the past few years – depending when the company purchases its requirements could impact its margin profile (both beneficially and adversely) in the short term.
- A meaningful shift in battery technologies which Exide isn't able to adapt to easily, or in which a competitor has a first-mover advantage, could impact Exide's market share.
- Exide's inability to ramp up production at its captive smelters as per management's targets could impact its margin profile in the medium term.
- Aggressive discounting by new entrants or a price war by competition in the auto replacement market could impact margins over the duration of such competitive intensity.
- While a higher peak power deficit is beneficial for Exide (power back-up demand rises), there is also a risk of shifting of large residential and commercial complexes to captive power (primarily diesel generators), resulting in lower demand for individual inverters / UPSs.
- Backward integration by inverter manufacturers (own battery manufacturing) could impact volume dispatch to the inverter segment. Mgmt has alluded to this trend already taking place- hence the expansion into inverter manufacturing
- Exide imports ~18% of raw materials, resulting in possible margin erosion in case of a depreciating INR.

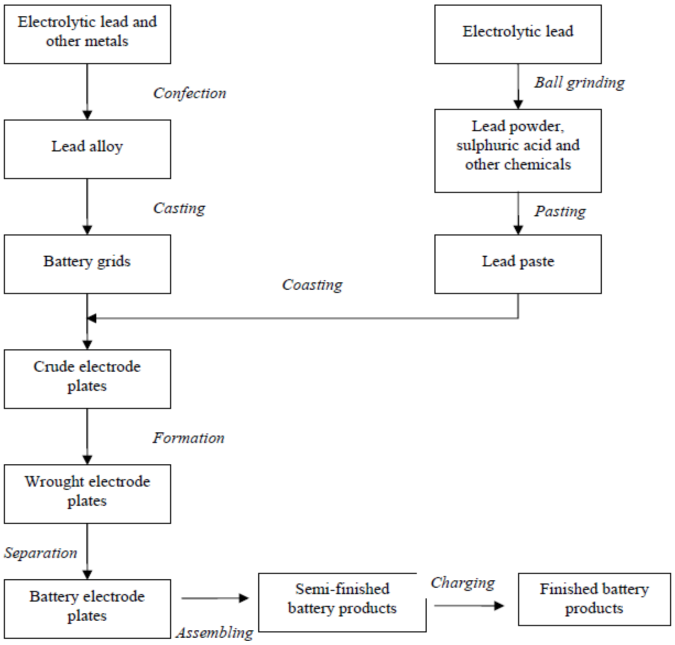
Upside Risks

- Faster than expected uptick in vehicle sales could result in front ending of OEM demand (earlier than our expectations of 2H13). This would bode well for Exide, which is a dominant player in the OEM storage battery segment.
- Further worsening of the power situation in the country would increase demand for back-up power from both industrial and the residential segment. A situation of increased fuel cost (though highly subsidized currently) could result in consumers shifting from generators to inverter/UPS- a positive for battery manufacturers.
- Sustained decline in lead prices could result in margin improvement for the entire industry, including Exide. An appreciating INR would also reduce the procurement cost for the company, further improving margins. That said, a sharp decline in lead prices could result in proliferation of the unorganized sector,
- More stringent implementation of the Batteries (Management and Handling) Rules, 2001 issued by the Ministry of Environment and Forests could result in more regulated handling of scrap batteries impairing cheap lead procurement by the unorganized sector (whose main source is used batteries manufactured by large players). This would reduce the competition from unorganized sector, hence increasing replacement demand (where unorganized sector has significant market share)

Annexures

1: Battery Manufacturing Process

Figure 51. Battery Manufacturing Process



Source: Company

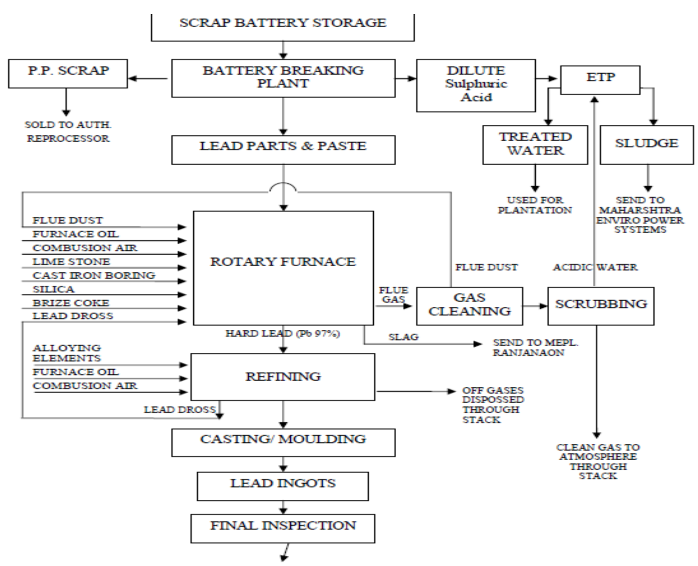
Figure 52. Steps in Battery Manufacturing

Step	Detailed Process
Confection	Lead ingots are melted into liquid form. After adding other metals like antimony, calcium and tin, the liquid lead is again caste into alloy ingots
Casting	Lead alloy ingots are melted into liquid form and casted into battery grids. Battery grids are produced in different sizes for use in lead-acid motive battery products with different storage capacity and power output
Coating	Battery grids are coated with lead paste
Ball grinding	Electrolysed lead is ground into lead powder by a ball crusher
Pasting	Lead powder is diluted and mixed with sulphuric acid and other chemicals to produce the lead paste
Formation	The electrode plates are immersed into sulphuric acid contained in formation slots where they are first charged with electricity and tested and then the electricity is discharged to allow the electrode plates to be further processed.
Separation	Electrode plates are then cut into the appropriate sizes by automated cutting machines. Each electrode plate is then weighted.
Wrapping and assembling	Pairs of positively charged and negatively charged electrode plates, each separated by a fibre glass dividing plate which acts as an insulating layer, are bound together.
Charging	Electrolyte is added to the semi-finished battery products with acid feeders. The battery products will be charged with electricity, with the process taking approximately 48 hours to complete, depending on the storage capacity of the battery products. The charged battery products will then be cleaned and sealed. A serial number is affixed onto each battery once it has passed the final inspection and testing.

Source: Company

Exide, through its subsidiary smelters, is also engaged in production of lead alloys. This has enabled the company to reduce dependence on third party sourcing of lead, resulting in an assured supply, cheaper procurement, hedge against international lead prices and forex rate fluctuations.

Figure 53. Lead Smelting Process



Source: Company

2: Exide Industries - Subsidiary Details

Figure 54. Exide Industries: Subsidiaries Details

Subsidiary	Business	% holding
Indian subsidiaries		
Chloride Alloys India Ltd (formerly Leadage Alloys India Limited, Karnataka)	Lead smelting and refining	100%
Chloride Metals Limited (formerly Tandon Metals Ltd., Pune)	Lead smelting and refining	100%
Chloride Power Systems and Solutions Ltd (formerly Caldyne Automatics)	Manufacture and sale of Chargers, DC Power Systems and associated equipment.	100%
Chloride International Limited,	Marketing and sale of Non-conventional Energy Systems like Solar Home Lighting and Heating System Panels, and Home UPS / Inverters etc	100%
Foreign subsidiaries		
Chloride Batteries S E Asia Pte. Ltd., Singapore	Manufacturing and sale of lead acid batteries (caters to the South East Asian and Australian markets)	100%
Espex Batteries Limited, UK,	Marketing and selling of lead acid batteries for industrial applications	51%
Associated Battery Manufacturers (Ceylon) Limited, Sri Lanka	Manufacturing and marketing of Lead Acid batteries.	61.5%
Associate Company		
ING Vysya Life Insurance Company Ltd	Life Insurance	50%

Source: Company

Indian Subsidiaries

Chloride Alloys India Ltd (formerly Leadage Alloys India Ltd) — Leadage Alloys India was also an unlisted company, incorporated in 2002, engaged in production of lead and lead alloys. Exide acquired 51% stake in Leadage in June 2008 for Rs~334m and the balance 49% in August 2010 for Rs ~206m, taking total investment in the subsidiary to Rs540m. The company has its registered office in Kolar District, Karnataka.

Chloride Metals Ltd (formerly Tandon Metals Ltd) — Tandon Metals was an unlisted company, incorporated in 1998 and engaged in the manufacture and supply of recycled lead, to be used in battery manufacturing. Exide industry acquired Tandon Metals in Oct 2007 for Rs250m and renamed it Chloride Metals, w.e.f. December 2008. Situated at Pune, Maharashtra, Chloride Metals along with Chloride Alloys caters to 52-53% of Exide's total lead requirement.

Chloride Power Systems and Solutions (formerly Caldyne Automatics) — Incorporated in 1980 as Caldyne Automatics, Chloride Power Systems and Solutions is engaged in manufacturing battery chargers, solar energy equipment and domestic use UPS (under the Chloride brand name). In 1999 Exide acquired 51% stakes in Caldyne (investment of Rs11.8m) and in July 2007 acquired entire share holding, taking total investment up to Rs29.3m. Caldyne Automatics was renamed Chloride Power Systems and Solutions from June 2011 onwards.

Chloride International — Chloride International was incorporated in 1947 as Exide Batteries (Eastern), which was subsequently changed to 'Chloride & Exide Batteries (Eastern) in February, 1948. It was later changed to Exide Products in April, 1981 and lastly changed to Chloride International in November, 2003. CIL is a 100% subsidiary of Exide and is engaged in the marketing and sale of non-conventional Energy Systems like Solar Home Lighting and Heating System Panels, and Home UPS / Inverters etc.

Foreign Subsidiaries

Chloride Batteries S E Asia Pte Limited (Singapore) — CBSEA was incorporated in 1958 as "The Chloride Electrical Storage Company Far East Limited" on 4th September, 1958 which was subsequently changed to 'Chloride Batteries S E Asia Pte Limited in December, 1969. Exide acquired 100% stake in CBSEA in FY01 (investment of Rs 103.5mn. CBSEA is engaged in production and distribution of industrial battery chargers, rectifiers and parts as well as distribution of lead storage batteries. As a result of the acquisition, Exide also acquired 49% stake in Associated Battery Manufacturers (Ceylon) Limited (CBSEA had 49% stake in ABML).

Associated Battery Manufacturers (Ceylon) Limited (Sri Lanka) — ABML was incorporated in May 1960 and was acquired by Exide as a result of the latter's acquisition of Chloride Batteries S E Asia Pte Limited (CBSEA had 49% stake). Exide increased its stake in ABML to 61.5% in FY05 (total investment Rs73.1mn). ABML is primarily engaged in manufacturing lead storage batteries, catering to the auto sector demand.

Espex Batteries Limited (United Kingdom) — Espex is engaged in sales and distribution of Exide's industrial batteries in UK. Exide acquired 51% stake in the JV with the Schoenmann family in FY04 (investment of Rs 7.8mn). The company primarily imports traction batteries manufactured at Exide's facilities in India and sells them in UK. Espex also has an assembly, acid-filling and charging facilities in Cardiff, UK.

3: Board of Directors

Figure 55. Exide Industries: Board of Directors

Mr R G Kapadia	Independent Non-Executive Director	Chairman
Mr R B Raheja	Non-Executive Vice Chairman	Vice Chairman
Mr T V Ramanathan	Executive Director	Chief Executive Officer
Mr G Chatterjee	Executive Director	Director – Industrial
Mr P K Kataky	Executive Director	Director – Automotive
Mr A K Mukherjee	Executive Director	Director – Finance and CFO
Mr Nadeem Kazim	Additional Director	Director – HR and Personnel (May 1, 2011)
Mr H M Kothari	Independent Non-Executive Director	
Mr Bhaskar Mitter	Independent Non-Executive Director	
Mr S N Mookherjee	Independent Non-Executive Director	
Mr Vijay Aggarwal	Independent Non-Executive Director	
Mr S B Raheja	Non-Executive Director	
Mr D S Parekh (Alternate to Mr SB Raheja)	Independent Non-Executive Director	
Mr W Wong	Non-Executive Director	
Ms Mona N Desai	Independent Non-Executive Director	

Source: Company Annual Report

4: Share Capital History

Figure 56. Exide Industries: Share capital history

Year	Action	Before		After	
		Share count (mn)	Share capital (Rs mn)	Share count (mn)	Share capital (Rs mn)
FY05	**Preferential allotment of 3.78mn equity shares** to Aranda Investments (Mauritius) Pte Ltd (private placement)	71.22	712.2	75	750
FY07	**Stock split in ratio of 1:10 —** 75mn equity shares of Rs 10 face value split into 750mn equity shares of Rs 1 face value	75	750	750	750
FY08	**Rights issue in ratio of 1:15 —** 50mn equity shares of Rs 1 each	750	750	800	800
FY10	**Qualified Institutions Placement —** 50mn equity shares of Rs 1 each	800	800	850	850

Source: Company

5: Major clients

Figure 57. Exide Industries: Major Clients

Automotive Segment		Industrial Segment	
Mahindra and Mahindra	Hyundai	Motorola	Godrej
Tata Motors	Mercedes Benz	APC	Voltas
Baja Auto	General Motors	Siemens	NTPC
Hero Honda	Fiat	Ericsson	BHEL
Maruti Suzuki	Renault	Lucent Technologies	BSNL
	Toyota	ABB	Larsen& Toubro
	Honda	Emerson	Tata Communications
		Alcatel	Indian Railways

Source: Company

6: Indian Battery Industry - Regulatory Landscape

The storage battery industry in India is governed by the Batteries (Management and Handling) Rules, 2001 issued by the Ministry of Environment and Forests- further amended in 2010 under the Batteries (Management and Handling) Amendment Rules, 2010. These Rules lay norms for collection of scrap batteries and recycling them so as to minimize hazards to human health and environment. While the onus of preventing "loss" of batteries (used batteries not returned to manufacturer) lies on the battery maker, importer, dealer and customer, it is mainly the battery manufacturer (including importer) who has the maximum responsibility to ensure that old batteries are collected as per schedule and half yearly returns filed with the State Board, among other conditions. [4,5]

Till recently, these rules have not been followed and this has resulted in a burgeoning unorganized sector where the main sources of raw material are old / used batteries of the major organized players. We believe that if these rules are implemented, it would be beneficial for the organized battery manufacturers- both Exide and Amara Raja. While it would result in slight increase in expenses (for collection and recycling), the reduction in competitive pressure could buoy volumes significantly. In addition, a reduction in supply of batteries by the unorganized players would result in less pricing pressure for the organized players, helping in overall realizations and margins.

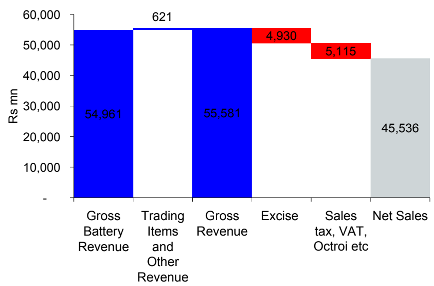
[4] http://envfor.nic.in/legis/hsm/leadbat.html

[5] http://moef.nic.in/downloads/rules-and-regulations/SO1002.pdf

7: Financial Profile Snapshot

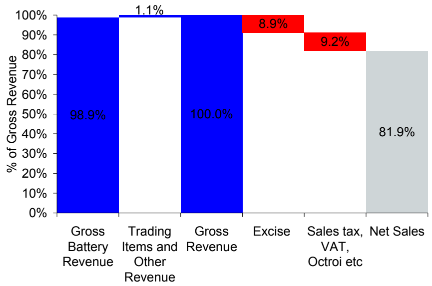
Taxes (excise / sales tax) are ~18% of gross sales. Excise duties forecast to rise ~2% to 11% in FY13

Figure 58. Exide: FY11 Operating Revenues



Source: Citi Investment Research and Analysis

Figure 59. Exide: FY11 Operating Revenue (%)

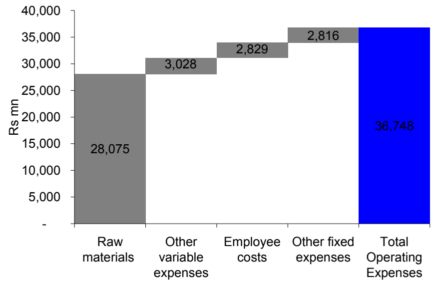


Source: Citi Investment Research and Analysis

Raw materials ~76% of operating expenses – lead is ~83% of material costs, ~51% of revenues

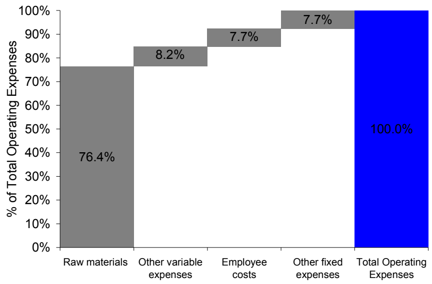
Employee expenses / other SGA ~15% of overall expenses

Figure 60. Exide: FY11 Operating Expenditure



Source: Citi Investment Research and Analysis

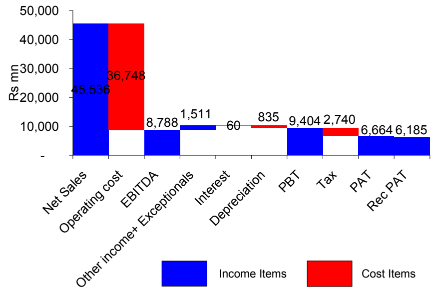
Figure 61. Exide: FY11 Operating Expenditure



Source: Citi Investment Research and Analysis

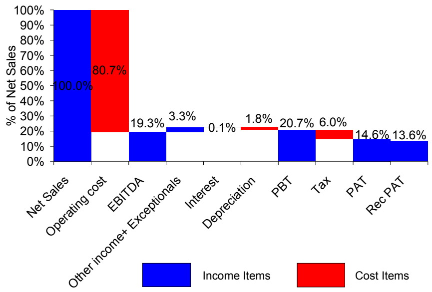
PBT margin >20%, exceeds EBITDA margin - driven by higher other income (dividends from subsidiaries). Capital costs (interest / depreciation) are insignificant – reflect low capital intensity of business and strong balance sheet

Figure 62. Exide: FY11 P&L Structure



Source: Citi Investment Research and Analysis

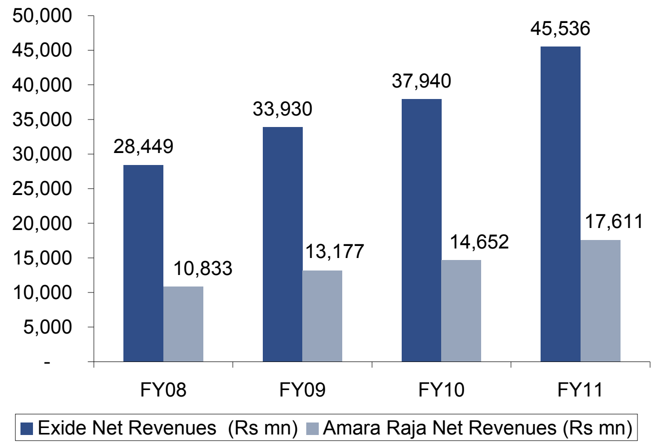
Figure 63. Exide: FY11 P&L Structure (%)



Source: Citi Investment Research and Analysis

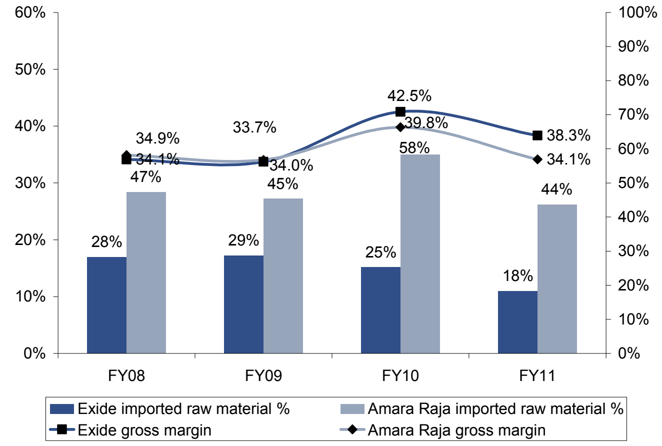
8: Exide vs. Amara Raja in Pictures

Figure 64. Revenue Trends (Rs Mn)



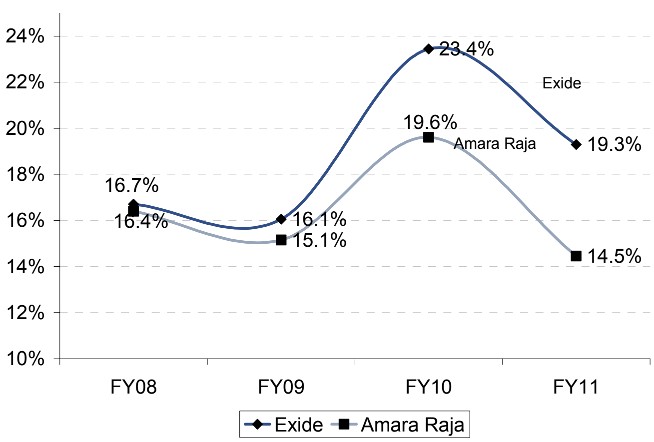
Source: Companies, Citi Investment Research and Analysis

Figure 65. Gross Margins vs. Imports (% of raw materials consumed)



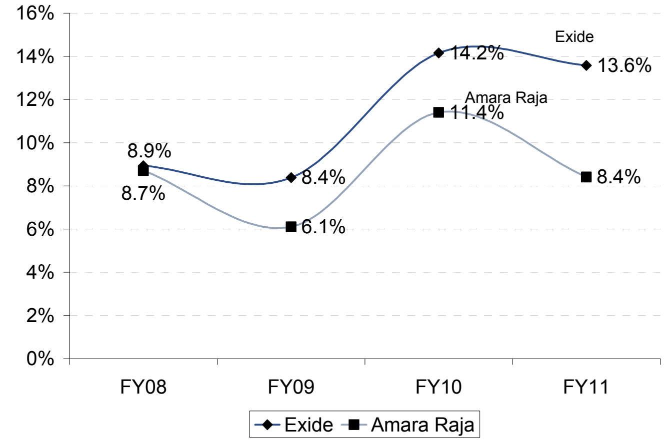
Source: Companies, Citi Investment Research and Analysis

Figure 66. EBITDA Margin Trends (%)



Source: Companies, Citi Investment Research and Analysis

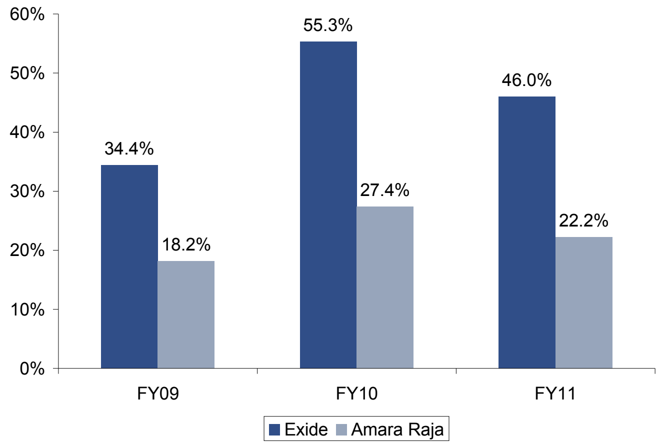
Figure 67. PAT Margin Trends (%)



Source: Companies, Citi Investment Research and Analysis

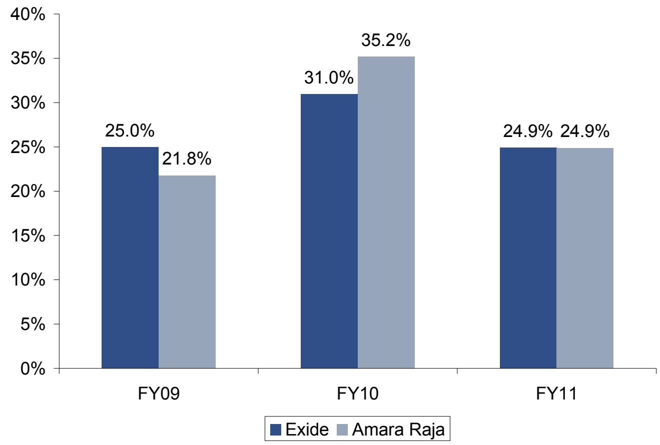
As Exide reduced its dependence on imported raw material, its gross margin vs. Amara Raja improved significantly. In the period from FY07 to FY11, Exide reduced it imported goods % from 28% to 18% while Amara Raja reduced it to a smaller extent from 47% to 44%. In the same period, the spread between the gross margins of the two companies (Exide GM- Amara Raja GM) increased from -77bps in FY07 to 420bps in FY11. PAT margins also diverged, in line with the trends witnessed in EBITDA margins.

Figure 68. Return on Invested Capital (RoIC) Trends (%)



Source: Companies, Citi Investment Research and Analysis

Figure 69. RoE Trends (%)



Source: Companies, Citi Investment Research and Analysis

9: Global Comp Valuations

Figure 70. Global Comp Valuation

RIC Code	Company	M. Cap ($ m)			Rating	TP	Price	P / EPS (x)			P / BVPS (x)			RoE (%)		
								FY12	FY13	FY14	FY12	FY13	FY14	FY12	FY13	FY14
	Indian Peers															
EXID.BO	**Exide Industries**	**1,828**	**31-Mar**	**INR**	**Buy**	**149**	**118**	**21.80**	**16.85**	**13.84**	**3.29**	**2.88**	**2.51**	**16%**	**18%**	**19%**
AMAR.BO	Amara Raja	430	31-Mar	INR	NR	NR	277	11.19	9.62	8.59	2.83	2.24	1.99	28%	26%	27%
BFRG.BO	Bharat Forge	1,302	31-Mar	INR	Sell	279	308	17.10	15.46	12.25	3.21	2.91	2.60	20%	20%	22%
CUMM.BO	Cummins India	2,041	31-Mar	INR	Buy	511	405	20.60	17.34	14.59	5.49	4.94	4.42	31%	30%	32%
	Average							**17.67**	**14.82**	**12.32**	**3.71**	**3.24**	**2.88**	**24%**	**24%**	**25%**
	Global Battery Peers															
JCI.N	Johnson Controls Inc	20,624	30-Sep	USD	Neutral	34	30	11.84	10.12	8.53	1.75	1.60	1.39	16%	17%	18%
0842.HK	Leoch International	311	31-Dec	HKD	Buy	3.4	2	6.16	4.21	3.51	0.81	0.69	0.57	14%	18%	18%
XIDE.O	Exide Technologies	188	30-Nov	USD	NR	NR	2	2.94	4.95	2.77	0.37	0.30	0.24	14%	7%	11%
6674.T	GS Yuasa Corp	1,796	31-Mar	JPY	NR	NR	345	12.14	10.13	8.87	1.24	1.12	1.02	11%	12%	12%
1211.HK	BYD Company Ltd	1,665	31-Dec	HKD	NR	NR	16	22.41	21.35	17.14	1.44	1.32	1.24	7%	6%	7%
	Average							**11.10**	**10.15**	**8.16**	**1.12**	**1.00**	**0.89**	**12%**	**12%**	**13%**
	Japan Auto Ancillaries															
7283.T	Aisan Industry Co	502	31-Mar	JPY	Buy	940	717	33.15	7.65	6.37	0.71	0.64	0.59	2%	9%	10%
7259.T	Aisin Seiki Co Ltd	9,000	31-Mar	JPY	Buy	3200	2,533	12.86	8.67	8.47	0.98	0.89	0.82	8%	11%	10%
5108.T	Bridgestone Corp	16,826	31-Dec	JPY	Neutral	2130	1,705	10.91	7.53	7.81	1.14	1.01	0.91	11%	14%	12%
7248.T	Calsonic Kansei Corp	1,581	31-Mar	JPY	Buy	610	468	5.62	7.69	7.17	1.05	0.94	0.85	20%	13%	12%
6902.T	Denso Corp	24,702	31-Mar	JPY	Buy	3200	2,431	21.94	10.00	8.59	0.97	0.91	0.85	4%	9%	10%
7251.T	Keihin Corp	1,182	31-Mar	JPY	Buy	1590	1,267	18.02	7.15	6.42	0.77	0.71	0.65	4%	10%	11%
7276.T	Koito Manufacturing CoLtd	2,140	31-Mar	JPY	Buy	1380	1,056	12.67	6.90	6.13	1.06	0.93	0.82	9%	14%	14%
7240.T	NOK Corp	3,407	31-Mar	JPY	Buy	1970	1,571	16.87	8.77	8.04	1.08	0.98	0.88	7%	12%	12%
7230.T	Nissin Kogyo Co Ltd	929	31-Mar	JPY	Buy	1400	1,139	16.80	8.15	6.81	0.91	0.84	0.76	5%	11%	12%
6444.T	Sanden Corp	519	31-Mar	JPY	Neutral		302	34.16	6.98	4.25	0.91	0.83	0.72	3%	12%	18%
6923.T	Stanley Electric Co	2,457	31-Mar	JPY	Neutral		1,150	11.52	9.39	8.50	0.95	0.89	0.82	8%	10%	10%
5110.T	Sumitomo Rubber	3,232	31-Dec	JPY	Neutral		977	8.40	7.11	7.40	1.25	1.09	0.97	15%	16%	14%
6470.T	Taiho Kogyo Co Ltd	343	31-Mar	JPY	Buy	950	967	11.31	9.20	7.94	0.62	0.59	0.56	6%	7%	7%
6995.T	Tokai Rika Co Ltd	1,526	31-Mar	JPY	Buy	1720	1,340	10.52	7.81	6.80	0.75	0.69	0.64	7%	9%	10%
6201.T	Toyota Industries	8,320	31-Mar	JPY	Neutral	2350	2,117	11.26	10.64	9.78	0.58	0.56	0.53	5%	5%	6%
	Average							**15.74**	**8.24**	**7.36**	**0.92**	**0.83**	**0.76**	**8%**	**11%**	**11%**
	US Auto Ancillaries															
BWA.N	Borg Warner	8,746	31-Dec	USD	Neutral	85	76	16.19	13.09	11.18	3.22	2.41	1.94	23%	23%	22%
GT.N	Goodyear Tire and Co	2,547	31-Dec	USD	Buy	21	10	5.39	5.11	4.27	2.87	1.75	1.19	65%	47%	38%
JCI.N	Johnson Controls	20,624	30-Sep	USD	Neutral	34	30	11.84	10.12	8.53	1.75	1.60	1.39	16%	17%	18%
MGA.N	Magna International	9,759	31-Dec	USD	Sell	46	42	9.15	8.33	7.41	1.19	1.02	0.92	13%	13%	13%
	Average							**10.64**	**9.16**	**7.85**	**2.26**	**1.69**	**1.36**	**29%**	**25%**	**23%**
	European Auto Ancillaries															
ALV.N	Autoliv	5,014	31-Dec	USD	Sell	375	56	8.45	8.89	8.50	1.49	1.41	1.26	18%	14%	15%
CONG.DE	Continental	17,574	31-Dec	EUR	Buy	91	69	8.44	7.18	6.37	1.84	1.57	1.34	19%	20%	20%
EPED.PA	FAURECIA	2,173	31-Dec	EUR	Neutral	20	15	5.08	5.27	4.27	1.40	1.13	0.90	34%	25%	24%
GKN.L	GKN	4,651	31-Dec	GBP	Neutral	1.7	2	9.38	8.14	na	1.83	1.61	na	22%	21%	na
MICP.PA	Michelin	11,511	31-Dec	EUR	Buy	65	50	6.11	6.09	na	1.06	0.92	na	18%	16%	na
PECI.MI	Pirelli	5,240	31-Dec	EUR	Buy	10.5	9	11.18	8.47	7.17	1.87	1.63	1.40	17%	20%	20%
VLOF.PA	Valeo	3,560	31-Dec	EUR	Buy	47	35	6.24	6.02	4.89	1.37	1.17	1.00	23%	21%	20%
	Average							**7.84**	**7.15**	**6.24**	**1.55**	**1.35**	**1.18**	**22%**	**20%**	**20%**
	Korean Auto Ancillaries															
012330.KS	Hyundai Mobis	22,641	31-Dec	KRW	Neutral	340000	271,500	8.47	7.48	6.64	1.78	1.38	1.10	24%	21%	18%

Source: dataCentral, Citi Investment Research and Analysis, Non rated companies figures based on IBES consensus

Note: Prices as on 22nd May 2012

Quants View – Unattractive

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Data as of: 11-May-12

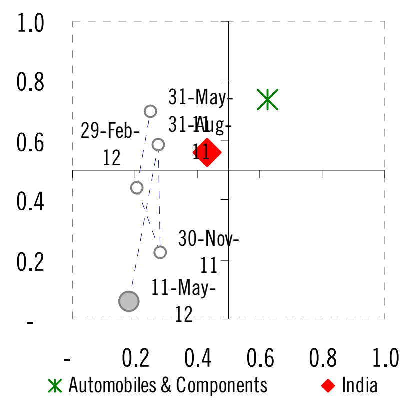
Radar Screen Quadrant Definitions

Glamour *Poor relative value but superior relative momentum*	**Attractive** *Superior relative value and superior relative momentum*
Unattractive *Poor relative value and poor relative momentum*	**Contrarian** *Superior relative value but poor relative momentum*

Exide Industries lies in the Extreme corner of the Unattractive quadrant of our Value-Momentum map with weak momentum and weak value scores. The stock has moved from the Glamour quadrant to the Unattractive quadrant in the past two months indicating a fall in momentum along with valuations remaining weak. Compared with its peers in the Automobiles & Components sector, Exide Industries fares worse on the valuation metric and on the momentum metric. Similarly, compared with its peers in its home market of India, Exide Industries fares worse on the valuation metric and on the momentum metric.

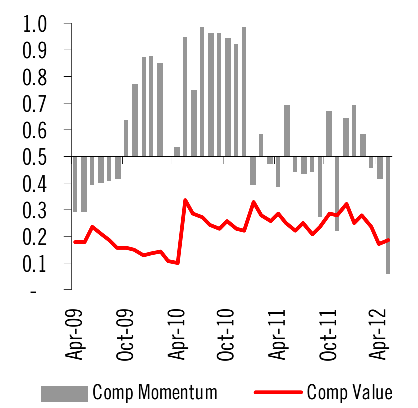
From a macro perspective, Exide Industries is likely to benefit from value underperformance and large cap outperformance.

Figure 71. Radar Quadrant Chart History



Source: CIRA

Figure 72. Radar Valuation and Momentum Scores



Source: CIRA

Figure 73. Radar Model Inputs

IBES EPS (Actual and Estimates)

FY(-2)	6.15	Implied Trend Growth (%)	7.64
FY(-1)	7.83	Trailing PE (x)	23.14
FY0	5.25	Implied Cost of Debt (%)	10.02
FY1	7.82	Standardised MCap	(0.16)
FY2	8.90		

Note: Standardised MCap calculated as a Z score – (mkt cap - mean)/std dev – capped at 3

Source: Citi Investment Research and Analysis, Worldscope, I/B/E/S

Figure 74. Stock Performance Sensitivity to Key Macro Factors

Region	1.11	Commodity ex Oil	(0.01)
Widening APACxJ CDS	(0.06)	Rising Oil Prices	(0.08)
Growth	0.58	Rising Asian IR's	(0.31)
Value	(2.47)	Rising EM Yields	0.29
Small Caps Outperform Large Caps	(1.26)	Weaker US$ (vs Asia)	1.99
Widening US Credit Spreads	0.01	Weaker ¥ (vs US$)	0.35

Source: Citi Investment Research and Analysis

Exide Industries

Company description

Exide is a lead-acid storage battery manufacturer that makes and markets storage batteries in the automotive, industrial and submarine segments. The company has also forayed into manufacturing invertors. Exide is the market leader in the automotive lead storage battery industry in India with a 74% share of the OEM market and ~25% of the overall aftermarket segment. It is also a key player in the industrial lead storage battery segment. Exide has a strong brand franchise with the widest network of dealers and distributers in India.

Investment strategy

We rate Exide a Buy. It is the leader in the Indian automotive segment with a strong brand franchise. With ~65% of net revenues from autos, and within that 70% from the aftermarket, Exide looks well poised to capture growth in the passenger-car and two-wheeler markets over the next 2-5 years. It has a broad client base, including major auto OEMs, making its battery sales relatively immune to fluctuations in individual market shares of vehicle manufacturers. Exide’s aftermarket operation is a strong consumer-franchise business, where it not only has higher margins but also commands pricing power (among organized sector peers). Growing power deficit in India should help the power back-up segment, and expansion into inverter manufacturing should provide incremental volumes in the segment. Captive smelters are expected to help the company’s margins against a backdrop of a depreciating INR (making imported lead costlier). With a secular shift evident from the unorganized to the organized sector in the aftermarket segment, we expect Exide to benefit. The company has a large capacity expansion plan, particularly for 2W batteries, a segment that is expected to grow rapidly.

Valuation

We value Exide at Rs149 based on an SOTP methodology. We value the base business at Rs140, using 18x Sept 2013E EPS. We arrive at 18x as follows: a) around 60% of FY13E earnings will be generated by the auto replacement sector; the auto OE and industrial equipment businesses will account for the balance 40%, on our estimates; b) for the replacement business we ascribe a quasi-consumer multiple of ~21x, a 20% discount to the broader consumer sector’s 25-30x, and c) for the other businesses (OEMs and industrial), we ascribe a broader market multiple of 15x. Our target multiple is slightly on the higher side against past trends, justified in our view by an earnings recovery after a sharp decline in FY12. We value ING Vysya Life Insurance at Rs9, based on 1x Exide's investment in the company.

Risks

Key downside risks that could prevent the stock from reaching our target price include: 1) Lower than expected auto volume growth due to an adverse macro environment; 2) A higher than expected increase in lead prices, which could suppress margins; 3) Higher than expected competitive intensity resulting in market share erosion; 4) Price wars by an aggressive new comer in the industry or by incumbent competitors could force Exide to cut prices, resulting in margin erosion.

Notes

Notes

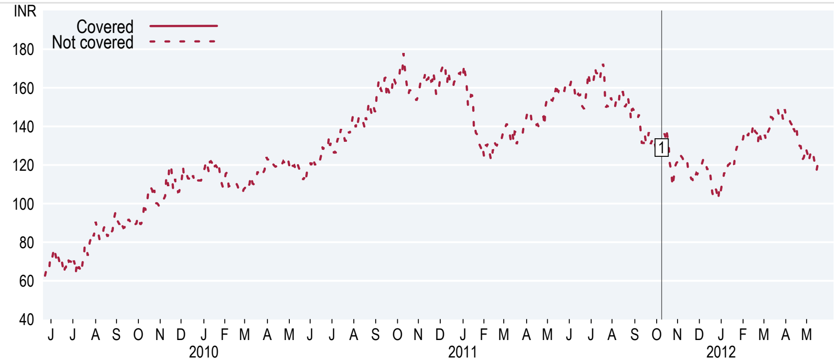
Appendix A-1

Analyst Certification

The research analyst(s) primarily responsible for the preparation and content of this research report are named in bold text in the author block at the front of the product except for those sections where an analyst's name appears in bold alongside content which is attributable to that analyst. Each of these analyst(s) certify, with respect to the section(s) of the report for which they are responsible, that the views expressed therein accurately reflect their personal views about each issuer and security referenced and were prepared in an independent manner, including with respect to Citigroup Global Markets Inc and its affiliates. No part of the research analyst's compensation was, is, or will be, directly or indirectly, related to the specific recommendation(s) or view(s) expressed by that research analyst in this report.

IMPORTANT DISCLOSURES

Exide Industries (EXID.BO)
Ratings and Target Price History
Fundamental Research

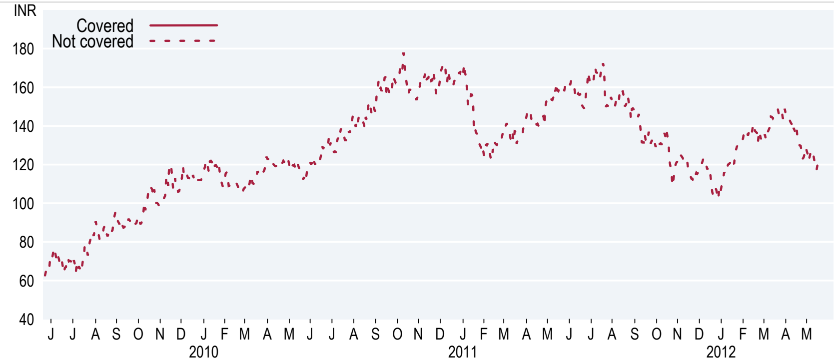


	Date	Rating	Target Price	Closing Price
1	8-Oct-11	Stock rating system changed		

* Indicates change

Rating/target price changes above reflect Eastern Standard Time

Exide Industries (EXID.BO)
Ratings and Target Price History
Best Ideas Research
Relative Call (3 Month)

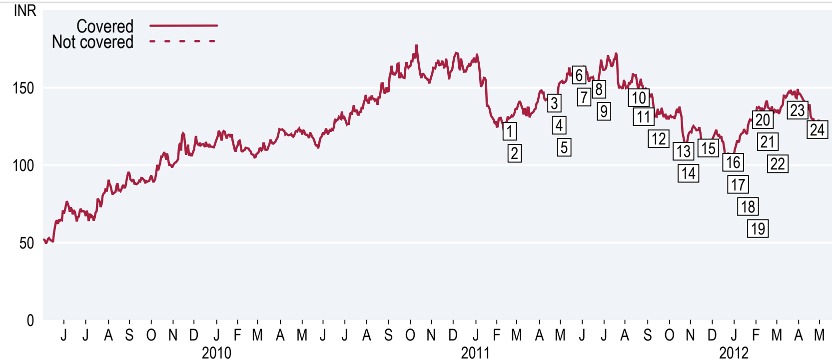


* Indicates change

Rating/target price changes above reflect Eastern Standard Time

Exide Industries (EXID.NS)

Rating History
Global Quantitative Research
Asia Radar Screen



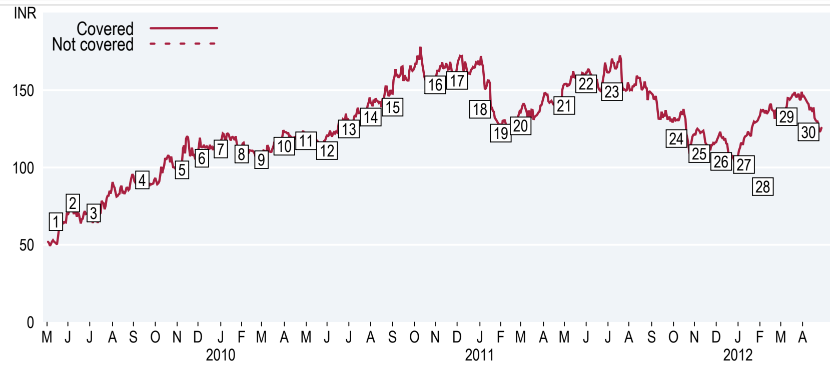
#	Date	Rating	Target Price	Closing Price
1	18-Feb-11	*3	-	130.45
2	25-Feb-11	*4	-	134.05
3	22-Apr-11	*3	-	143.05
4	29-Apr-11	*4	-	152.80
5	6-May-11	*5	-	153.70
6	27-May-11	*3	-	160.85
7	3-Jun-11	*4	-	163.60
8	24-Jun-11	*5	-	157.50
9	1-Jul-11	*4	-	161.45
10	19-Aug-11	*5	-	150.30
11	26-Aug-11	*4	-	143.60
12	16-Sep-11	*5	-	132.65
13	21-Oct-11	*4	-	118.15
14	28-Oct-11	*5	-	119.85
15	25-Nov-11	*3	-	114.80
16	30-Dec-11	*2	-	105.05
17	6-Jan-12	*3	-	115.05
18	20-Jan-12	*2	-	125.60
19	3-Feb-12	*1	-	136.90
20	10-Feb-12	*2	-	134.60
21	17-Feb-12	*4	-	137.35
22	2-Mar-12	*5	-	135.90
23	30-Mar-12	*4	-	149.20
24	27-Apr-12	*5	-	125.70

* Indicates change

Rating/target price changes above reflect Eastern Standard Time

Exide Industries (EXID.BO)

Rating History
Global Quantitative Research
World Radar Screen



#	Date	Rating	Target Price	Closing Price
1	14-May-09	*8	-	51.05
2	8-Jun-09	*6	-	72.40
3	7-Jul-09	*4	-	69.15
4	14-Sep-09	*7	-	88.85
5	9-Nov-09	*3	-	103.95
6	7-Dec-09	*4	-	113.10
7	1-Jan-10	*5	-	115.55
8	1-Feb-10	*3	-	112.60
9	1-Mar-10	*7	-	107.35
10	1-Apr-10	*6	-	122.90
11	1-May-10	*4	-	122.30
12	1-Jun-10	*5	-	121.15
13	1-Jul-10	*6	-	129.95
14	1-Aug-10	*3	-	145.30
15	1-Sep-10	*5	-	147.70
16	1-Nov-10	*4	-	157.10
17	1-Dec-10	*8	-	165.10
18	1-Jan-11	*4	-	166.80
19	1-Feb-11	*6	-	124.85
20	1-Mar-11	*9	-	135.65
21	1-May-11	*8	-	152.90
22	1-Jun-11	*7	-	161.35
23	7-Jul-11	*9	-	170.40
24	6-Oct-11	*7	-	130.35
25	8-Nov-11	*8	-	123.65
26	8-Dec-11	*7	-	120.15
27	10-Jan-12	*6	-	118.70
28	6-Feb-12	*5	-	137.50
29	9-Mar-12	*10	-	139.45
30	10-Apr-12	*9	-	140.95

* Indicates change

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Data current as of 31 Mar 2012	**Buy**	**Hold**	**Sell**	**Buy**	**Hold**	**Sell**
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% of companies in each rating category that are investment banking clients	48%	0%	47%			
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