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Japanese Auto Parts in a Global Context

Strong competitiveness and greater independence bring longer-term opportunities

- Industry Overview

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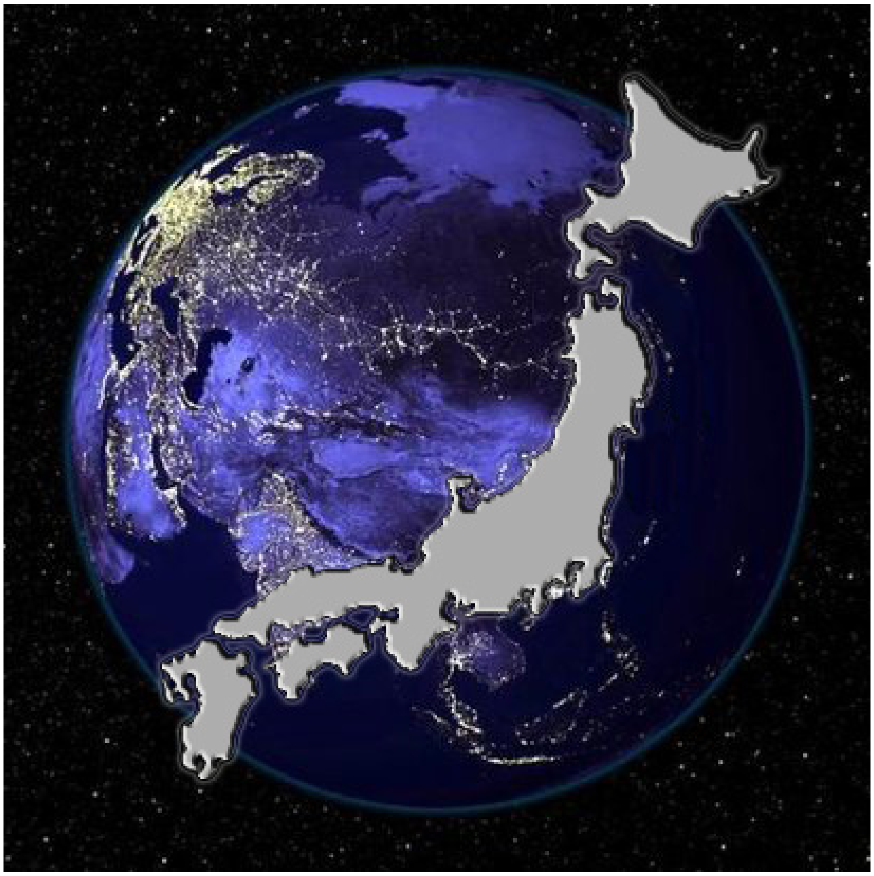
- As regional and global asset management grows as an investment style, this area is not always well served by traditional sell-side research. In addition, since the Tohoku earthquake and with so much macro uncertainty, we thought it was worth re-examining Japan's place in the world, what it offers a portfolio, and how it plays to the major global themes and trends. With that in mind, we asked our analysts to give us their thoughts and will publish these views sector by sector. They may not be the definitive answer, but will hopefully help inform discussion and debate on how to view "Japan in a Global Context". This marks the third report in the series.



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

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Figure 1. Recent reports by the global auto parts and equipment team

Analyst Name	Country	Date	Links
Itay Michaeli	US	11/22/2011	American Axle & Manufacturing Holdings Inc. (AXL) - Initiate at Buy: Out of Favor, Little Europe, Lot of Backlog, M&A?
Itay Michaeli	US	10/30/2011	Goodyear Tire & Rubber Co (GT) - Is it 2013 Already? GT Progress Encouraging; Raise Ests; Buy
Itay Michaeli	US	10/28/2011	Borg Warner Inc (BWA) - Another Solid Beat; But Q4 Implied EPS a Tad Light
Itay Michaeli	US	10/27/2011	Johnson Controls Inc (JCI) - Earnings Basically In-Line; FCF Weak & Q1 Guide Light
Philip Watkins	EU	11/15/2011	Pirelli (PECI.MI) - Reducing Volume Sensitivity
Philip Watkins	EU	11/8/2011	Faurecia (EPED.PA) - Investor day: Reassurance that previous ambition remains intact
Philip Watkins	EU	11/4/2011	Continental AG (CONG.DE) - A superior business model
Gerwin Ho	Asia Pacific	10/30/2011	Weichai Power (2338.HK) - 3Q11 Net Profit Declined 31% YoY
Gerwin Ho	Asia Pacific	10/17/2011	Asia Autos - Full Throttle: Asia's Big Four Motoring in China
Gerwin Ho	Asia Pacific	8/21/2011	Xingda International Holdings (1899.HK) - Expectations Reset; Long-Term Growth Drivers Intact
Jamshed Dadabhoy	Asia Pacific	11/9/2011	Bharat Forge (BFRG.BO) - 2QFY12 Results: Healthy, Given Challenging Macro
Ethan Kim	Asia Pacific	10/4/2011	Korean Automotive Industry - Last Man Standing: Better Poised to Weather the Storm
Noriyuki Matsushima	Japan	10/12/2011	Auto sector investment strategy - What to buy in a down market: Stocks that offer safety and growth
Noriyuki Matsushima	Japan	8/29/2011	Buy the new Southeast Asia Three
Arifumi Yoshida	Japan	10/28/2011	Autoparts Sector - Results First Impressions – Positive for Toyota Industries
Arifumi Yoshida	Japan	10/21/2011	Bridgestone (5108) - 2016 OP margin target of 10% positive
Arifumi Yoshida	Japan	9/30/2011	Auto parts investment strategy/Q2 preview - Toyota affiliates look appealing relative to peers
Arifumi Yoshida	Japan	9/5/2011	Calsonic Kansei (7248) - Large competitive advantage relative to peers
Arifumi Yoshida	Japan	6/7/2011	Tire sector investment strategy - If you can build it, they will come — staying bullish on the sector

Source: Citi Investment Research and Analysis.

Figure 2. Other 'Japan in a Global Context' reports

Analyst Name	Country	Date	Links
Hironari Nozaki	Japan	9/30/2011	Japanese Banks in a Global Context - Are Japanese banks attractive?
Graeme McDonald	Japan	10/27/11	Japanese Industrials in a Global Context - Can the success story continue?

Source: Citi Investment Research and Analysis.

Executive summary

- **Longer-term optimism** — We are optimistic about the future for Japanese auto parts firms. In our view, companies that can demonstrate a real competitive edge could actually get stronger as they offset automaker demand for lower prices by reducing their own costs, which then helps them expand sales to stronger automakers. A key investment theme is the shift to greater independence.

- **Shift to independence** — Through 2008, work supplying Japanese automakers was brisk, so while companies had little room for sales growth, they had little need for it either. This meant that there were a number of companies that did not bother to look farther afield despite the potential. Japanese automakers account for about 20mn units out of total global auto production of around 80mn; the remaining 60mn units represent a market largely untapped.

- **Nissan-affiliated auto parts makers hold potential** — From the latter half of the last decade, Nissan suppliers benefited from Nissan's rejuvenated competitiveness resulting from its strengthened LCC (leading competitive country) procurement approach while also expanding supplies to other automakers. They are also seeing increased orders from cost-driven Chinese makers. The resurgence of present and former Nissan-affiliated suppliers suggests a model for other Japanese auto parts makers.

- **Spotlight on Toyota suppliers** — The advantage of Toyota suppliers is that they are underpinned by their business with Toyota Motor, the world's leading automaker in terms of market share (as of end-FY10). This strength is improving further as standardized parts and platforms are developed by Toyota. If products and ideas developed for Toyota can be applied to other customers as well, Toyota affiliates could secure world-leading mass production benefits.

- **Honda suppliers not to be overlooked** — Honda suppliers' strengths lie in the world's largest motorcycle business. If their low-cost technologies developed for motorcycles and relationships with local suppliers can be leveraged for autos, we think new growth in parts for low-cost cars could offer opportunities. The situation is very different for Honda suppliers than for other groups, as they are working to take specifications of motorcycle parts up to new levels rather than pulling back specifications of existing auto parts, and we think this is a potential advantage.

Greater independence offers opportunities for Japanese parts makers

Near-term challenges, but increasing opportunities with non-Japanese makers is positive

Japanese automakers have confronted extremely challenging circumstances since 2009, as they have had to deal with events including the Lehman Brothers collapse, intensifying competition from South Korean parts makers, the resurgence of US parts makers, Toyota recalls, weakened product appeal among major models, yen strength, and a string of natural disasters. Under these circumstances, the investment appeal of Japanese auto parts suppliers, with their focus on business with Japanese automakers, has diminished relative to overseas parts makers (although Japanese firms are generally well-regarded in the market). Intensified competition and yen strength have prompted concerns in the market that automakers would seek to reduce costs (i.e., demand price cuts), and it would appear the environment is getting worse and worse. However, we are optimistic about future prospects at Japanese parts makers. We think companies that can leverage their real competitive advantages will be able to make up for pricing pressure by lowering costs and expanding sales to automakers that are doing well, thereby getting stronger. We think a key theme is the shift to greater independence.

Shift to greater independence

Japanese automakers produce 20mn units out of total global output of 80mn

Remaining 60mn units represent a business opportunity

While parts makers in Europe and the US are highly independent, Japanese parts makers tend to develop their business based on strong affiliations and structural ties to particular automakers, ties that involve business, personnel, and capital. In the automobile industry, where development takes years and involves the interaction of parts at thousands of points, relationships of trust formed through such affiliations have been very effective.

Sales at Japanese parts suppliers usually geared to specific customers, but this carries risks

As a result, sales at Japanese parts suppliers are usually highly geared to specific customers. From the perspectives of equity investment and corporate growth, this means high risk but also high return. Not only do the supplier's earnings fluctuate significantly depending on changes in production volumes at its main customers, there is little resistance to customer pricing pressure. Through 2008, Japanese automakers like Toyota and Honda were faring well, and their suppliers benefited with high returns, but we think the intensified competitive environment is likely to highlight the high-risk aspect of this business model.

Japanese firms need to step up marketing

What this means is that it is important for Japanese parts makers to step up marketing. Companies need to use cost reductions and product development results they have achieved through their own efforts and in conjunction with affiliated makers to market aggressively to other auto manufacturers. To this end, we feel they must bolster marketing and R&D capabilities to understand specific local needs as well.

Optimistic outlook for Japanese auto parts names—the Nissan example

From this perspective, we take an optimistic view of the outlook for Japanese auto parts makers. In the face of external pressure from the break-up of the Nissan corporate group, Nissan parts suppliers were exposed to competition, as a result of which they made an impressive resurgence. External pressures and a harsh environment characterized by a number of difficult issues is likely to spur moves toward greater independence at parts makers affiliated with other Japanese auto companies (such as Toyota and Honda) as well, even if corporate groups remain intact. Up until 2008, because business with Japanese automakers was so strong, Japanese parts suppliers had little room for sales growth, and little need of it. In fact, it made more sense to direct limited management resources toward business with affiliated companies that provided stable earnings rather than to efforts to expand sales. Many Japanese parts makers, therefore, did not turn their attention outside despite having the potential to do so.

Stepping up marketing to non-Japanese automakers since 2009

From 2009, Japanese parts makers began to step up marketing to non-Japanese automakers. As there is normally a time lag of two or three years between initial orders and the start of production, the results of these efforts have yet to become apparent. At FY3/12 results briefings, a growing number of companies started to discuss the potential contributions of new sales growth, including Denso (new orders for 10 models resulting from parts on which Denso has been working to halve costs) and Stanley Electric (first headlamp orders from Volkswagen). As these contributions become clearer, we think the market may take a fresh look at Japanese auto parts makers.

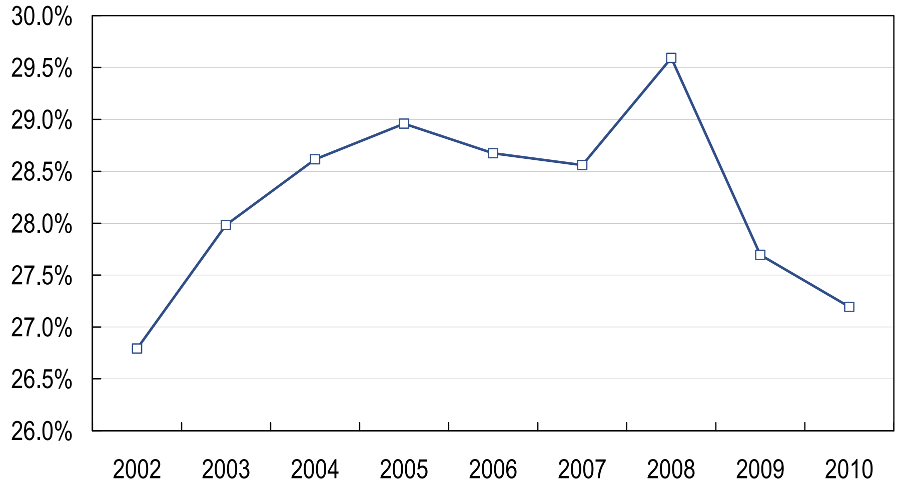
Market share for Japanese automakers at c27% with room to grow

Japanese automakers accounted for about 20mn units out of the annual global automobile production total of 80mn in 2010. The remaining 60mn units represent an undeveloped market. Environmental restrictions on cars with conventional engines are likely to get tougher around the world over the next decade, and we expect increasingly stringent safety regulations as well. With growth in transactions in developing nations, we expect sales of both low-cost automobiles and luxury cars to increase. Environmental soundness, safety, and

comfort are areas of particular strength for Japanese parts makers. Of the key QCD (quality, cost, delivery) production indicators for the auto industry, quality and delivery benefited especially under the group system and are strong points for Japanese parts makers. On the cost side, companies are making progress by adjusting excessively high specifications and increasing local production and procurement ratios. We think parts suppliers that are not fettered by their group ties and can continue to aggressively expand sales will come out on top.

Japan's global share is high but pressure on the parts makers to diversify is growing

Figure 3. Japanese automakers' share of the global passenger car market



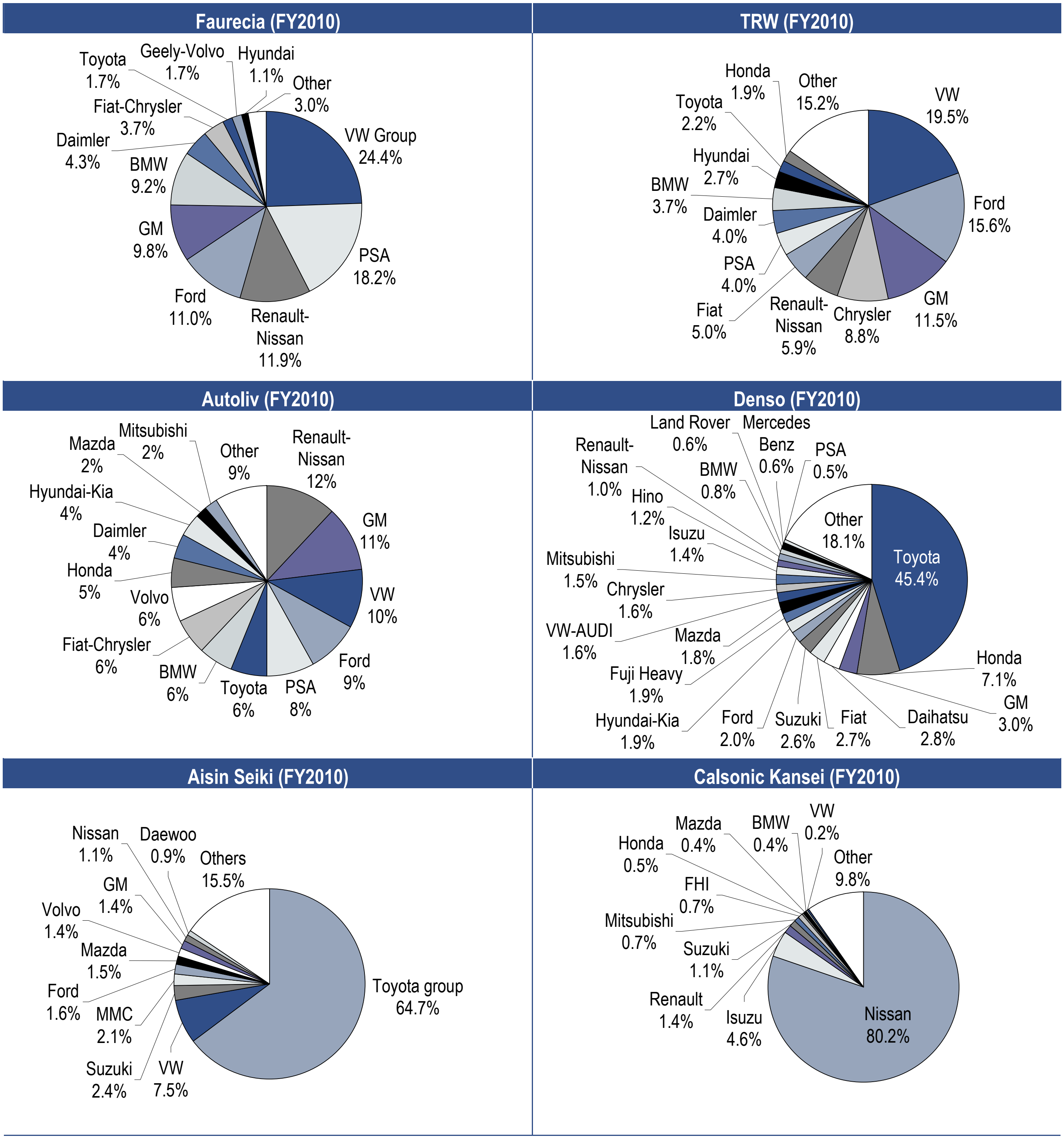
Source: National auto association data, MarkLines, Citi Investment Research and Analysis.

Figure 4. Major shareholders in listed global auto parts makers and Japanese auto parts makers covered by CIRA (FY10)

Company	Shareholder	Voting share ratio	Shareholder	Voting share ratio	Shareholder	Voting share ratio
Autoliv	Alecta Pensionsforsakring	6.91%	LSV AM	4.66%	Fidelity	3.48%
BorgWarner	Jennison Associates	6.32%	JP Morgan	4.49%	AllianceBernstein	4.36%
Continental	Schaeffler Group	49.90%	Principal	5.71%	B.Metzler seel. Sohn & Co. MM Warburg & Co	5.19%
Faurecia	Peugeot	57.43%	OEP II Partners	1.05%	Natixis	0.95%
Hyundai Mobis	Kia Motors	16.88%	AllianceBernstein	7.09%	Mong-Koo Chung	6.96%
Johnson Controls	Capital World Investors	6.40%	Capital Research Global Investors	4.54%	JP Morgan	4.20%
Lear	AllianceBernstein	9.46%	Goldman Sachs	5.05%	Jennison Associates	4.48%
Magna	McLean Budden	5.07%	Harris Financial Corp	4.97%	AllianceBernstein	4.75%
Mando	Halla Engineering & Construction	22.46%	National Pension	8.62%	Mong-Won Chung	7.54%
TRW	Blackstone Group	15.75%	Fidelity	7.82%	Wellington Management	6.68%
Valeo	Societe Generale	8.98%	Fonds Strategique d' Investissement	5.88%	BlackRock	5.01%
Visteon	Cramer Rosenthal McGlynn	4.89%	Cyrus Capital	4.33%	Epoch Investment Partners	3.73%
Aisan Kogyo	**Toyota**	**32.60%**	**Denso**	**9.90%**	**Japan Trustee Services Bank**	**8.80%**
Aisin Seiki	**Toyota Motor**	**22.20%**	**Toyota Industries**	**7.00%**	**The Master Trust Bank of Japan**	**5.30%**
Calsonic Kansei	**Nissan**	**40.60%**	**Japan Trustee Services Bank**	**8.80%**	**The Master Trust Bank of Japan**	**5.40%**
Denso	**Toyota Motor**	**22.50%**	**Employees' Shareholding Association**	**8.80%**	**Toyota Industries**	**7.80%**
Keihin	**Honda**	**41.30%**	**The Master Trust Bank of Japan**	**5.10%**	**Japan Trustee Services Bank**	**4.90%**
Koito Mfg.	**Toyota**	**20.00%**	**Panasonic**	**5.30%**	**The Master Trust Bank of Japan**	**4.80%**
Nissin Kogyo	**Honda**	**34.60%**	**Daishin Sangyo**	**5.10%**	**Japan Trustee Services Bank**	**5.00%**
NOK	**Freudenberg Beteiligungs**	**25.00%**	**Japan Trustee Services Bank**	**5.30%**	**Seiwa Jisho**	**5.00%**
Sanden	**The Master Trust Bank of Japan**	**7.80%**	**Japan Trustee Services Bank**	**7.30%**	**Customers' Shareholding Association**	**3.80%**
Stanley Electric	**Japan Trustee Services Bank**	**6.20%**	**The Master Trust Bank of Japan**	**5.30%**	**Honda**	**5.00%**
Taiho Kogyo	**Toyota**	**34.20%**	**Toyota Industries**	**5.00%**	**NHK Spring**	**4.70%**
Tokai Rika	**Toyota**	**31.10%**	**Denso**	**9.30%**	**Japan Trustee Services Bank**	**5.50%**
Toyota Boshoku	**Toyota**	**39.20%**	**Towa Real Estate**	**9.70%**	**Denso**	**5.40%**
Toyota Industries	**Toyota**	**23.50%**	**Denso**	**9.00%**	**Towa Real Estate**	**4.80%**

Source: Bloomberg, Toyo Keizai, Citi Investment Research and Analysis.

Figure 5. Sales by customer at six major auto parts makers



Source: Company data, Citi Investment Research and Analysis.

Global auto parts makers ranked by market cap and sales

Global auto parts makers: Market cap ranking

Denso, Toyota Industries, and Aisin Seiki ranked among the world's top 10, with Hyundai Mobis ranked number one

If we rank the firms belonging to the GICS auto parts sector by market cap (as of November 18, 2011), three Japanese companies make the top 10: Denso, Toyota Industries, and Aisin Seiki. At the top of the rankings comes Hyundai Mobis: we believe its high ranking is explained by market approval of its impressive profitability, thanks to its high sales weighting for components for maintenance and repair, and the remarkable growth being racked up by its main customer, Hyundai Motor. The European and US makers in the top 10 do not just supply standalone parts, but have also built positions as global suppliers of entire automotive systems, Many parts makers that were dependent on US automakers entered Chapter 11 bankruptcy or were lashed by waves of reorganization. Delphi, however, has relisted and ranks number nine on the list. We also note there are quite a few unlisted companies in the auto parts sector that are high in the sales rankings (Figure 6), such as number one Bosch and number eight ZF.

A strong sector for Japan

Figure 6. Top 10 firms by market cap in the GICS auto parts sector

Company Name	Country	18-Nov-11 Mkt Cap ($mn)	31-Dec-01 Mkt Cap ($mn)
Hyundai Mobis	South Korea	26,061	1,136
Denso	Japan	22,077	12,054
Johnson Controls Inc	United States	20,229	7,078
Continental AG	Germany	13,797	1,668
Toyota Industries	Japan	8,182	4,545
Magna International Inc	Canada	8,066	5,203
Aisin Seiki	Japan	7,975	3,091
BorgWarner Inc	United States	7,007	1,377
Delphi Automotive PLC	United States	6,893	7,653
Autoliv Inc.	Sweden	4,550	1,988

Source: GICS, Citi Investment Research and Analysis.

Trends in market cap at Japanese automakers

Comparing 1994 and 2011, we note that while TOPIX is down 54%, the market cap of the top 20 auto parts firms in the TOPIX transportation index has risen 14%

Comparing the market cap of the top 20 auto parts firms in the TOPIX transportation index over time, we note that market cap was ¥4.2trn at end-1994, ¥3.6trn at end-2001, and ¥4.8trn as of November 18, 2011. Over the same period, TOPIX has fallen from 1,559.09 to 1,032.14 to 719.98, so the top 20 auto parts firms have substantially outperformed in part reflecting that this is one of Japan's winning sectors.

The lineup of the top three firms did not change between 1994, 2001, and 2011: Denso was top, followed by Toyota Industries and then Aisin Seiki. In contrast, motorcycle parts makers who were outside the top 20 in 1994 have advanced into the rankings.

Figure 7. TOPIX transportation index parts makers: Top 20 by market cap at end-1994, end-2001, and on November 18, 2011

31-Dec-94		31-Dec-01		18-Nov-11	
Company Name	Mkt Cap (¥mn)	Company Name	Mkt Cap (¥mn)	Company Name	Mkt Cap (¥mn)
Denso Corp	1,759,496	Denso Corp	1,587,183	Denso Corp	1,863,617
Toyota Industries Corp	578,104	Toyota Industries Corp	598,401	Toyota Industries Corp	658,198
Aisin Seiki Co Ltd	384,588	Aisin Seiki Co Ltd	406,947	Aisin Seiki Co Ltd	641,801
Bosch Corp	169,504	Toyoda Gosei Co Ltd	200,495	NOK Corp	214,692
NOK Corp	160,112	NOK Corp	95,562	Toyoda Gosei Co Ltd	158,872
KYB Co Ltd	143,295	Keihin Corp	85,231	Toyota Boshoku Corp	146,192
Futaba Industrial Co Ltd	128,051	Futaba Industrial Co Ltd	84,879	Takata Corp	128,901
Topy Industries Ltd	114,989	Tokai Rika Co Ltd	80,046	Calsonic Kansei Corp	113,669
Calsonic Kansei Corp	109,075	Showa Corp	66,741	Tokai Rika Co Ltd	106,013
Hitachi Unisia Automotive Ltd	91,073	Calsonic Kansei Corp	61,003	Exedy Corp	105,934
Tokai Rika Co Ltd	81,048	Aisan Industry Co Ltd	50,435	Unipres Corp	94,119
Tokico Ltd	67,123	Toyota Boshoku Corp	44,537	Keihin Corp	82,716
Showa Corp	60,929	KYB Co Ltd	38,576	KYB Co Ltd	81,835
Aichi Machine Industry Co Ltd	57,929	Topy Industries Ltd	35,660	FCC Co Ltd	79,914
Akebono Brake Industry Co Ltd	53,398	Bosch Corp	30,204	TS Tech Co Ltd	69,632
Press Kogyo Co Ltd	53,304	Exedy Corp	26,343	Nissin Kogyo Co Ltd	63,947
Shiroki Corp	48,804	Tokico Ltd	24,211	Musashi Seimitsu Industry Co Ltd	51,106
Kansei Corp	45,724	Hitachi Unisia Automotive Ltd	24,047	Topy Industries Ltd	42,858
Ichikoh Industries Ltd	43,426	Akebono Brake Industry Co Ltd	18,804	Akebono Brake Industry Co Ltd	42,702
Mitsuba Corp	38,978	T RAD Co Ltd	18,320	Tachi-S Co Ltd	42,658

Source: Bloomberg, Citi Investment Research and Analysis.

Sales ranking

Japan has the largest number of companies in the world's top 100 auto parts makers by sales; chance to leverage benefits of scale

Japan had the biggest presence in the top 100 auto parts makers by sales in 2010 as ranked by Automotive News with 29 companies (nationality based on head office location). The US had the next largest representation with 28 companies, followed by Germany with 17. Considering production in Japan only accounts for around 15% of global auto output, this result highlights the presence Japanese auto parts makers have overseas. Korean makers had four companies in the top 100 while China had none.

Number of Japanese parts makers in the top 100 has steadily increased

The number of Japanese auto parts makers in the top 100 has steadily increased, from 21 in 2000 to 28 in 2005 and 29 in 2010. The number continued to increase from 2005 to 2010 even though the global market share of Japanese automakers declined. We believe the contraction of US auto parts makers

caused by weak US automaker sales, the increase in sales by Japanese auto parts makers to overseas automakers, and the strong yen contributed to this result.

Scale key in auto parts sector

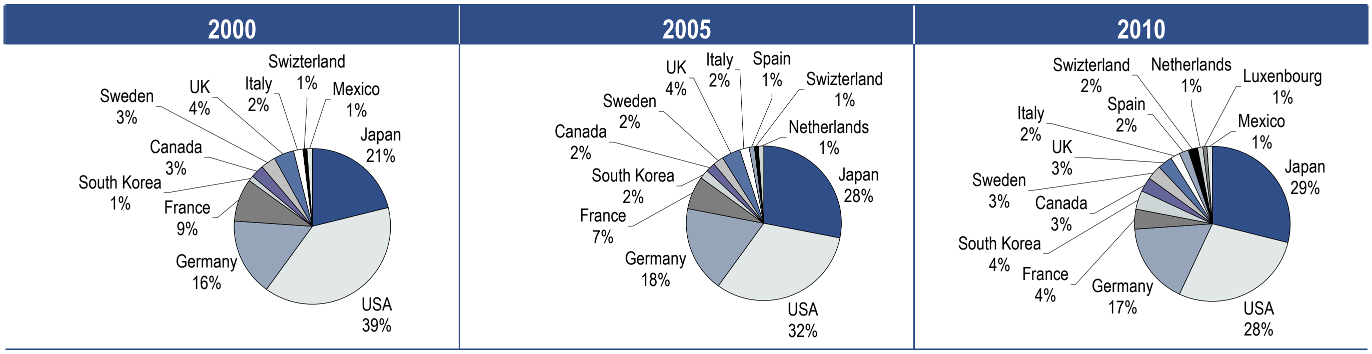
Scale merits are important in the auto parts sector. As automakers increase global procurement and standardization of platforms and parts, we expect the superiority of parts makers that have established a global presence to become clearer. This should produce significant opportunities for Japanese parts makers. The same applies from an equity investment perspective. We do not believe investors will be able to ignore Japanese companies when looking for exposure to the auto parts sector.

Figure 8. Top 50 auto parts makers by sales according to Automotive News (plus other Japanese and South Korean firms in the top 100)

	Company	Country	Total global OEM auto parts sales ($mn) in 2010
1	Robert Bosch	Germany	$34,565 e
2	Denso	Japan	32,850 fe
3	Continental AG	Germany	24,819 fe
4	Aisin Seiki	Japan	24,613 fe
5	Magna International	Canada	23,600
6	Faurecia	France	18,220
7	Johnson Controls	USA	16,600 f
8	ZF Friedrichshafen	Germany	15,748 f
9	LG Chem	South Korea	15,500 e
10	Hyundai Mobis	South Korea	14,433 fe
11	TRW	USA	14,400 f
12	Delphi Automotive	USA	13,817
13	Yazaki	Japan	12,531 fe
14	Lear	USA	11,955
15	Sumitomo Electric Industries	Japan	11,228 fe
16	BASF	Germany	10,400
16	Toyota Boshoku	Japan	10,400 fe
18	CalsonicKansei	Japan	8,775 fe
19	JTEKT	Japan	8,285 fe
20	Hitachi Automotive Systems	Japan	8,011 fe
21	Valeo	France	7,952
22	Visteon	USA	7,320
23	Autoliv	Sweden	7,171
24	Magneti Marelli	Italy	6,754 f
25	Mahle	Germany	6,628 fe
26	Benteler Automobiltechnik	Germany	6,365
27	Dana	USA	6,109 f
28	Toyoda Gosei	Japan	6,000 fe
29	Cummins	USA	5,846
30	DuPont	USA	5,671
31	BorgWarner	USA	5,653
32	Schaeffler Group	Germany	5,400 e
33	NTN	Japan	5,297 f
34	NSK	Japan	5,279 fe
35	Mitsubishi Electric	Japan	5,265 fe
36	Tenneco	USA	4,768
37	Behr	Germany	4,630 e
38	Brose Fahrzeugteile	Germany	4,609 e
39	NHK Spring	Japan	4,519 f
40	Koito Manufacturing	Japan	4,390 f
41	TS Tech	Japan	4,185 fe
42	Plastic Omnium	France	4,180 f
43	Takata	Japan	4,106 f
44	Federal-Mogul	USA	3,892
45	Hyundai-WIA	South Korea	3,827 fe
46	Bridgestone/Firestone	Japan	3,809 e
47	Michelin Group	France	3,753 e
48	IAC Group	Luxenbourg	3,700
49	Tokai Rika	Japan	3,690 fe
50	GKN Friveline	UK	3,650
53	Mando	South Korea	3,294 f
57	Showa	Japan	2,750 fe
61	Mitsuba	Japan	2,435 fe
66	Asahi Glass	Japan	2,293 fe
72	Stanley Electric	Japan	1,873 fe
74	Akebono Brake Industry	Japan	1,770 fe
82	Sanden	Japan	1,612 f
84	F-Tech	Japan	1,527 fe
85	Clarion	Japan	1,500 f
92	Alpine Electronics	Japan	1,328 fe
94	Pioneer	Japan	1,276 fe
98	Omron	Japan	1,188 fe

Note: e = estimate, f = fiscal year, fe= fiscal year estimate.
Source: Automotive News, Citi Investment Research and Analysis.

Figure 9. Breakdown of top 100 auto parts makers by head office location (calendar year)



Source: Automotive News, Citi Investment Research and Analysis.

Global auto parts makers ranked by profitability and RoE

Difference between OP margins small on a global basis

Large cash holdings could be positive in the current environment

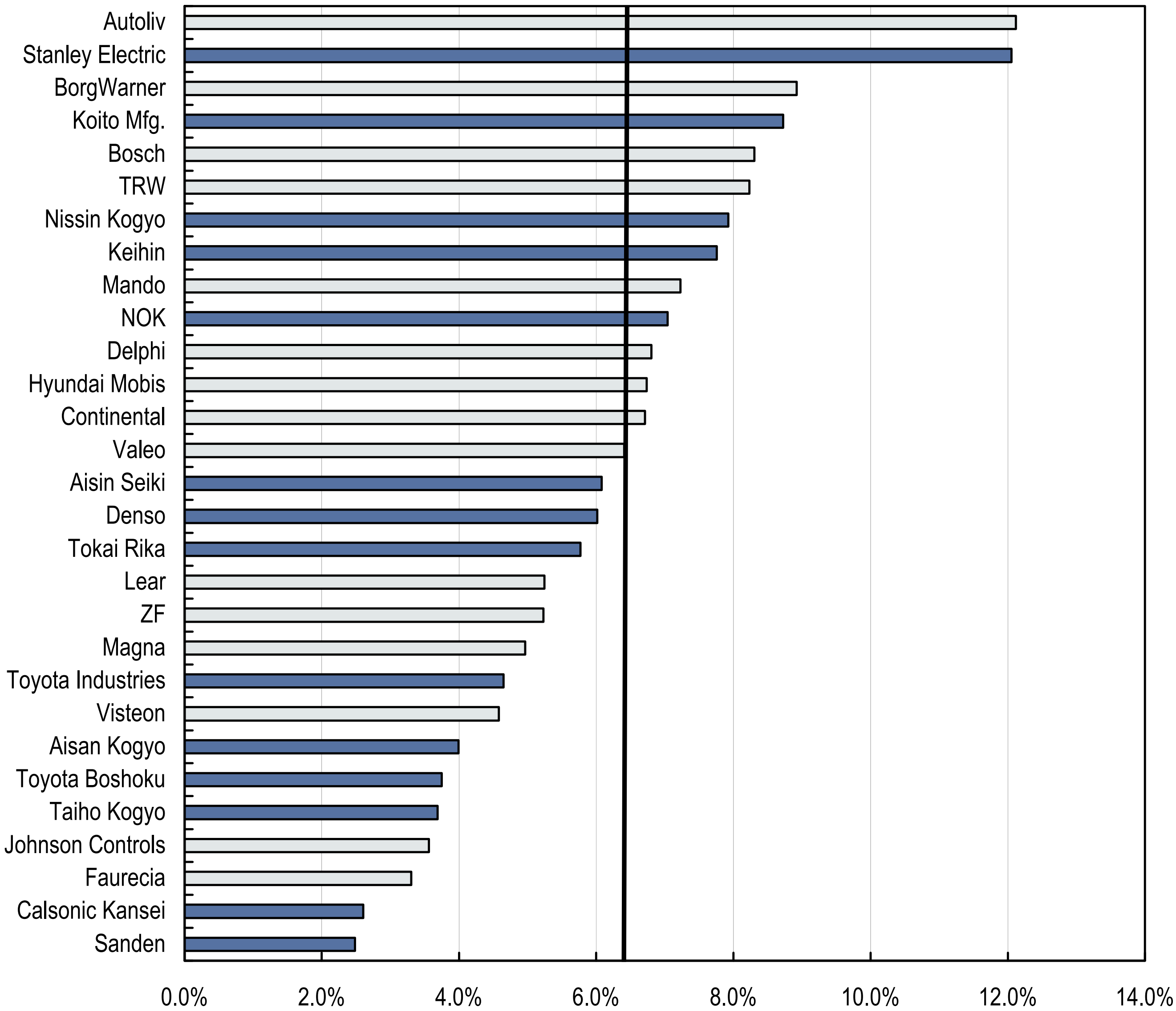
In FY2010, the average OP margin of 15 overseas auto parts majors was 6.6%, versus an average of 5.9% for the 14 Japanese auto parts makers in our coverage. We do not believe the difference was significant considering the impact of the March 11 disaster on Japanese auto parts makers. Companies enjoying increasing per-vehicle sales have risen to the top of the profitability rankings. These include Autoliv and TRW, which mainly supply safety-related parts (they have benefited from such developments as an increase in the number of airbags per vehicle), and BorgWarner (which is benefiting from increasing usage of parts that boost fuel efficiency). Stanley Electric and Koito Mfg. are near the top of the ranking, and one reason for this is a shift to LED lamps and other higher value-added products. Many companies that make parts for vehicle interiors have low profitability. We believe this is because technical innovation in this area is relatively limited and because these companies are vulnerable to changes in vehicle demand (i.e., a shift toward smaller cars). To secure high margins, we believe it is necessary to do three things: 1) develop appealing products that will increase per-vehicle sales; 2) expand sales so that volume production benefits can be realized; and 3) reduce costs by shifting production and procurement to countries with low labour costs.

Japanese auto parts makers have inferior RoEs, but not because of weaker profitability

While there is not a large difference between Japanese and overseas auto parts makers in terms of OP margins, Japanese parts makers tend to have inferior RoEs. A higher effective tax rate is a drag on the Japanese industry, but another reason for this is the group cross shareholdings that are part of the

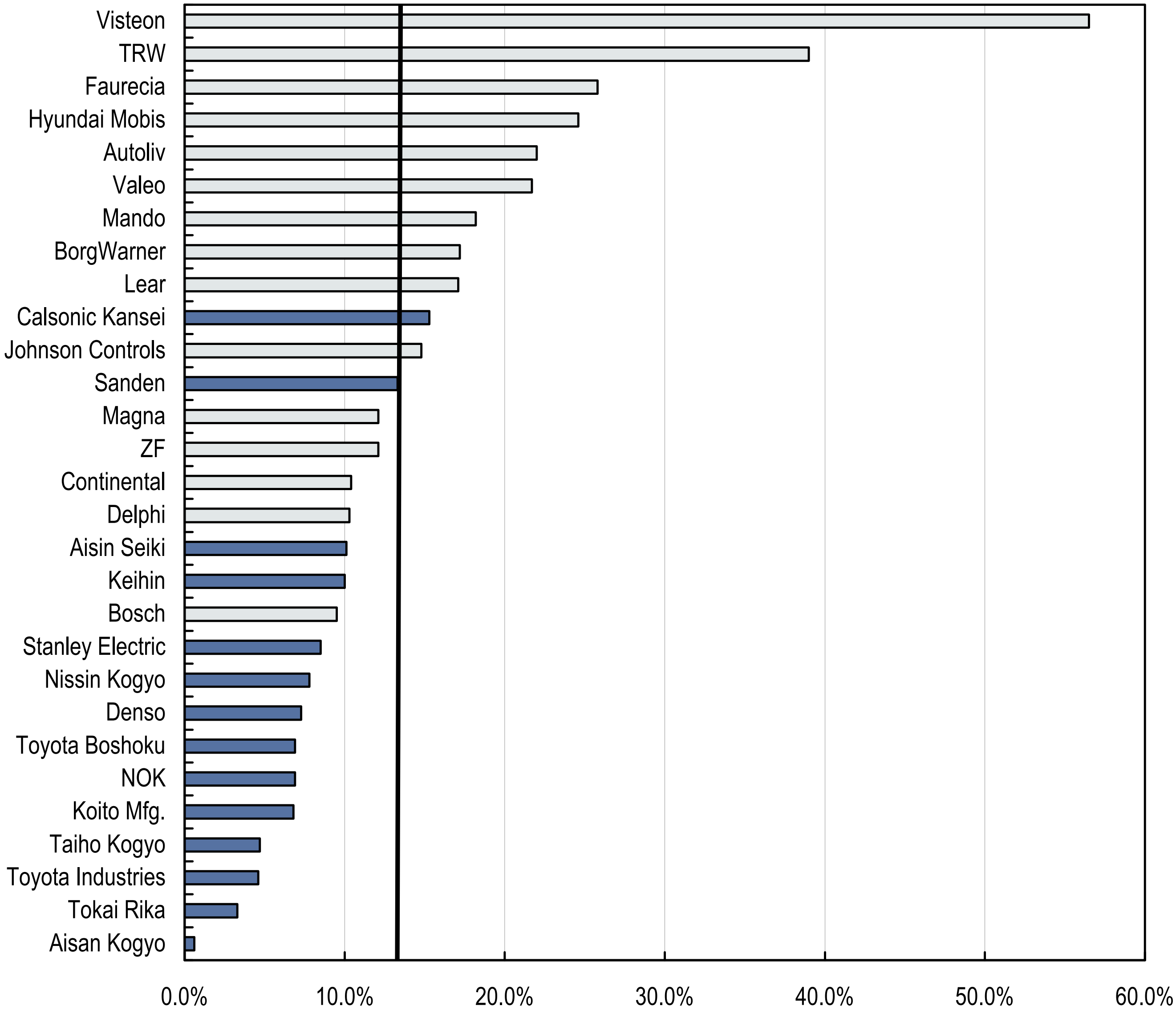
keiretsu system. For example, Denso has a higher OP margin than Magna, at 6.0% versus 5.0%, but a lower ROE, at 7.3% versus 12.1%. Cash, cash equivalents and marketable securities account for 43% of Denso's total assets but just 15% of Magna's total assets.

Figure 10. OP margins at auto parts makers (global majors and Japanese companies covered by CIRA; FY2010)



Note 1: Margins for auto parts businesses only in the case of Bosch, Hyundai Mobis, Continental, and Johnson Controls.
Note 2: Visteo's margin excludes reorganization-related profits.
Source: Citi Investment Research and Analysis.

Figure 11. RoE at auto parts makers (global majors and Japanese companies covered by CIRA; FY2010)



Source: Company data, Citi Investment Research and Analysis.

Global auto parts makers: Sales by region

Domestic sales ratios high because Japanese automakers have high domestic production ratios

Tier 1 parts makers have basically completed production bases overseas, can respond to an overseas shift by Japanese automakers and increase sales to overseas automakers

The high weighting of auto parts sales in Japan is often cited as a problem by investors. This is because of wide concern about auto market contraction in Japan and a strong yen (including indirect discounts accompanying earnings deterioration at automakers). The main reason for the high domestic sales weighting is that Japanese automakers have high domestic production ratios. This is particularly true for engine and transmission-related production—Toyota makes more that half of its engines and transmissions in Japan. However, since 2000, Tier 1 makers and large Tier 2 makers in our coverage have set up production overseas, and we believe they will be able to respond appropriately if automakers shift production overseas. The companies that could really struggle are those that are small and only have production in Japan.

Figure 12. Auto parts makers: Sales by region

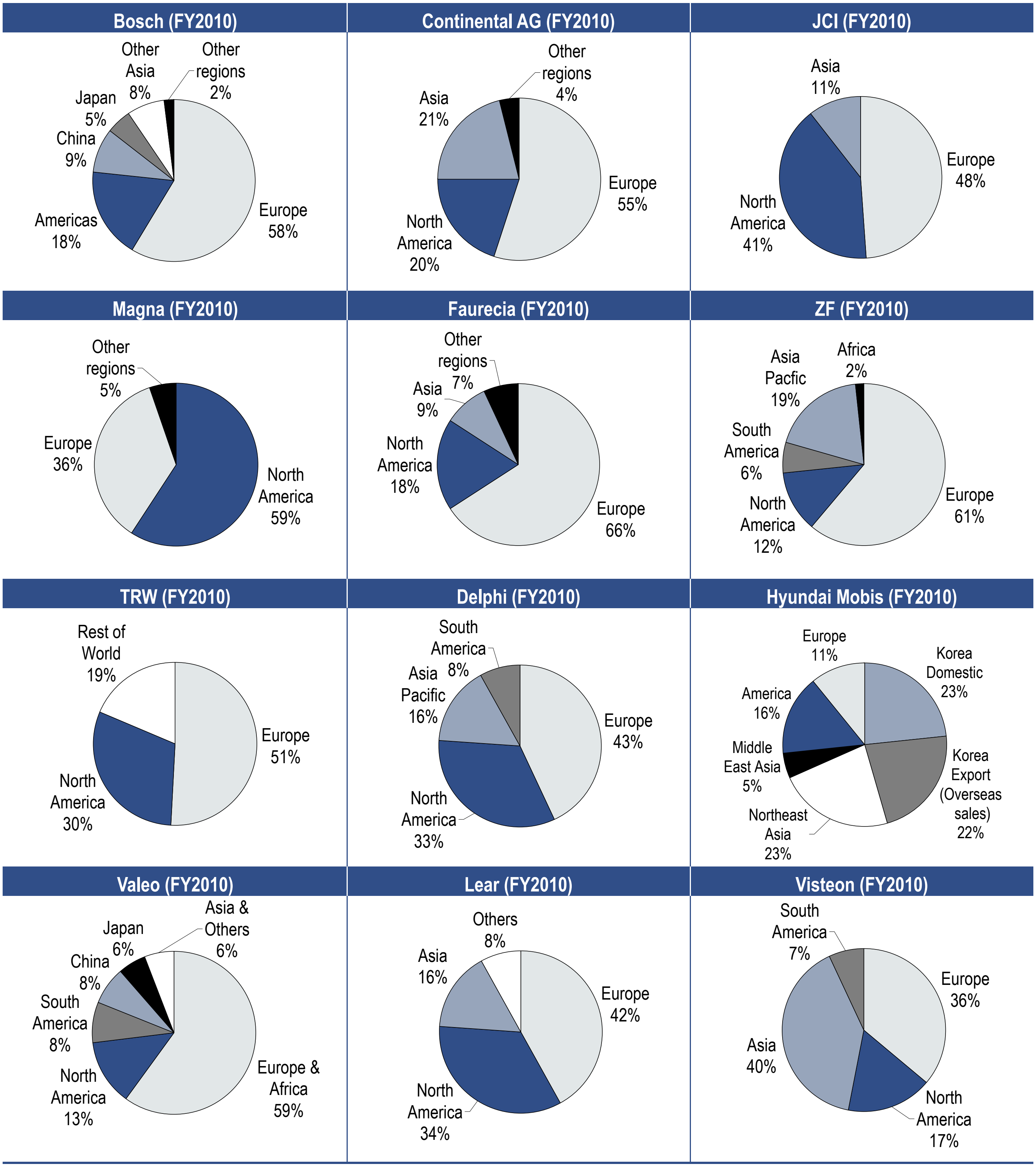
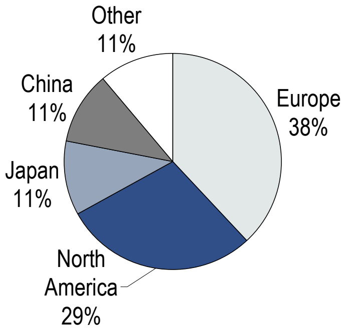
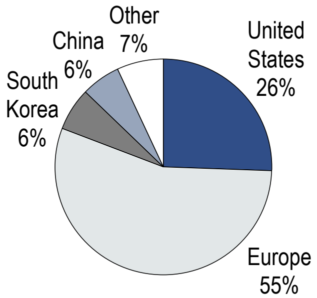


Figure 12. Auto parts makers: Sales by region (continued)

Autoliv (FY2010)	BorgWarner (FY2010)
	

Note: Sales for auto parts businesses only in the case of Continental, JCI, and Magna.
Source: Company data, Citi Investment Research and Analysis.

Figure 13. Japanese auto parts makers in our coverage: Sales by region

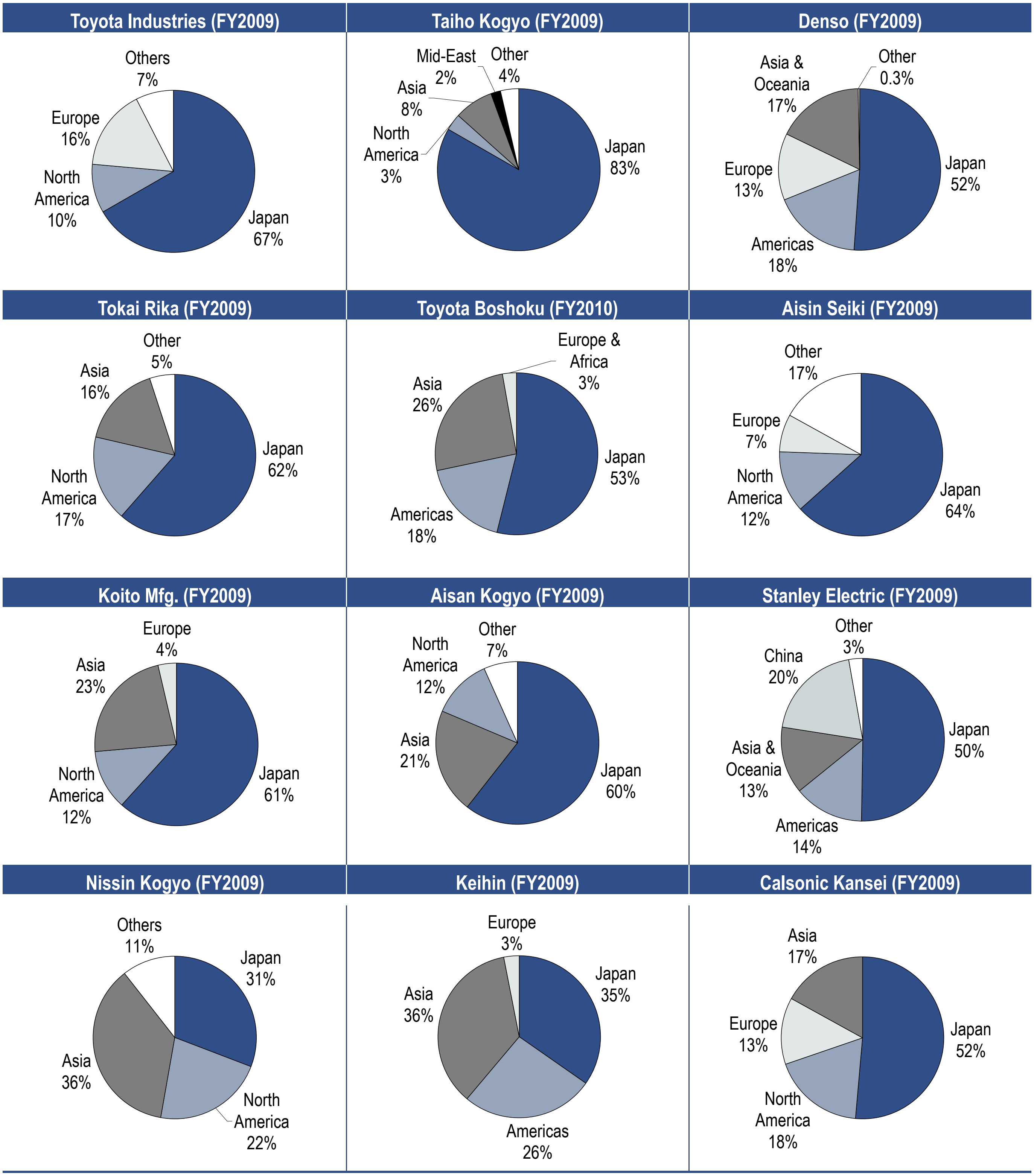
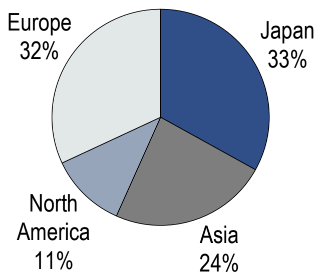
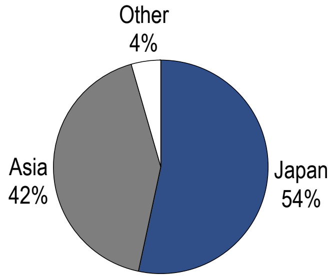


Figure 13. Japanese auto parts makers in our coverage: Sales by region (continued)

Sanden (FY2009)



NOK (FY2009)



Note: Most auto parts firms have not disclosed 2010 figures.
Source: Company data, Citi Investment Research and Analysis.

Strengths, weaknesses, and opportunities for Japanese auto parts makers

Revival of Nissan-affiliated auto parts makers

Profit margins of Nissan-affiliated makers up sharply on structural reforms

The revival of Nissan-affiliated parts makers has been a major feature of the Japanese auto parts industry over the last 10 years, and we believe this could provide a blueprint for the entire auto parts industry moving forward.

OP margins for Nissan affiliates have improved sharply

The OP margin of Nissan-affiliated parts makers (including affiliates prior to the Carlos Ghosn era) sunk to around 3%-4% in FY3/08, below those of Toyota- and Honda-affiliated makers. But by FY3/11 it had recovered to around 6%, higher than Toyota affiliates (and, in our estimate, also higher than Honda affiliates if parts for the high-margin motorcycle business are excluded). While production volume growth at Nissan was one reason for the turnaround, Nissan's volume also increased sharply in FY3/03–FY3/05. In the past, the profit margins of Nissan parts makers had languished while those of Nissan had soared, but more recently parts makers have established a win-win situation whereby their margins improve in tandem with Nissan. The reason for the change is that ten years after Ghosn had dismantled the *keiretsu* system parts makers have finally created profitable cost structures. We believe the strengthening of procurement from LCCs from the mid 2000s has made a particularly large contribution to margin improvement.

Process improvements and cost cutting have helped

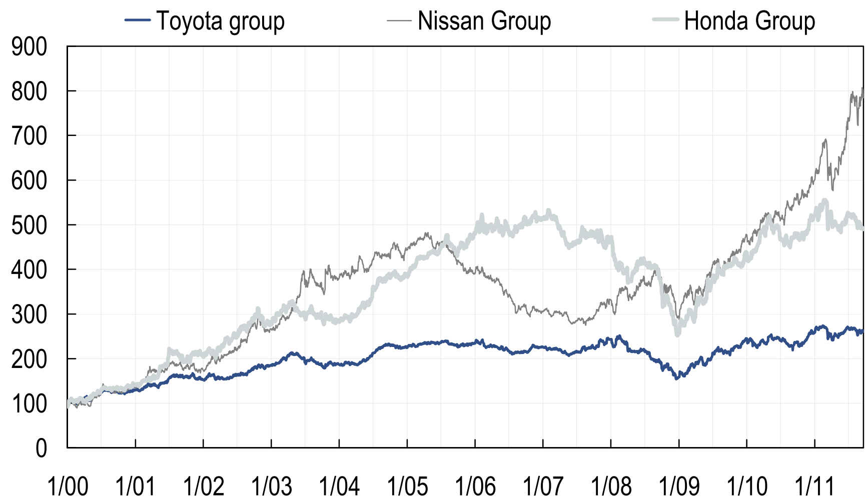
For example, the OP margin of Kinugawa Rubber (5196; NR) rose from 0.4% in FY3/02 to 11.5% in FY3/11. This is a result of process improvements (most notably the F1 program) and fixed cost reductions, as well as procurement cost reductions achieved via global procurement (materials, equipment, dies), product commoditization and standardization, and stronger ties with suppliers. Cost structure reforms also helped Kinugawa Rubber increase sales to automakers apart from Nissan. Production facilities to be opened in 2012 will likely expand new sales to Volkswagen in North America, Chinese, European, and US automakers, and Chinese private sector automakers.

Nissan affiliate experience could be repeated elsewhere

The revival of Nissan-affiliated parts firms shows that Nissan's tough price reduction demands ultimately created competitive parts makers that were able to grow margins and expand sales outside the Nissan group. We believe this could be repeated at Toyota and Honda affiliates.

Re-rating of Nissan suppliers on recovering profitability shows the potential for Honda/Toyota suppliers

Figure 14. Share price performance for Nissan, Toyota, and Honda affiliates



Note: We have indexed the performance versus TOPIX for 13 Nissan affiliates, 19 Honda affiliates, and 20 Toyota affiliates (some names with low trading volume have been omitted). We assign affiliation based on capital relationships (including previous relationships) and degree of sales dependence.
Source: Astra Manager, Citi Investment Research and Analysis.

Figure 15. Operating margins at Nissan and Nissan affiliates

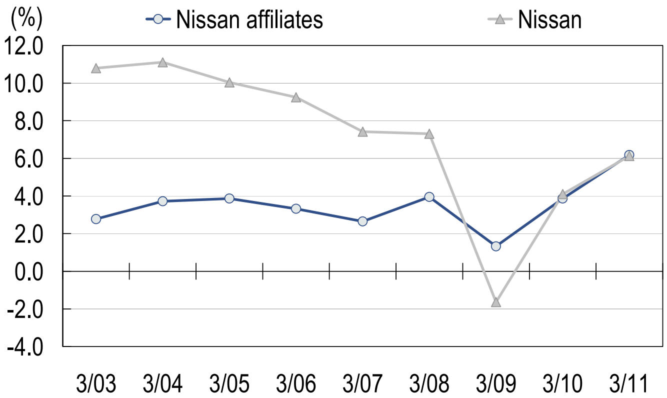


Figure 16. Operating margins at Toyota and Toyota affiliates

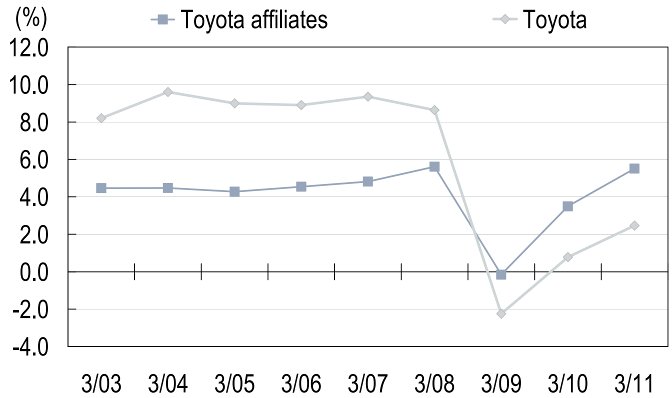


Figure 17. Operating margins at Honda and Honda affiliates

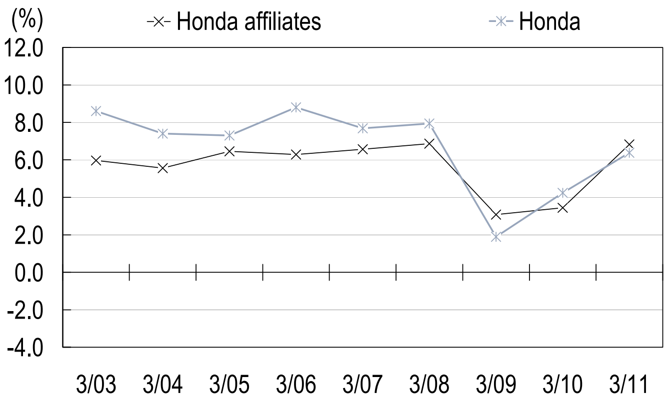
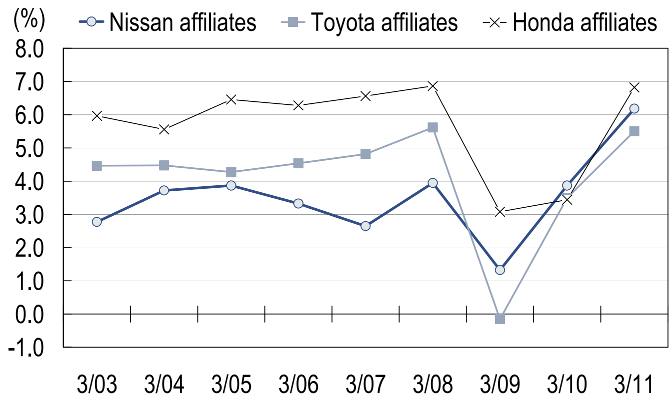


Figure 18. Operating margins at Nissan, Toyota, and Honda affiliates



Source: Company data, Citi Investment Research and Analysis.

Figure 19. Cost cutting activities at Nissan

2000-2001	Nissan Revival Plan goals achieved one year early, total purchasing costs reduced 20%. Group breaks up. Number of suppliers reduced 30%
2002-2004	Nissan 180. Total purchasing costs reduced 15%
2005-2007	Nissan Value Up. Total purchasing costs reduced 12%. Introduction of LCC purchasing
2008-2012	Nissan GT 2012 (interrupted by global financial crisis). Annual purchasing cost reductions of 5%
2009-2012	Recovery Plan. Annual purchasing cost reductions of 5%. Streamlining of parts lineup, LCC purchasing
2011-2016	Nissan Power 88. Annual purchasing cost reductions of 5%. Shift to standardized parts, aggressive use of parts produced overseas

Source: Company data, IRC, Citi Investment Research and Analysis.

Figure 20. New expansion at Kinugawa Rubber

Business	Clients	Order by type of vehicle	Annual sales (¥mn)	Operating from	Region
Body seal	Nissan	2	800	2011	North America, China
		2	4,000	2012	North America, China, Thailand
	Daihatsu	1	100	2011	Japan
	Toyota North America	2	200	2011	North America
	VW North America	2	200	2012	North America
	Chinese, European & US automakers	1	500	2012	China
	Chinese automaker (independent)	3	600	2011	China
		6	2,000-5,000	2012	China
Vibration insulators	Construction equipment maker & others	2	100	2010	Japan
	Motorcycle maker	3	100	2011	Thailand

Source: Company data, Citi Investment Research and Analysis.

Figure 21. Operating margins at Nissan affiliates (including former Nissan affiliates)

(%)		3/07		3/08		3/09		3/10		3/11
1	Piolax	5.5	Piolax	8.3	Unipres	5.8	Kinugawa Rubber	7.9	Kinugawa Rubber	11.5
2	Aichi Machine Industry	4.4	Yorozu	6.5	Yorozu	5.7	Unipres	6.9	Piolax	10.9
3	Unipres	4.2	Nissan Shatai	6.0	Nissan Shatai	4.5	Piolax	6.6	Unipres	9.9
4	Alpha	4.0	Unipres	5.9	Kinugawa Rubber	3.7	Nissan Shatai	6.2	Yorozu	9.1
5	Nissan Shatai	3.8	Kinugawa Rubber	4.9	Aichi Machine Industry	3.2	Yorozu	6.0	Kasai Kogyo	6.1
6	Yorozu	3.7	Aichi Machine Industry	4.9	Piolax	2.1	Aichi Machine Industry	4.9	Fuji Kiko	6.0
7	Ichikoh Industries	2.7	Alpha	3.6	Kasai Kogyo	1.6	Alpha	3.8	Tachi-S	5.3
8	Kasai Kogyo	2.4	Univance	3.5	Tachi-S	0.3	Kasai Kogyo	3.2	Alpha	5.2
9	Univance	2.1	Kasai Kogyo	2.7	Alpha	-0.3	Tachi-S	3.1	Aichi Machine Industry	4.8
10	Calsonic Kansei	1.8	Ichikoh Industries	2.0	Ichikoh Industries	-1.6	Fuji Kiko	3.1	Nissan Shatai	3.6
11	Kinugawa Rubber	0.1	Calsonic Kansei	1.7	Fuji Kiko	-2.4	Ichikoh Industries	0.6	Ichikoh Industries	3.3
12	Tachi-S	-0.1	Tachi-S	1.4	Calsonic Kansei	-2.5	Calsonic Kansei	-0.9	Calsonic Kansei	2.6
13	Fuji Kiko	-0.2	Fuji Kiko	0.0	Univance	-2.8	Univance	-1.2	Univance	2.1
	13 co average	**2.6**	**13 co average**	**3.9**	**13 co average**	**1.3**	**13 co average**	**3.9**	**13 co average**	**6.2**
	Nissan Motor	7.4	Nissan Motor	7.3	Nissan Motor	-1.6	Nissan Motor	4.1	Nissan Motor	6.1

Note: We assign affiliation based on capital relationships (including previous relationships) and degree of sales dependence.
Source: Company data, Astra Manager, Citi Investment Research and Analysis.

Main Toyota suppliers likely to benefit from economies of scale longer term

Toyota affiliates have the highest potential to benefit from economies of scale

In our view, the biggest advantage for Toyota affiliates is their ability to take advantage of economies of scale, underpinned by their supplying Toyota Motor, the world's leading automaker in terms of market share (as of end-FY10).This advantage grows the more Toyota switches over to standardized parts and platforms internally. If Toyota affiliates can use the parts and ideas they supply Toyota to attract other customers, it would give them an unparalleled level of volume benefits.

Cost-cutting activities like Toyota's RRCI (*Ryohin, Renka, Costs, and Innovation*) have made times difficult for parts makers in terms of pricing, but we think they should be able to improve competitiveness via parts standardization and the use of LCC parts. It appears Toyota has been relatively slow to standardize parts and platforms, so there would appear to be significant room for improvement. We think success for cost-cutting efforts could result in higher sales to other firms for Toyota-affiliated parts makers triggered by unparalleled economies of scale.

Market concerned about Toyota demands for lower prices

Investors have been concerned about the negative impact of Toyota's demands for lower prices. It goes without saying that an inability to meet Toyota's demands could mean a company fails to win an order or sees margins decline on orders it has already won. At the same time, we also think that RRCI will separate the winners from the losers.

Tokai Rika has seen shift lever share rise

Take, for example, Tokai Rika's shift levers. Toyota's significant cost-cutting demands appear to have actually increased Tokai Rika's share for this product. Tokai Rika, a veteran of Toyota's last cost cutting effort on new cars (the CCC21 program in the early 2000s), has seen its share among domestic automakers for shift levers rise from 21% in 2002 to 34% in 2010. It is hard to gain a technological advantage in shift levers, and there are some 15 shift lever makers in Japan alone. However, many of these firms are small, and we think market share for shift levers shifted to Tokai Rika as a result of CCC21 as Tokai Rika 1) has a global supply network, 2) enjoys benefits from scale, and 3) has been able to cut costs via procurement from LCCs.

Figure 22. Domestic share for shift levers (calendar year)

	2002	2005	2008	2010
Tokai Rika	21.0%	22.4%	26.6%	33.5%
Fujikiko	13.2%	15.6%	12.6%	11.9%
Atsumitec	14.9%	13.9%	11.4%	11.4%
Mannoh Industrial	16.1%	12.3%	13.3%	11.2%
Tsuda Industries	14.6%	13.3%	8.6%	7.0%
Hamana Parts Industry	3.5%	2.7%	6.6%	6.1%
Kojima Press Industry	-	5.3%	6.0%	5.3%
Chiyoda Industry	3.9%	3.2%	3.3%	4.4%
Kanbishi	0.4%	0.8%	3.2%	3.3%
Sakae Riken Kogyo	1.2%	1.6%	1.6%	3.1%
Mizushima Press Kogyo	1.1%	2.7%	2.2%	1.9%
Delta Kogyo	5.8%	5.8%	3.4%	0.7%
Kurata Sangyo	3.5%	0.3%	1.16%	0.19%
NHK Teleflex	0.08%	0.1%	0.03%	0.01%
Sanwa	0.07%	0.01%	0.01%	-

Source: IRC, Citi Investment Research and Analysis.

Figure 23. Operating margins at Toyota affiliates

(%)		3/07		3/08		3/09		3/10		3/11
1	Denso	8.4	Denso	8.7	Toyoda Gosei	2.9	Koito Mfg.	8.8	Murakami	9.6
2	Tokai Rubber	8.2	Tokai Rubber	7.9	Koito Mfg.	2.3	Murakami	7.8	Nippon Piston Ring	8.8
3	JTEKT	6.3	Toyoda Gosei	7.9	Tokai Rubber	2.2	Tokai Rika	5.4	Koito Mfg.	8.7
4	Owari Precise	6.2	Tokai Rika	7.6	JTEKT	2.2	Toyoda Gosei	5.3	Fine Sinter	6.6
5	Tokai Rika	6.1	Owari Precise	7.5	Murakami	1.7	Tokai Rubber	4.6	JECO	6.4
6	Aisin Seiki	5.5	JTEKT	6.7	Toyota Boshoku	1.4	Denso	4.6	Tokai Rubber	6.2
7	Toyoda Gosei	5.3	Aisin Seiki	6.7	Owari Precise	1.2	Fine Sinter	4.5	Pacific Industrial	6.1
8	JECO	5.2	Koito Mfg.	6.2	Aisan Industry	0.9	Aisin Seiki	4.3	Aisin Seiki	6.1
9	Toyota Industries	4.8	JECO	5.6	Tokai Rika	0.2	Pacific Industrial	3.9	Owari Precise	6.0
10	Pacific Industrial	4.7	Toyota Boshoku	5.3	Shiroki	0.0	Owari Precise	3.3	Denso	6.0
11	Koito Mfg.	4.7	Taiho Kogyo	5.3	Aisin Seiki	-0.2	JECO	3.3	Toyoda Gosei	5.8
12	Aisan Industry	4.6	Murakami	5.0	Toyota Industries	-0.4	Aisan Industry	3.2	Tokai Rika	5.8
13	Toyota Boshoku	4.5	Nippon Piston Ring	5.0	Pacific Industrial	-0.5	Chuo Spring	2.9	Shiroki	5.4
14	Nippon Piston Ring	4.2	Fine Sinter	4.9	Denso	-1.2	Toyota Boshoku	2.6	Toyota Industries	4.6
15	Taiho Kogyo	3.9	Aisan Industry	4.9	Taiho Kogyo	-1.4	Shiroki	2.4	JTEKT	4.2
16	Kyowa Leather	3.5	Toyota Industries	4.8	Nippon Piston Ring	-1.4	Taiho Kogyo	2.1	Aisan Industry	4.0
17	Fine Sinter	3.4	Pacific Industrial	4.1	Fine Sinter	-2.6	Toyota Industries	1.6	Toyota Boshoku	3.7
18	Murakami	2.9	Shiroki	3.5	Chuo Spring	-3.0	Kyowa Leather	0.6	Taiho Kogyo	3.7
19	Shiroki	2.4	Kyowa Leather	3.2	JECO	-3.2	JTEKT	0.1	Chuo Spring	2.7
20	Chuo Spring	1.5	Chuo Spring	1.7	Kyowa Leather	-4.2	Nippon Piston Ring	-1.6	Kyowa Leather	-0.4
	20 co average	**4.8**	**20 co average**	**5.6**	**20 co average**	**-0.2**	**20 co average**	**3.5**	**20 co average**	**5.5**
	Toyota	9.3	Toyota	8.6	Toyota	-2.2	Toyota	0.8	Toyota	2.5

Note: We assign affiliation based on capital relationships (including previous relationships) and degree of sales dependence.
Source: Company data, Astra Manager, Citi Investment Research and Analysis.

Formidable Honda affiliates cost competitive

New ideas being generated not by lowering auto specs but by raising motorcycle specs

It is possible that Honda affiliates will face greater competition over business with Honda in the medium term. This is because they have been slow in reacting to low-priced cars Honda produces in places like China, and because they have been unable to leverage their competitive advantages for new models like the updated Civic in the way they did previously. Competition over products for globally strategic models like the Accord, Civic, Fit, and CR-V, for which Honda affiliates had previously won orders, could get worse as well. Honda-affiliated parts makers, which tend to be smaller in scale, have little room to grow sales to other companies, so losing orders for Honda's global models would have a major impact on their earnings.

Competition heating up, but better cost competitiveness at Japanese firms

Competition over market share among Japanese firms has heated up for motorcycle parts in emerging markets, for example between FCC (7926; NR) and Exedy (7278; NR) in clutches and Keihin and Shindengen (6844; NR) in fuel injector ECUs. However, we note that the cost competitiveness is high at Japanese parts makers due to increased local procurement

and improvement efforts at factories. It also seems that parts produced by Japanese firms have the same level of cost competitiveness as those of Chinese firms. In our view, this is due to improved cost competitiveness at Japanese parts firms, as well as rising labor costs, transportation cost increases, and a lack of delivery ability (the ability to deliver a certain volume on a certain day at a certain level of quality) in China.

Cost competitiveness could improve significantly at Honda affiliates, even in auto parts

In the longer term, we think cost competitiveness at Honda affiliates could improve significantly, even in auto parts. This is because these firms are good at raising specs of motorcycle parts to generate ideas for auto parts. For example, in Keihin's 2020 vision, the firm says it wants to leverage technology amassed in making fuel injector products for motorcycles to develop fuel injector products for autos in emerging markets. This is something Keihin can do because it is the global leader in fuel injector parts for motorcycles, and it represents a completely different concept of development from reducing costs on existing auto parts. By leveraging motorcycle operations, we think firms may be able to win orders related to low-cost cars and increase sales in the auto parts space as well.

Figure 24. Operating margins at Honda affiliates

(%)		3/07		3/08		3/09		3/10		3/11
1	Stanley Electric	12.0	Stanley Electric	13.1	Stanley Electric	8.3	Stanley Electric	10.2	Stanley Electric	12.1
2	FCC	11.3	FCC	10.9	FCC	6.7	Imasen Electric	7.0	FCC	10.9
3	Nittan Valve	11.2	Nippon Seiki	10.8	Nissin Kogyo	6.6	FCC	5.7	Musashi Seimitsu	10.1
4	Nissin Kogyo	11.0	Nittan Valve	10.4	Kikuchi	6.5	Kikuchi	5.7	Kikuchi	9.1
5	Nippon Seiki	10.2	Nissin Kogyo	10.4	Nippon Seiki	6.2	Keihin	5.4	Nippon Seiki	8.8
6	Musashi Seimitsu	8.1	Musashi Seimitsu	10.2	Musashi Seimitsu	5.9	Musashi Seimitsu	5.2	Nissin Kogyo	7.9
7	Kikuchi	8.1	Kikuchi	8.9	Imasen Electric	4.2	Nippon Seiki	4.7	Keihin	7.8
8	Showa	6.8	Imasen Electric	7.3	Nittan Valve	4.0	F-Tech	4.4	Imasen Electric	7.7
9	Keihin	6.7	Keihin	7.1	Keihin	4.0	Yutaka Giken	4.1	Nittan Valve	6.8
10	Tanaka Seimitsu	6.0	TS Tech	5.5	TS Tech	4.0	Nissin Kogyo	3.3	Yutaka Giken	6.4
11	H-One	4.5	F-Tech	5.4	Marujun	2.9	TS Tech	3.0	F-Tech	5.7
12	F-Tech	4.5	Marujun	5.4	Yachiyo Industry	2.0	Marujun	2.3	Tanaka Seimitsu	5.7
13	Marujun	4.4	Showa	4.8	F-Tech	1.9	Nihon Plast	1.8	TS Tech	5.6
14	Imasen Electric	4.4	Tanaka Seimitsu	4.5	Yutaka Giken	1.8	Nittan Valve	1.3	Marujun	5.2
15	Yutaka Giken	4.1	H-One	4.1	Showa	0.9	Mitsuba	1.2	Mitsuba	5.0
16	TS Tech	3.9	Yutaka Giken	3.9	H-One	0.6	Yachiyo Industry	0.8	H-One	4.6
17	Nihon Plast	3.0	Nihon Plast	3.1	Nihon Plast	0.4	H-One	0.8	Nihon Plast	4.6
18	Yachiyo Industry	3.0	Yachiyo Industry	2.8	Mitsuba	-3.6	Tanaka Seimitsu	-0.5	Showa	3.8
19	Mitsuba	1.4	Mitsuba	1.7	Tanaka Seimitsu	-4.7	Showa	-1.1	Yachiyo Industry	2.0
	19 co average	**6.6**	**19 co average**	**6.9**	**19 co average**	**3.1**	**19 co average**	**3.4**	**19 co average**	**6.8**
	Honda	7.7	Honda	7.9	Honda	1.9	Honda	4.2	Honda	6.4

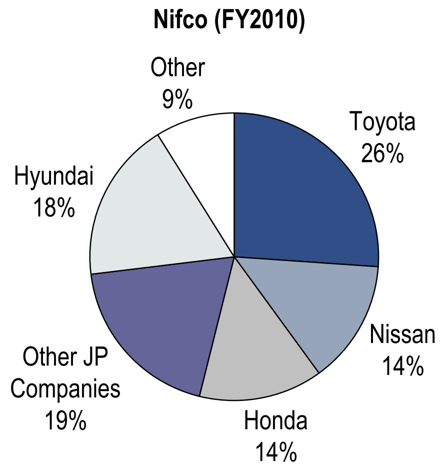
Note: We assign affiliation based on capital relationships (including previous relationships) and degree of sales dependence. Kikuchi became G-Tekt after merging with Takao Kinzoku.
Source: Company data, Astra Manager, Citi Investment Research and Analysis.

Independent parts makers

Independent parts makers lead the way in ability to grow sales

Independent parts makers are not affiliated with a particular company, so they have always needed to aggressively look for business. Successful independent parts makers have in many cases been better at expanding sales than affiliated parts makers. For example, Nifco has been successful in growing sales to companies outside of Japan, including Hyundai, Chinese automakers, and automakers in Europe.

Figure 25. Sales by customer at Nifco



Source: Company data, Citi Investment Research and Analysis.

Figure 26. Top 30 and bottom 30 in OP margin among Japanese auto parts firms (universe is 109 companies; %)

	Top30	3/07	3/08	3/09	3/10	3/11
7728	Nidec-Tosok	7.7	8.3	5.7	10.9	13.4
6463	TPR	10.1	11.6	3.5	4.5	12.7
7245	Daido Metal	3.3	1.3	-0.6	0.5	12.2
6923	Stanley Electric	12.0	13.1	8.3	10.2	12.1
5196	Kinugawa Rubber	0.1	4.9	3.7	7.9	11.5
7299	Fuji Oozx	8.3	8.4	4.1	5.5	11.2
7296	FCC	11.3	10.9	6.7	5.7	10.9
5988	Piolax	5.5	8.3	2.1	6.6	10.9
7278	Exedy	10.0	10.6	6.1	7.1	10.9
7988	Nifco	10.4	10.3	5.9	8.0	10.9
5334	NGK	15.2	10.1	-1.8	4.4	10.7
7220	Musashi Seimitsu	8.1	10.2	5.9	5.2	10.1
5949	Unipres	4.2	5.9	5.8	6.9	9.9
7292	Murakami	2.9	5.0	1.7	7.8	9.6
5192	Mitsuboshi Belting	6.7	6.7	4.6	3.5	9.6
5970	Kikuchi	8.1	8.9	6.5	5.7	9.1
7294	Yorozu	3.7	6.5	5.7	6.0	9.1
7235	TRS	8.2	6.4	1.9	0.3	9.0
6461	Nippon Piston Ring	4.2	5.0	-1.4	-1.6	8.8
7287	Nippon Seiki	10.2	10.8	6.2	4.7	8.8
7276	Koito Manufacturing	4.7	6.2	2.3	8.8	8.7
6319	Shinnittan	9.9	10.6	7.8	1.2	8.6
6584	Sanoh	3.9	5.4	2.0	6.4	8.3
7279	Hi-Lex	4.2	4.0	6.2	2.9	8.2
7277	TBK	8.2	9.4	3.2	1.6	8.1
6371	Tsubakimoto	10.3	11.8	6.4	4.2	8.0
7230	Nissin Kogyo	11.0	10.4	6.6	3.3	7.9
5985	Suncall	8.5	9.5	3.4	7.0	7.9
7251	Keihin	6.7	7.1	4.0	5.4	7.8
7266	Imasen Electric Industrial	4.4	7.3	4.2	7.0	7.7

	Worst30	3/07	3/08	3/09	3/10	3/11
6476	Fuji Technica	5.5	-2.3	-9.6	2.5	-46.4
3553	Kyowa Leather	3.5	3.2	-4.2	0.6	-0.4
7284	Meiwa	-	1.7	-1.6	0.7	1.4
7298	Yachiyo Industry	3.0	2.8	2.0	0.8	2.0
7254	Univance	2.1	3.5	-2.8	-1.2	2.1
6408	Ogura Clutch	2.4	1.1	-1.6	-4.0	2.4
6444	Sanden	2.8	4.1	-2.9	2.7	2.5
7248	Calsonic Kansei	1.8	1.7	-2.5	-0.9	2.6
5992	Chuo Spring	1.5	1.7	-3.0	2.9	2.7
6796	Clarion	1.7	2.2	-6.9	0.4	2.8
5641	TDF	4.7	4.9	-2.0	-1.7	3.0
6901	Sawafuji Electric	2.6	3.4	-0.4	-5.0	3.1
7231	Topy	4.6	4.3	2.3	0.2	3.2
7241	Futaba	0.0	1.1	-3.5	0.8	3.2
5606	Asahi Tec	3.5	2.2	1.1	-1.4	3.2
5607	Chuo Malleable Iron	3.3	2.2	-5.3	0.3	3.2
7244	Ichikoh Industries	2.7	2.0	-1.6	0.6	3.3
7247	Mikuni	3.1	3.1	-0.6	-3.0	3.4
5954	Topura	2.3	4.3	-1.9	1.5	3.6
6470	Taiho Kogyo	3.9	5.3	-1.4	2.1	3.7
3116	Toyota Boshoku	4.5	5.3	1.4	2.6	3.7
5852	Ahresty	6.5	4.5	-2.5	0.7	3.8
7274	Showa	6.8	4.8	0.9	-1.1	3.8
7283	Aisan Kogyo	4.6	4.9	0.9	3.2	4.0
6473	JTEKT	6.3	6.7	2.2	0.1	4.2
5605	I Metal	6.2	4.9	1.2	-4.4	4.4
5184	Nichirin	3.1	3.6	2.4	-2.5	4.4
7291	Nihon Plast	3.0	3.1	0.4	1.8	4.6
5989	H-One	4.5	4.1	0.6	0.8	4.6
6472	NTN	9.7	9.3	1.8	0.3	4.6
	109 co average	5.5	5.6	1.2	2.5	5.9

Note: Kikuchi became G-Tekt after merging with Takao Kinzoku.
Source: Company data, Astra Manager, Citi Investment Research and Analysis.

Matching the needs of emerging market automakers

Automakers in emerging markets have strong demand for Japanese brands

We understand that automakers in emerging markets want very much to do business with Japanese parts makers. For example, China's Dongfeng Motor notes in pamphlets and on its web page that it uses transmissions made by Aisin Seiki. We think these automakers are trying to demonstrate product quality by stressing that they use parts made by Japanese parts makers. Chinese automakers are looking to boost their brand power, so they have strong demand for Japanese brands. In the past Japanese parts makers have not fully met these needs (or they did not try to because they were busy serving Japanese customers), but recently they have been

aggressively trying to win demand from local firms (for example, by building R&D facilities in China).

Denso optimizing products for local markets and aiming to halve costs

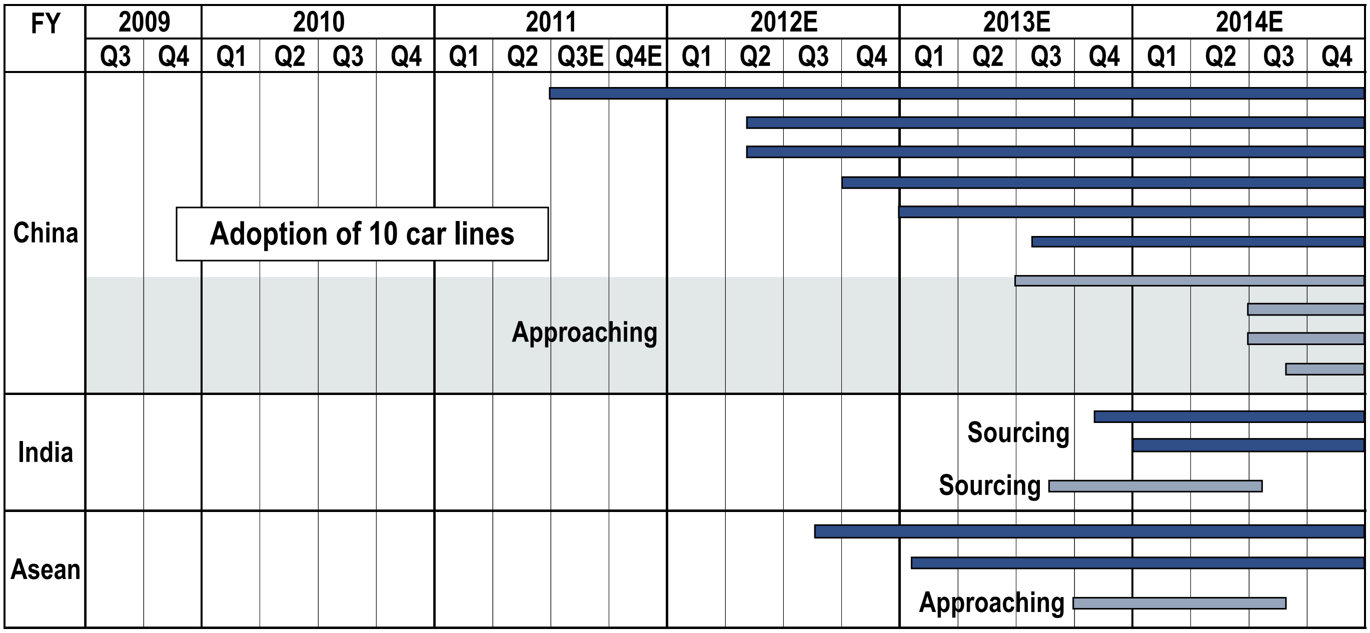
The most aggressive among Japanese parts makers has been Denso, which began a project to halve its costs in mid-2009. Under this project, Denso has made drastic revisions, in everything from design through production, with the aim of securing a foothold in the new technological field of low-cost technology. The firm has been working to halve CoGS on 23 products, including air conditioning systems, injectors, and engine ECUs. One example of these efforts is the HVACs made for Chinese automakers. After a thorough survey of customers in China, Denso discovered that Chinese customers were less concerned with air conditioner noise than customers in developed nations. Denso motors were about 15% quieter than those of competitors, but the firm saw this as unnecessary in China, so it optimized its products for the local market. It also reduced specs in areas like the frame, weight, and product lifespan, while retaining its focus on fire resistance, functionality and efficiency, and avoiding breakdowns. With these design changes the firm was able to use locally-produced materials and cheap labor, with the products being assembled by hand. As a result, Denso maintained high quality and functionality in the necessary areas while also cutting costs sharply.

Thanks to these efforts, we understand Denso has won new orders for products subject to its cost halving activities for use in 10 models made by automakers in China, India, and ASEAN. This is an extremely impressive result after only around two years.

Other Japanese firms could do the same

If other Japanese parts makers beef up efforts along the lines of Denso's, we think they could match the needs of automakers in developing markets, which would in turn lead to higher sales.

Figure 27. Adoption of Denso's low-cost parts



Source: Company data, Citi Investment Research and Analysis.

Comparison with emerging markets parts makers

If Japan's auto parts makers, which have a good reputation for quality, can successfully cut costs, they have lots of room to grow sales

The quality and product appeal of South Korea's automakers has improved in leaps and bounds in the last few years, and it is becoming equity market consensus that they are getting to a point where they can stand shoulder-to-shoulder with Japanese automakers. However, aside from some firms such as Hyundai Mobis and Mando, emerging market auto parts makers do not yet have much of a presence. Of the top 100 auto parts makers by sales in 2010, as ranked by *Automotive News*, 29 were Japanese firms while four were South Korean and none were Chinese, so there is still a gulf in terms of sales.

But parts makers in developing markets a threat

Nevertheless, parts makers in developing markets have a real competitive edge in costs and moving forward we think they are likely to pose a threat to Japanese parts makers. Indeed, we are seeing an increasing volume of newsflow on South Korean parts makers winning orders from Japanese automakers. A research survey suggests, however, that there is still a gap in terms of quality and technological competitiveness.

Edge in price for South Korean firms, but Japanese firms lead in quality, production, technology

According to an August 2010 survey report by Invest Korea, which solicits foreign investment in South Korea, South Korean auto parts makers have a 24% edge over Japan's makers in price competitiveness but are only at 85% of the Japanese level in quality competitiveness, 80% of the level in production

competitiveness, and 75% of the level in technological competitiveness. In eco-car related technologies, the report puts the South Korean makers at around 60% of the level of developed nations in common-rail fuel injection equipment, which is a core technology for diesel vehicles, and only at 65% even for turbocharging technology.

If Japanese parts makers can cut costs, there is lots of potential to grow sales

We see the following implications for Japanese auto parts makers from the report's conclusions: 1) Japan's parts makers urgently need to improve their cost competitiveness and 2) parts makers in developed markets will be able to still have an edge in fuel economy in conventional technological arenas, chiefly internal combustion engines. We think the latter points to business opportunities for Japanese auto parts makers. While EVs may be on drawing boards everywhere, we predict that the internal combustion engine will remain the mainstream for the next 10-20 years. We are sure that automakers in developing markets will also further improve automotive fuel economy based on internal combustion technologies moving forward, but we think that there is more room than there was previously for Japanese parts makers to make inroads. As for Japanese cost competitiveness, we think that if parts makers can rethink their attitudes to “excessive” quality, and cut prices by sourcing basic materials, molds, and equipment locally, they will be able to win orders from automakers in developing markets. As we saw in the success story of Denso above, if Japanese parts makers, which have a good reputation for quality, can succeed in cutting costs, they have lots of potential to grow sales.

We doubt Japan's auto parts makers will end up like its consumer electronics firms

The equity market is increasingly concerned that the growth of South Korean auto parts makers will rob Japanese ones of work for Japan's automakers. We doubt however that Japan's auto parts makers will easily lose market share they way it has been lost in consumer electronics and other electrical products, as in the case of autos, manufacturers lay stress on reliability, safety, durability in extreme environments, mass production technologies, and the ability to deliver, and the model cycle is long, averaging four or five years. We this think that Japan's auto parts makers needs to rethink their procurement structures, localize production, and thereby reduce their cost structures while they still have breathing space.

Japanese firms have won back business

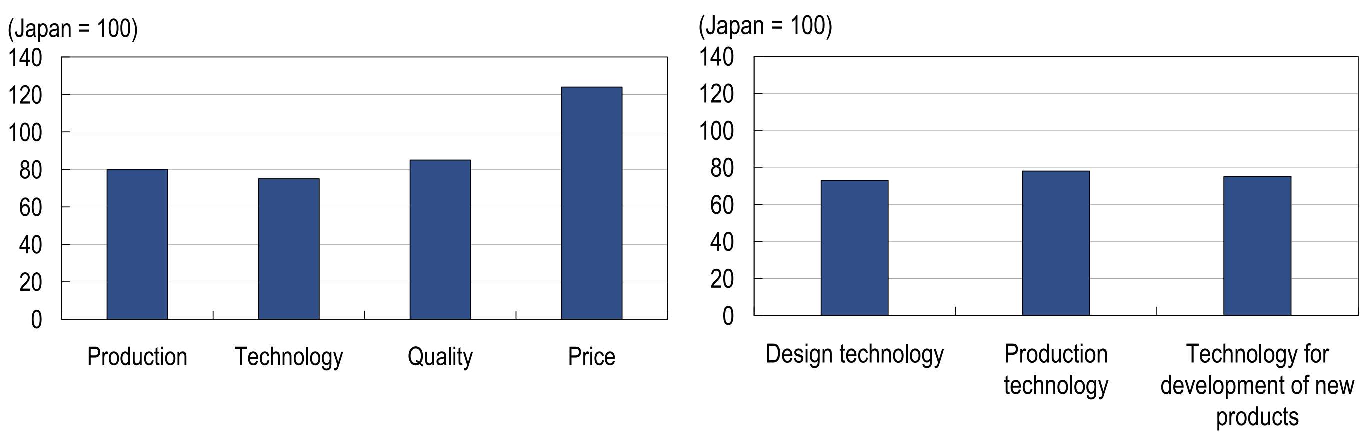
There are cases in which Japan's auto parts makers have won back business they had lost to makers in emerging markets, and we cite the case of independent parts maker GMB (7214; NR) here as a success story in enhancing price competitiveness. In FY3/11, 44% of the company's sales came from water pumps and other products for repair use. In sales to

US auto goods stores, competition with Chinese makers, who went on a low-price offensive, started heating up in the middle of last decade and GMB lost orders. Since FY3/11, however, it has been winning them back. It has always had the edge in terms of quality and delivery, while cost was an issue; now GMB has succeeded in cutting costs through the use of parts made in Thailand and China. It has succeeded in clawing back orders for components that had been stolen away from it. As a result, sales of components for repairs surged to ¥19.1bn in FY3/11 from ¥13.1bn in FY3/10.

Exposure to Korean automakers

Finally, we note that Nifco (7988; NR), Aisan Kogyo, Exedy, and GMB have elevated exposure to South Korean automakers with strong sales. While Denso's sales to Hyundai and KIA amounted to only ¥58.9bn in FY3/11, just 1.9% of its total sales, this is nothing to be sneezed at given that sales at Mando, one of South Korea's Big 5 parts makers, to Hyundai and KIA were only ¥150bn (conversion at ¥0.075/KRW).

Figure 28. Japanese and South Korean auto parts makers' competitiveness compared



Source: Invest Korea (August 2010), Citi Investment Research and Analysis.

Source: Invest Korea (August 2010), Citi Investment Research and Analysis.

The story: Serving foreign automakers with technologies nurtured for Japanese automakers

Leveraging technological prowess reared in Japan overseas

The story that has acted as a catalyst before in Japan is the possibility of revival through the supply of foreign automakers. For instance, the independent parts maker TPR (6463; NR) has substantially increased its orders for cylinder liners over the last decade, as Japanese automakers have shifted to aluminum for engine blocks. Steel used to be the mainstream for engine blocks but gasoline engines have been shifted to aluminum as automakers have tried to lightweight their offerings. In order to counter the weak points of aluminum,

namely its lack of rigidity and poor friction resistance, automakers have increasingly been using cylinder liners—cylindrical steel parts—on the inside of the aluminum blocks. TPR has garnered an impressive market share for itself in this field, thanks to its unique production technologies.

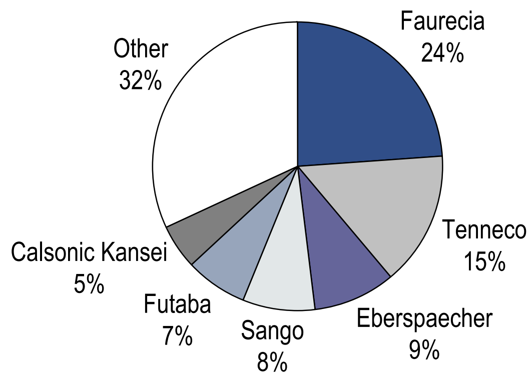
Japan's automakers have completed the transition to aluminum blocks, so the equity market sees this as an "old hat" catalyst, but overseas makers in the US and China are expected to shift to aluminum. TPR is proactively hunting for orders here, leveraging its exclusive production technologies and its experience in supplying Japanese makers.

Possibility of industry reorganization

Over the longer run, parts makers affiliated with the same automaker may rethink operations that overlap and reorganize in pursuit of economies of scale

We have seen people argue recently that there is probably a need to reorganize Toyota- and Honda-affiliated parts suppliers in the way that the affiliate system of Nissan-affiliated parts makers was torn down. As things stand, we think that the affiliate systems at Toyota and Honda are likely to be maintained as they are, with automakers and parts makers coming together to push further CoGS cuts and thereby work to cope with yen strength and enhance product appeal. If this does not produce adequate results, however, we may start to see cases of parts makers affiliated with the same automaker rethinking operations that overlap and reorganizing in pursuit of economies of scale.

Figure 29. Exhaust-related components: Two Toyota affiliates in the top ranks by global market share



Note: As of FY10.
Source: Faurecia, Citi Investment Research and Analysis.

Conclusion

Market interest likely to grow as Japanese automakers shift from "dependent" to "independent"

In this report, we have outlined the current circumstances of the global auto parts sector and discussed opportunities for Japanese firms. We are optimistic about the future for Japanese automakers because 1) we see significant potential for increased sales as Japanese firms have not been that aggressive about trying to grow sales to non-Japanese automakers (as there was no need); 2) we anticipate a resurgence by Japanese auto parts firms; 3) Toyota and Honda affiliates possess key strengths, and 4) we think Japanese auto parts firms retain a competitive advantage over firms in developing markets. If Japanese auto parts firms are able to boost their ability to grow sales as independent entities while also leveraging the strengths inherent in their affiliations, we think their presence in the global auto parts market could grow. The 2020 vision put forth by Toyota Industries when it announced FY3/11 Q2 results includes as key themes "independence" and "growth", and it has begun working toward these goals. In our view, for Japanese auto parts makers to succeed they need to shift from "dependence" to "independence".

Valuation comparison

Figure 30. Valuation comparison

Code	Company	Rating		Price	Mkt Cap ($bn)	FY1E=	EPS		PER (x)		PBR (x)	OPM (%)		EV/EBITDA (x)		ROE (%)	
							FY1E	FY2E	FY1E	FY2E	FY1E	FY1E	FY2E	FY1E	FY2E	FY1E	FY2E
Japan auto parts																	
3116.T	Toyota Boshoku	2	JPY	780.00	1.9	3/12	82.0	117.1	9.5	6.7	0.8	3.6	4.2	2.3	1.9	9.0	12.0
6201.T	Toyota Industries	2	JPY	2,004.00	8.1	3/12	179.7	197.4	11.1	10.2	0.7	5.0	5.5	nm	nm	5.8	6.7
6470.T	Taiho Kogyo	1	JPY	665.00	0.2	3/12	85.5	105.1	7.8	6.3	0.4	4.2	5.0	2.3	2.1	5.5	6.5
6902.T	Denso Corp	1	JPY	2,080.00	21.7	3/12	157.6	228.3	13.2	9.1	0.8	5.6	8.1	2.0	1.4	6.4	8.9
6995.T	Tokai Rika	1	JPY	1,147.00	1.3	3/12	127.3	171.6	9.0	6.7	0.6	5.3	6.5	0.3	0.1	7.2	9.3
7259.T	Aisin Seiki	1	JPY	2,159.00	7.9	3/12	253.7	278.6	8.5	7.8	0.8	6.3	7.0	1.7	1.4	10.2	10.5
7276.T	Koito	1	JPY	1,009.00	2.1	3/12	105.8	147.5	9.5	6.8	1.0	8.8	9.9	1.4	1.1	11.1	14.0
7283.T	Aisan	1	JPY	599.00	0.4	3/12	54.1	89.2	11.1	6.7	0.6	4.1	5.5	1.1	0.8	5.3	8.5
6923.T	Stanley	2	JPY	1,056.00	2.3	3/12	99.8	122.5	10.6	8.6	0.9	12.4	12.7	1.8	1.6	8.4	9.8
7230.T	Nissin Kogyo	1	JPY	973.00	0.8	3/12	87.8	143.3	11.1	6.8	0.7	7.5	9.1	1.5	1.1	6.8	10.6
7251.T	Keihin Corp	1	JPY	1,127.00	1.1	3/12	104.1	178.5	10.8	6.3	0.7	5.9	7.3	1.6	1.2	6.3	10.2
7248.T	Calsonic Kansei	1	JPY	415.00	1.4	3/12	83.2	60.8	5.0	6.8	0.9	2.9	3.6	3.0	2.4	20.2	12.9
6444.T	Sanden Corp	2	JPY	214.00	0.4	3/12	36.7	42.5	5.8	5.0	0.6	1.8	2.6	5.4	4.5	10.9	12.1
7240.T	NOK Corp	2	JPY	1,247.00	2.8	3/12	131.7	155.5	9.5	8.0	0.8	6.9	7.5	2.3	1.9	9.2	10.1
5101.T	Yokohama Rubber	2	JPY	413.00	1.8	12/11	39.1	53.1	10.6	7.8	0.8	5.0	5.1	4.6	3.8	7.5	9.8
5108.T	Bridgestone Corp	1	JPY	1,714.00	17.3	12/11	150.9	190.9	11.4	9.0	1.1	6.7	7.4	4.6	4.0	9.8	11.2
5110.T	Sumitomo Rubber	1	JPY	892.00	3.0	12/11	83.1	112.8	10.7	7.9	1.1	6.5	7.3	4.9	4.1	10.9	13.2
US auto parts																	
BWA.N	Borg Warner	2	USD	62.01	6.8	12/11	4.4	5.3	14.0	11.7	2.7	10.9	11.3	7.0	5.9	22.4	21.8
GT.N	Goodyear Tire	1H	USD	12.01	2.9	12/11	2.1	2.5	5.7	4.8	1.6	5.3	5.8	5.0	4.5	43.9	32.3
JCI.N	Johnson Controls	2	USD	27.77	18.9	9/12	2.9	3.5	9.6	7.9	1.4	6.0	6.6	6.9	5.6	16.3	17.3
LEA.N	Lear Corp	1	USD	40.02	4.1	12/11	5.3	5.5	7.5	7.3	0.6	5.6	5.6	2.9	2.4	20.1	17.1
MTOR.N	Meritor	1H	USD	5.02	0.5	9/12	1.2	1.6	4.1	3.2	nm	4.5	6.2	4.5	3.1	-	-
EU auto parts																	
CONG.DE	Continental	1	EUR	45.24	12.1	12/11	7.7	8.6	5.9	5.2	1.3	10.1	10.3	3.9	3.5	18.9	18.4
EPED.PA	Faurecia	2	EUR	13.80	2.0	12/11	2.9	2.9	4.7	4.8	1.4	3.8	3.9	2.4	2.2	37.0	28.8
GKN.L	GKN	2	GBP	1.66	4.0	12/11	0.2	0.2	8.6	7.4	1.7	7.4	7.7	6.1	5.6	23.0	21.1
MICP.PA	Michelin	1	EUR	41.82	10.0	12/11	7.1	7.8	5.9	5.3	0.8	9.3	9.8	4.2	3.8	14.5	14.3
PECI.MI	Pirelli	1	EUR	6.30	4.1	12/11	0.7	0.8	9.4	7.7	1.4	10.4	11.4	4.6	4.1	14.9	16.3
VLOF.PA	Valeo	1	EUR	28.57	3.0	12/11	5.6	5.8	5.1	4.9	1.1	6.1	5.9	2.4	2.2	21.0	18.4
China auto parts																	
2338.HK	Weichai Power	3	CNY	34.85	7.5	12/11	3.3	3.7	8.6	7.6	2.0	13.8	14.0	5.1	4.5	26.3	23.7
1899.HK	Xingda Intl	1	CNY	3.46	0.7	12/11	0.5	0.5	6.0	5.2	0.8	19.5	20.4	3.8	3.3	14.7	15.2
India auto parts																	
BFRG.BO	Bharat Forge	3	INR	259.30	1.2	3/12	14.8	16.9	17.6	15.3	2.8	10.3	10.9	8.9	8.2	16.7	17.5
Korea auto parts																	
000240.KS	Hankook Tire	3	KRW	42,850.00	5.6	12/11	3,254.2	4,206.7	13.2	10.2	2.6	10.0	12.2	8.6	7.0	20.4	24.3
012330.KS	Hyundai Mobis	1	KRW	309,500.00	26.0	12/11	35,584.8	40,209.3	8.7	7.7	2.1	11.3	11.6	6.8	5.0	28.3	24.2
060980.KS	Mando	1	KRW	198,000.00	3.1	12/11	13,181.8	16,699.4	15.0	11.9	2.5	7.2	7.5	8.1	6.2	18.0	19.2

Note: Based on November 22 closing prices for Japanese names and November 23 closing prices for overseas names.
Source: Citi Investment Research and Analysis.

Appendix A-1

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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.

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	12 Month Rating			***Relative Rating***		
Data current as of 10 Oct 2011	**Buy**	**Hold**	**Sell**	**Buy**	**Hold**	**Sell**
Citi Investment Research & Analysis Global Fundamental Coverage	59%	34%	7%	10%	79%	10%
% of companies in each rating category that are investment banking clients	45%	42%	37%	50%	43%	46%

Guide to Citi Investment Research & Analysis (CIRA) Fundamental Research Investment Ratings:

CIRA's stock recommendations include an investment rating and an optional risk rating to highlight high risk stocks.

Risk rating takes into account both price volatility and fundamental criteria. Stocks will either have no risk rating or a High risk rating assigned.

Investment Ratings: CIRA's investment ratings are Buy, Neutral and Sell. Our ratings are a function of analyst expectations of expected total return ("ETR")

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