Booz & Company

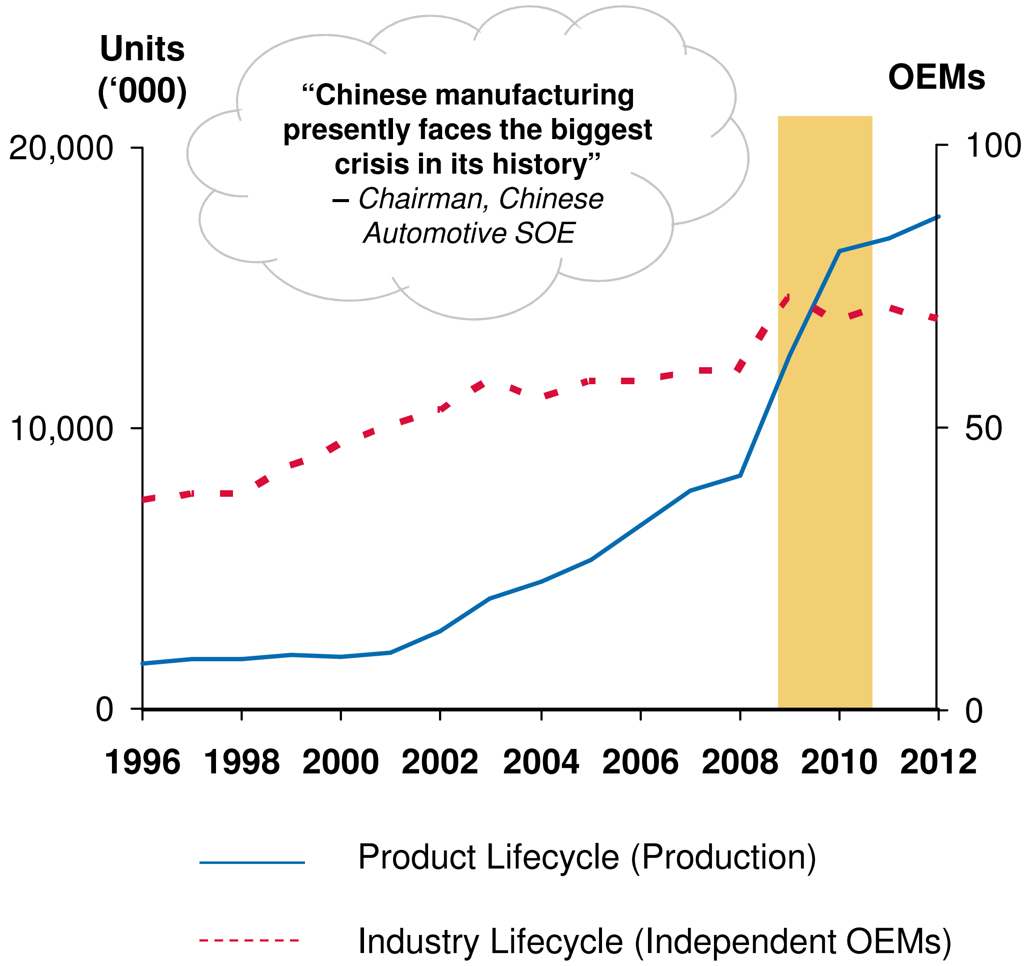
Shanghai, 26 February 2014

Racing to the Bottom

Presentation at the Global Supply Chain Council

China's auto industry is presently at an important inflection point

Industry Dynamics

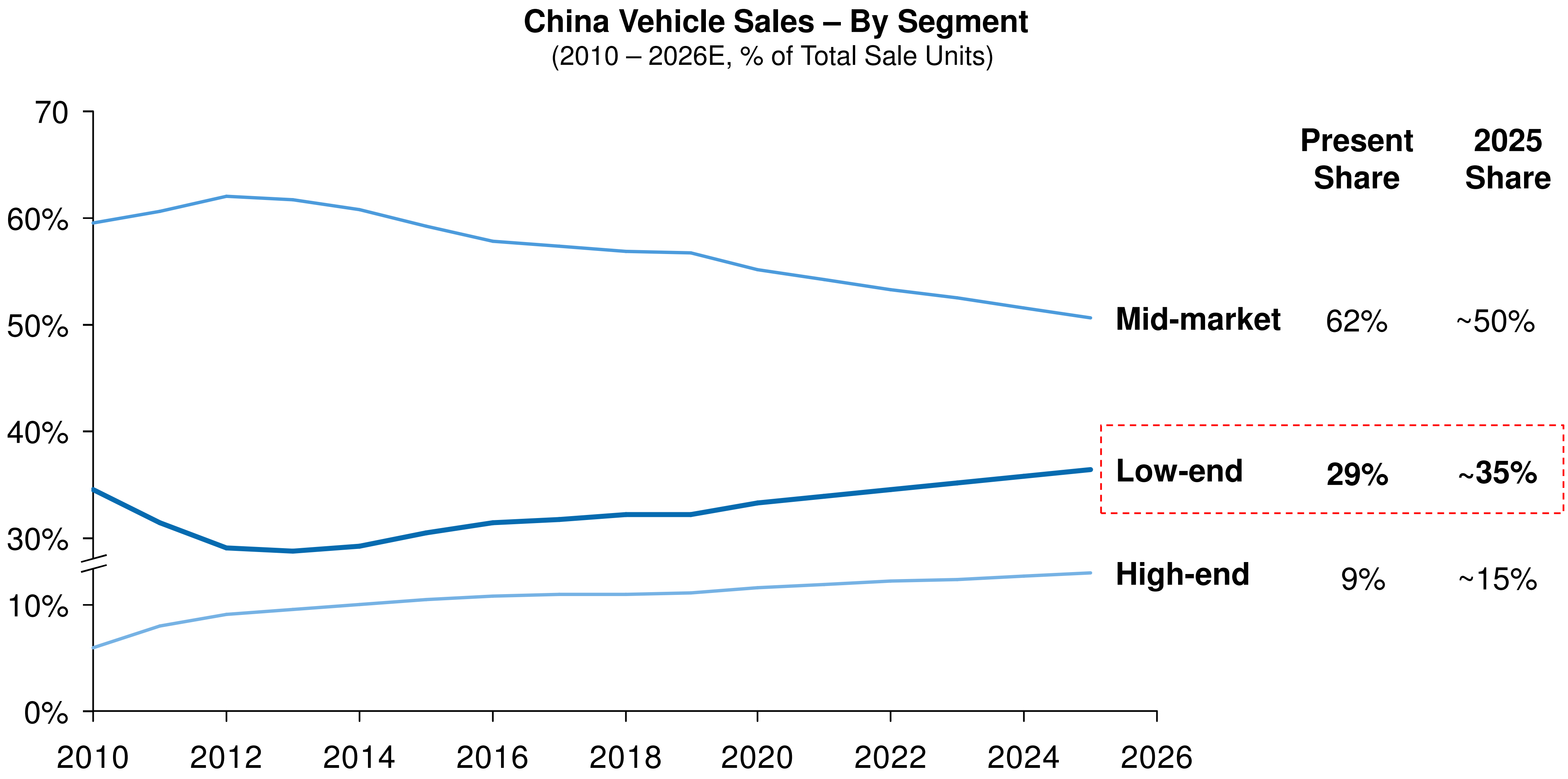


Major Trends

- Annual sales expected to slow down from 25% CAGR before 2010 to ~6% CAGR during the next decade
- The product and industry lifecycles are beginning to decouple
  – High levels of overcapacity
  – Price and margin pressure
  – (Orderly) shake-out finally underway?
- Changing competitive dynamics increasingly resembling those of mature markets
  – Repeat purchases / owner loyalty
  – Used vehicles / parts & service
  – Lease / Finance?

Source: Global Insight, Literature Research, Booz & Company analysis

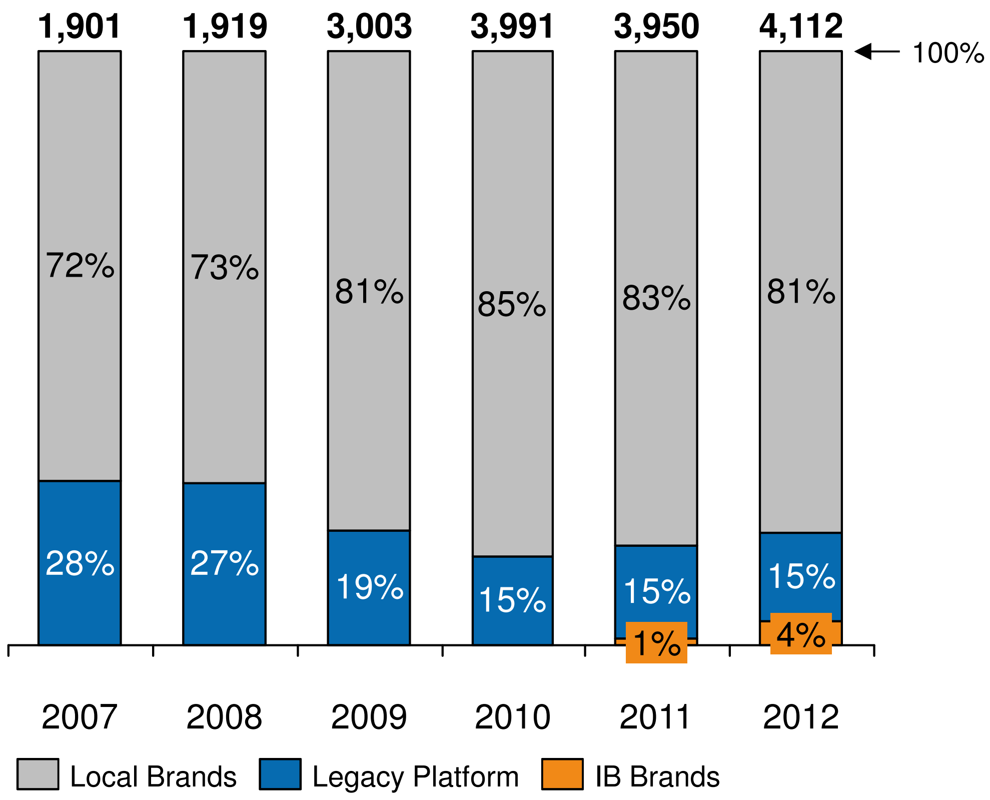
The low- and high-end segments will likely continue to gain share at the expense of the mid-market



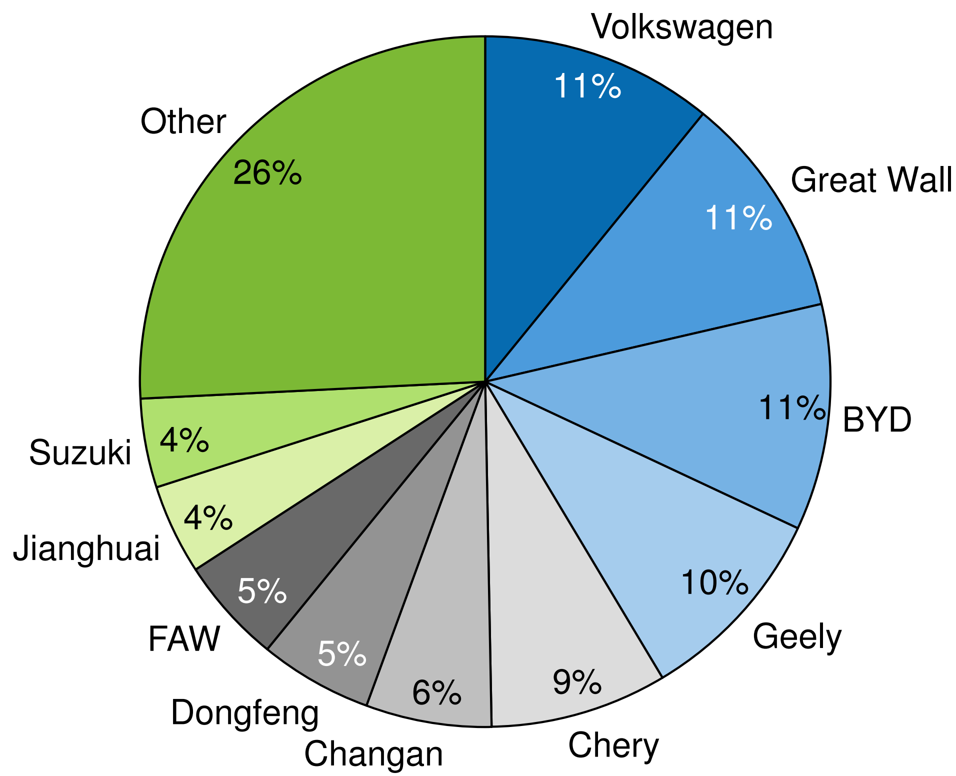
Source: Global Insight, Literature Research, Booz & Company analysis

Local Chinese brands currently dominate the low-end segment

Low-End Market Share Change by Type of Player
(2007~2012, '000 Units)

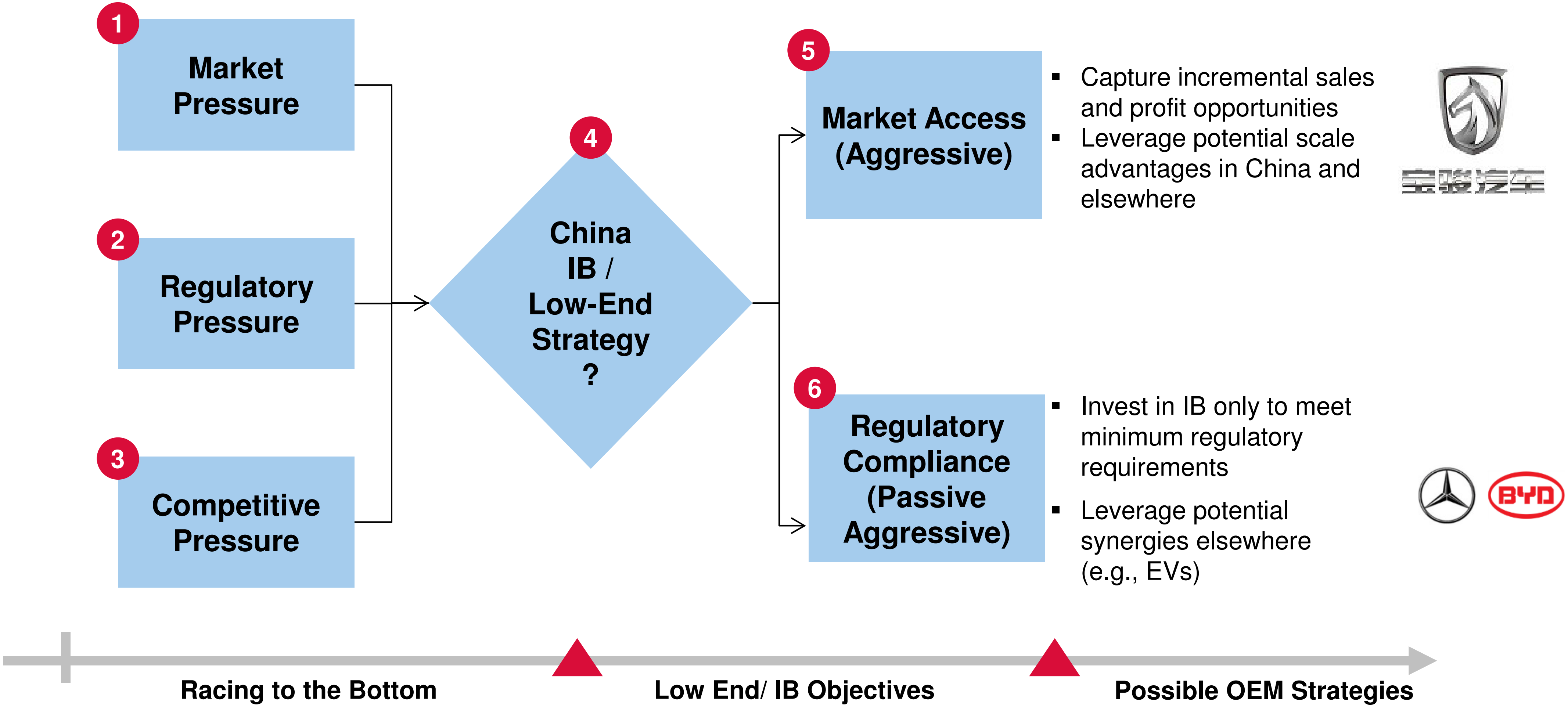


Low-End Market share of all players
(2012)



Source: Global insight; Booz & Company analysis

However, foreign automakers are under considerable pressure to enter the low-end segment themselves



Source: Booz & Company analysis

The passive-aggressive strategy is probably not advisable for most foreign automakers, especially those in the volume segments

Potential Risks of a Passive-Aggressive IB Strategy

Market Risk	▪ Lost profits, competitive position, and prestige ▪ Inability to reach business plan objectives ▪ Scale disadvantage in China and potentially other emerging markets
Regulatory Risks	▪ Potential negative impact on relationship with key government officials and other stakeholders ▪ Substantial investment may be required even to meet minimal regulatory requirements ▪ Potential challenges with expected tightening of IB policy (e.g., future minimum volume requirements)

Source: Booz & Company analysis

In fact, several foreign automakers have already entered the low-end segment

Recent Low-End Market Entries By Foreign OEMs

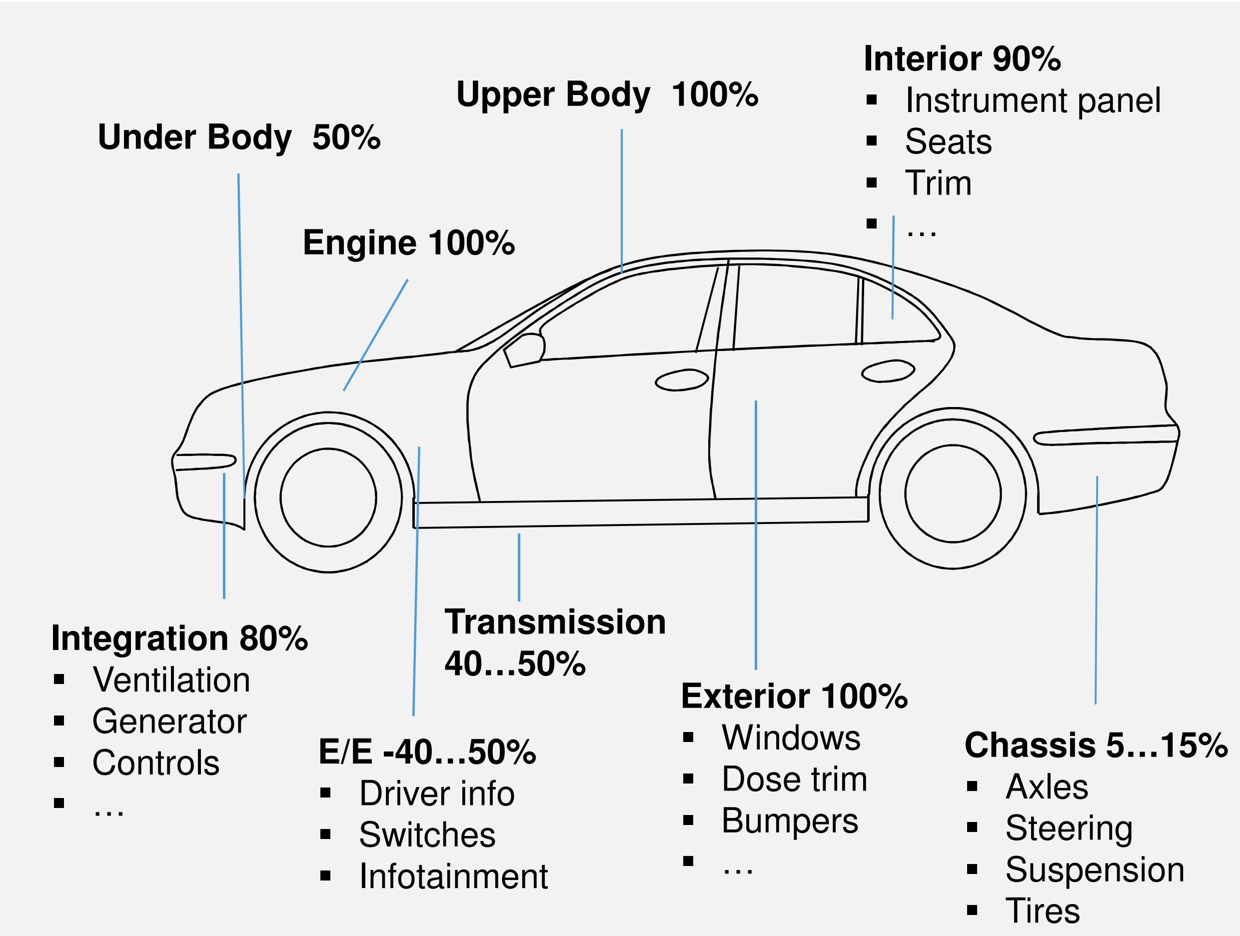
		Segment	Price
SGMW Baojun		Compact	58-97k
启辰 Dongfeng Nissan Venucia		Compact	68-85K
理念 EVERUS GAIG Honda Everus		Sub-compact	58-100k

Source: Literature Research, Booz & Company analysis

Some foreign automakers have achieved cost reductions of >30%

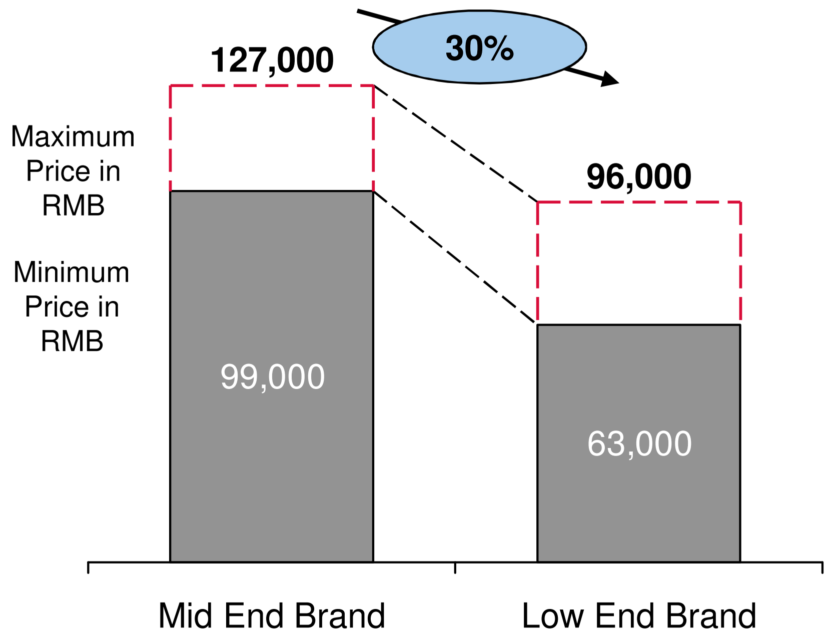
CASE STUDY

Changes Between Low End and Mid End Brand for Global OEM in China



0% means no changes, 100% means change completely

Price Comparison between Mid End and Low End Brand



Source: Literature Research, Booz & Company analysis

To do so, foreign automakers must make significant changes in their product development, sourcing and manufacturing activities

Examples Business Model Changes

	Most Common High End Business Model	Low End Business Model Requirements
Product Development	▪ Reliance on global OEM's international product development resources and capabilities ▪ Specifications complying with OEM's global standards ▪ Limited local product development capabilities	▪ Build separate product development capabilities to meet market and regulatory needs ▪ Develop local low cost specifications (redesign) ▪ Close cooperation with local sourcing in early supplier involvement and local supplier concept designs
Sourcing	▪ Adherence to OEM's global sourcing strategy and policies ▪ High degree of global suppliers, and designs owned by global suppliers ▪ Limited local supplier integration in the R&D process ▪ Supplier qualification is controlled by OEM global team	▪ Develop a higher degree (up to 80%) low cost suppliers/ true local suppliers ▪ Re-design to get out of "global supplier owned design" ▪ Early supplier involvement for local suppliers ▪ Local supply release, and decision rights **Limiting growth opportunities in Low/Mid Market for global Tier 1s**
Manufacturing	▪ Manufacturing plant and production processes designed to OEM's global standards	▪ "Good enough" manufacturing infrastructure and processes to deliver ▪ More leveraging of local equipment and tool providers to reduce costs

Source: Booz & Company analysis

For example, one automaker reduced total plastics costs by ~35% by simplifying design and using more local Chinese suppliers

Example- Plastics Part Reconfiguration for Low End Car

		Low End Model	Mid End Model
A **Resin Grade Comparison***	High End (%)	**15%**	**60%**
	Mid/Low End (%)	**85%**	**40%**
B **Plastic Consumption***	Plastics Weight Reduction (Low- vs. Mid End)	-7%	NA
C **Suppliers**	Type of supplier used	Mainly Local Suppliers	Mainly Global Suppliers
D **Total Plastics Cost**	Plastics Cost Reduction (Low - vs. Mid End)	-35%	NA

Note: High end plastics represents plastics over 20RMB/Kg, with an average of 25RMB/Kg (for calculation purpose) mainly including PC, ABS, ABS/PC, PBT, PMMA, POM and elastomers, while mid/low end are those lower than 20RMB/Kg, with an average of 12RMB/Kg (for calculation purpose), mainly including PA, PP, PE

Source: Booz expert judgment , Booz & Company analysis, expert interviews

In fact, local Chinese suppliers can already sell many parts at acceptable quality levels for low-end cars, but at much lower cost

CLIENT EXAMPLE

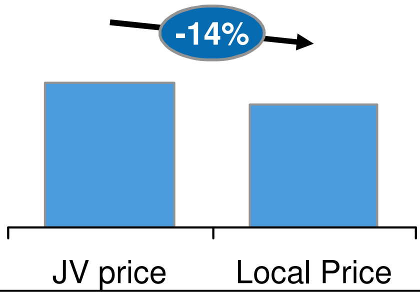
Product	Total Cost Comparison	Cost Driver Comparison

ABS

JV
- 90% components imported from Europe
- Assembly in China

Local Supplier
- 50% key components imported from Europe
- Assembly in China

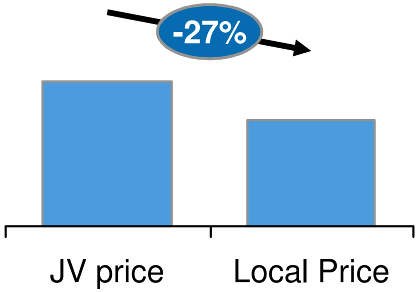
HVAC



JV
- Evaporator, heater core from Europe at higher price
- Assembly in China

Local Supplier
- 100% manufactured in China with similar quality, but at lower prices
- Able to match requirements/specifications

Display Cluster

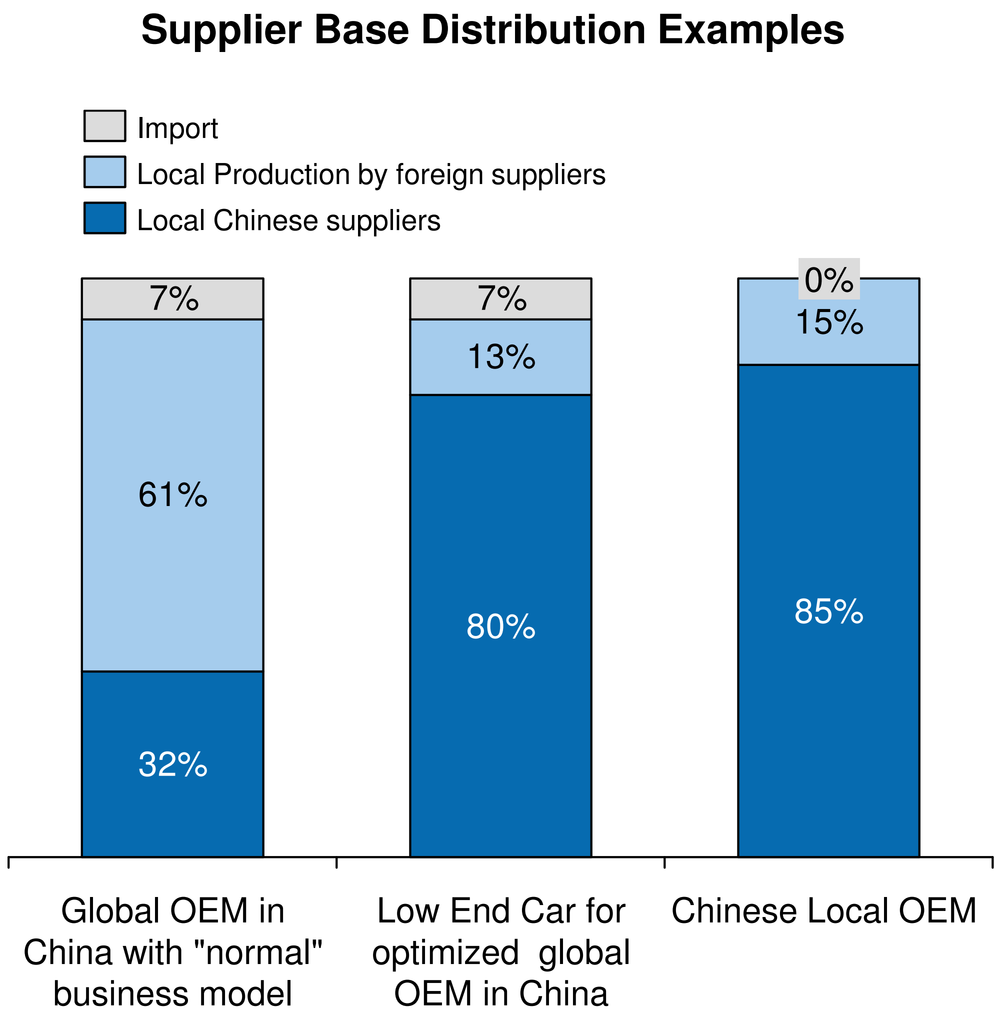


JV
- Frame contract with automakers' HQ
- Higher additional overhead costs

Local Supplier
- 100% manufactured in China with similar quality and requirement fulfillment, but at lower prices

Source: Booz & Company analysis

Importantly, working with foreign automakers will enable local suppliers to improve their own capabilities and move upmarket



Source: Literature Research, Booz & Company analysis

In fact, there is a realistic chance that at least some of these local Chinese suppliers may become global category killers over time

Unique Factor Conditions

- China's immense market
- Explosive growth in infrastructure investment
- Huge supply of cheap labor at all levels
- Hyper-competition
- Relatively protected market access
- …

Emerging Multinational Corporations

EMNCs

- Initially, no unique competitive advantages
- Leverage a dominant position in China's mid/low-market
- Gain a global leadership position and challenge established MNCs from developed countries

Global Category Killers

1) **Gain leading position in Chinese home market**
2) **Leverage cost advantages to compete with global players**
3) **Focus innovation efforts on relentless cost improvement**
4) **Expand internationally**
5) **Move up-market through heavy R&D investments and strategic partnerships / acquisitions**

Source: "How Firms in Emerging Markets Can Play Catch-up" – Strategy + Business, Jullens, 7 January 2014

Wanxiang is a good example of just such a global category killer

How Wanxiang Obtained Advanced Technologies Through Acquisitions

萬向集團 WANXIANGGROUP

Background information on Wanxiang

- Established in 1969, Wanxiang has become China's second largest private company -- annual revenues of over US$ 10 billion
- Focus in the 1980's and 1990's was on increasing quality and cutting costs
- Wanxiang has acquired a market share of 70% for universal joints and started supplying to Sino-foreign JV's such as GM and Ford
- Their only tech center, established in 1994, is located in Xiaoshan, with 150 engineers
- Annual R&D expenditure of the group exceeded 4.5% of total sales
- There is at least one component from Wanxiang Group in every three cars produced in US

Schiller

- In 1998, Wanxiang acquired Schiller for US$ 19 million
- Gained technology, patents and new customer base

Universal Auto Industry

- In 2001, Wanxiang purchased a 21% stake in the brake component maker for US$ 2.8 million
- Made Wanxiang the first Chinese purchaser of a Nasdaq- listed company

Rockford Powertrain

- In 2003 Wanxiang bought a stake in Rockford
- Gained expertise in drive shafts and clutch manufacturing

Neapco

- In 2006 Wanxiang acquired a majority interest in Neapco a leader in drive train technology
- Product development engineers were sent to China to work on the product development process

Source: Company Annual Reports & Websites, Booz & Company analysis

Fuyao is another example of a local Chinese supplier gradually becoming a global upmarket brand

How OEMs Helped Turn Fuyao Become A Global Player

福耀集团
FUYAO GROUP

Company Profile

- Fuyao Group is a joint venture corporation founded in 1987 in Fuzhou, specialized in production of automotive safety glass and industrial technological glass
- The group has over 10,000 employees and built automotive glass production bases in Fuqing, Changchun, Chongqing, Shanghai, Guangzhou, and Beijing
- In China, Fuyao has captured more than 50 per cent of the domestic OEM market and has been approved as a qualified, key supplier to eight of the world's leading automotive manufacturers: GM, Audi, Bentley, VW, GM, Ford, Toyota, Honda, Nissan, PSA, Volvo, Hyundai and Daimler

Products – Automobile Glass

Passenger Vehicle Glass

Bus Glass

Bonding Glass

Advanced Manufacturing Techniques

Low Labor and Overhead Costs

Global Supplier

- It is ranked No. 1 in China and No. 4 in the world
- In 2012, sales in overseas markets accounted for 30 percent of the company's total sales revenue
- In 2014, Fuyao will invest $200 million to build a safety glass plant in the US, and $220 million to establish a base to supply raw materials for its safety glass plant in the Russian market

Source: Company Annual Reports & Websites, Booz & Company analysis

Many global suppliers are structurally disadvantaged and may find it difficult to respond successfully

	Key Drivers	Common Benefits for Locals	Typical Challenges for MNCs
R&D / Product Development	Localized Design	▪ "Leaner", **market-back, pragmatic designs** ▪ **Risk taking** in design and broader usage ▪ **Lower R&D cost ,** shorter product development cycle and fewer tests	▪ Higher R&D cost, longer design process and more design tests ▪ "Over-engineer" and struggle to "truly localize" designs
Sourcing	Truly Local Supplier Base	▪ Higher sourcing percentage from truly **local suppliers** ▪ More aggressive in moving supplier base to **lower tier cities**	▪ Struggle to "truly" localize majority of components ▪ Often use global suppliers with higher costs
Manufacturing	Lower Cost Sites	▪ **Lower cost locations** for manufacturing ▪ **Larger scale operation** ▪ Moving west more aggressively than MNCs	▪ Higher standards for site selection ▪ Higher wage expectations due to MNC image ▪ Stricter policies and potentially worse morale
	Favorable Loans	▪ **Favorable financing rates** ▪ Some never repaid long-term loans	
	Labor Cost/ Worker Policies	▪ Low-cost workers from Inland China ▪ Less strict policies overall ▪ Lower safety standards	
Overhead / Others	Low Global Overheads	▪ Almost no excessive international workforce and additional related costs	▪ Heavy global overhead
	Robust Governmental Relationship	▪ **Favorable price terms by lobbying government / regulators** ▪ Less market competition under government protection	▪ Longer time and more tactics to build trusts with local government

Source: Expert interviews; Booz & Company analysis

Global suppliers should assess four potential strategies to defend their position – many will have to find a way to "Win In China"

Four Strategic Options for MNCs

1 **"Stay at home"**

- **Option 1:** Remain focused on upper tier and leave mid/low-market to other competitors

BOSE

2 **"Wait it out"**

- **Option 2:** Wait for mid/low-market demand to catch up to premium demand

BorgWarner

3 **"Win in China"**

- **Option 3:** Develop required products, capabilities, and other resources to compete proactively in the Chinese mid/low-market

BOSCH
DELPHI
Johnson Controls

4 **"If you can't beat' em …"**

- **Option 4:** Partner with one or more Chinese competitors and develop the (global) mid/low-market together

BOSCH
Johnson Controls

Source: Booz & Company analysis

While every firm has to develop its own low-end market strategy, there are a few universal principles that will apply to most MNCs

1. **Entry-Level Business Model** – Rethink business model to support unique entry-level market requirements, including product, price, branding, marketing, distribution, and operations
2. **Low-price Products** – Develop “low-priced” products specifically designed for Chinese mid-market customers, as opposed to merely introducing “low-cost” versions of existing world-class product
3. **Value chain migration** – Transfer core activities to China to narrow cost gaps with domestic entry-level market competitors through local product development, sourcing, and manufacturing
4. **Selective Partnerships** – Consider entering into partnerships with local suppliers to fill gaps in entry-level market product portfolio, develop optimal distribution footprint, and navigate China’s unusually complex regulatory environment
5. **Multi-Brand Strategy** – Consider developing a multi-brand strategy to successfully operate across premium and entry-level market price points as well as multiple product categories
6. **Multi-format Sales Channel** – Develop cost-effective ways of sale by employing multi-format dealerships including vehicle supermarkets, 2S stores, and brokers to penetrate entry-level regions
7. **Strong Local Organization** – Ensure that management is capable and sufficiently empowered to enable fast decision-making and sensitivity to local market requirements. Clarify decision rights and put in place a strong governance structure
8. **Global Mindset** – A firm’s success in China is tied to the mindset of its top managers. At a minimum, ensure that headquarters has at least a basic understanding of China’s unique business and regulatory context

Source: “China’s Mid-Market: Where “Good Enough” Just Isn’t/’-- Strategy + Business, Jullens, 9 July 2013

How ready are you to "win" in the China low/mid end market?

Step 1. Market Understanding (Y N)

1. You know your product's current market share across China low/mid/high-end market segments ☐ ☐
2. You understand the market trends for the next 5-10 years across segments ☐ ☐
3. You have modeled low/mid end growth scenarios for the next 5-10 years and understand implications ☐ ☐
4. You understand customer needs, and differences in needs between regions and tier cities within China ☐ ☐
5. You understand demand/ sales distribution between regions and cities ☐ ☐
6. You know the competitor landscape, their strategies, cost base and quality level vs. your own ☐ ☐
7. You understand current and future regulatory requirements and their implications ☐ ☐
8. You have a clear view of your company's overall potential and barriers in low/mid end market based on regulatory, market and competitive drivers ☐ ☐

Step 2. Market Entry Strategy (Y N)

1. You have a clear definition of which segments to enter, and with what positioning, target price and customers ☐ ☐
2. You have a clear product strategy for the defined market positioning ☐ ☐
3. You have conducted a customer need analysis for target customers and understand the implications on the product design/ boundaries ☐ ☐
4. You understand the required business model to fulfill the target price and reach low/mid end customers, in:
   a) Low Cost Product development ☐ ☐
   b) Sourcing ☐ ☐
   c) Manufacturing ☐ ☐
   d) Marketing ☐ ☐
   e) Sales Channel ☐ ☐
   f) After market services ☐ ☐
5. You have conducted a branding study and considered multi-brand options ☐ ☐
6. You have analyzed various organic and inorganic growth options– and decided ☐ ☐
7. You have a solid business model confirming the viability of your strategy ☐ ☐

Step 3. Implementation Readiness (Y N)

1. You have target costing of your low/mid end product close to local competitor levels, and know how to reach these targets ☐ ☐
2. You have conduced product tear down study, value engineering etc., and have a clear action plan of how to reach targets ☐ ☐
3. You have available and released Chinese low-cost suppliers (not foreign JVs) to supply your product to >80% ☐ ☐
4. You have released truly local raw materials (e.g. steel, resins) ☐ ☐
5. You have production set up with local equipment and automation sufficient for low/mid end product requirements ☐ ☐
6. You have multi-format distribution channels capable of penetrating even entry-level regions, including a network of possible agents and brokers ☐ ☐
7. You have a globally agreed brand image for your low/mid end product ☐ ☐
8. You have a strong local organization capable of domestically managing all points above ☐ ☐
9. Your global management understands the unique requirements in China and supports the required business model changes ☐ ☐

If any of the questions are answered "no" → **Market Explorer**

If 4 or more of the questions are answered "no" → **Undecided**

If less then 4 of the questions are answered no → **Getting Ready**

If 3 or more questions are answered no → **Getting Ready**

If max 2 question is answered no → **Fit For Growth**

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