China’s Competitiveness
Myth, Reality, and Lessons for the United States and Japan

CASE STUDY: SAIC Motor Corporation

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This study is one of a collection of five case studies that are part of a larger project entitled *China’s Competitiveness: Myths, Realities, and Lessons for the United States and Japan*. These cases and related studies include insights and recommendations gathered from working discussions held on February 7, 2012, at the Center for Strategic and International Studies in Washington, D.C., and on March 30, 2012, at the 21st Century Public Policy Institute in Tokyo. The project was jointly led by Kiyo Aburaki of the 21st Century Public Policy Institute and Nathaniel Ahrens of the Center for Strategic and International Studies. Case studies and papers were presented by the authors and commented on and discussed by participants. The project directors wish to thank the following commissioners for their intellectual leadership, guidance, and active participation:

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Introduction
The growth of the Chinese economy, particularly in the last 20 years, has been staggering. Until recently, most of this growth had come from producing labor-intensive, low-value-added goods. Today, however, Chinese competitiveness is no longer confined to lower-end production. In fact, Chinese policymakers are laser focused on helping Chinese firms move up the industrial value chain. Moreover, policymakers have made explicit the goal of assisting the international expansion of Chinese firms in a desire to “go global” and have made efforts to build internationally recognizable brands commensurate with China’s growing global clout. These policy goals have at times struck decidedly nationalistic and protectionist tones, raising concerns globally in both corporate and government sectors. Government encouragement of international expansion is also driven by the desire to reduce China’s foreign exchange reserves, which have become a subject of heated domestic and international criticism.

Now, a number of Chinese companies have emerged to challenge traditionally dominant international firms. This overall study looks at the cases of five such firms, examining the factors that led to their rise, their current state of competitiveness in relation to their international peers, and the policy implications. It is not meant to be an academic discussion of the nature of competitiveness, nor an investment analysis with latest-quarter data—all these companies are growing rapidly and present moving targets. We take a relatively straightforward approach to what it means to be competitive, looking at traditional metrics of corporate performance such as sales growth, profitability, and market share trends and comparisons over the last few years. We acknowledge that individual companies may determine competitive success differently and over varying periods of time; some are more market driven and concerned with quarterly results, while others may be less concerned with the short-term traditional indicators of success.

Market involvement by the Chinese government may also result in misleading competitiveness indicators. Firms may be more concerned with initial market share gain than with near-term profitability. While this is not an atypical strategy for new market entrants, government policies can play an outsized role in encouraging this type of strategy when viewed as part of the competitive landscape. Since long-term success is a flexible concept that is difficult to measure, we are focusing on the current competitiveness of these firms. But in doing so we are also investigating the factors that led to the rise of these companies and

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the likely sustainability of these competitive advantages. We also examine the influence of government policies on competitiveness and their longer-term implications. Finally, we look at the relationships these companies have with the United States and Japan to give an indication of the interconnected nature of their operations and history.

About SAIC Motor
SAIC Motor Corporation is China’s largest vehicle manufacturer. It is a state-owned enterprise (SOE) directly held by the State Assets Supervision Administration Commission, comprising 16 subsidiary companies. SAIC Motor operates three of China’s most financially successful international joint ventures (IJVs), one with Volkswagen and two with General Motors. SAIC Motor sold 4 million vehicles in 2011 and had a consolidated income of over $54 billion.

Aside from whole vehicle manufacturing, SAIC Motor is increasingly focusing on services, such as auto sales, financing, and rentals. SAIC Motor also owns its own brands, Roewe and MG.

SAIC Motor’s Rise
While SAIC Motor’s rise is inextricably tied to the development of the auto industry as a whole in China, this study focuses on more recent history and SAIC Motor specifically.1 SAIC Motor has its roots in the Shanghai City Diesel Parts Manufacturing Company, established in 1955. It was in the late 1970s, however, that China ramped up its strategy to develop an internationally competitive auto industry.

Shanghai Volkswagen
The auto industry has been and continues to be an aspirational pillar industry for the Chinese government. Even more than the other industries explored in this series of case studies, the auto industry has been the focus of relentless government industrial policy planning. SAIC Motor and its organizational ancestors have been at the core of these efforts ever since the first machine building vice minister, Yang Keng, sought out Volkswagen on a trip to West Germany in May 1978.2 A year later, VW conducted a manufacturing experiment at the Shanghai Car Plant (run by SAIC) to assemble completely knocked down (CKD) kits for its Santana model. At this point, the trial and ensuing negotiations about further cooperation were essentially municipal issues—that is to say, the Shanghai government saw this as an

2 Harwit, China’s Automobile Industry, 94; much of this early SAIC-VW history draws on 94–114.
effort to build up Shanghai as an auto manufacturing center, and thus coordinated its political and industrial resources to further this goal. SAIC was one important element of this.

At the same time, AMC was in negotiations in Beijing, where AMC was committing to develop a new vehicle model in China. VW, however, rejected this approach, committing only to CKD assembly. The Chinese government tried to play off a number of U.S. and Japanese suitors against VW in order to gain more advantageous terms and technology transfer. But VW held firm on its terms and in 1984 signed a joint venture (JV) with SAIC (25 percent), Bank of China’s Shanghai Trust and Consultancy Corporation (15 percent), and China National Automotive Industrial Corporation (CNAIC, 10 percent). This would be the centerpiece for Shanghai’s auto development.

The Chinese government’s strategy at the time was to create IJVs that would essentially exchange market for technology. These IJVs would limit the foreign ownership to 50 percent and would be revisited every couple decades. The fundamental idea was to get the foreign partners to transfer their knowledge and technology to the Chinese partner. This was also an effort to build large business conglomerates (jituan) that would compete directly with multinational firms, capturing greater shares of value in global supply chains. This strategy jibed with China’s political economic instincts to build manufacturing national champions that concentrated technological and scale advantages, but also drew from examples in South Korea (chaebols) and Japan (keiretsu).

Zhao Ziyang attended the signing ceremony for SAIC-VW, as did West German chancellor Helmut Kohl. Zhao announced to the world that China was going to build passenger cars to international standards, and move from a dispersed and fragmented model to a centralized and complex system. This system would be based on three large (with an obvious parallel to the Big Three in the United States) and three small producers, with increasing levels of local content, technology, and volumes. The key to this would be IJVs. Zhao also shifted authority from central planning to enterprises. While the overall plan was developed and the course was charted by Beijing, it was Shanghai that took the reins for what was to become China’s most dominant auto manufacturing organization.

In the early days of the IJV, it is difficult to differentiate between the efforts of SAIC and the Shanghai government. Not only was the Shanghai government both a shareholder and developer of the local industry, it also had management roles in the IJV, as SAIC was essentially a division of the Shanghai government (and Shanghai Trust was also a major shareholder). While there were some difficulties, for the most part the Shanghai government put substantial effort into the IJV, as “what was good for Shanghai Volkswagen was good for Shanghai.”

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The first major issue to arise between the partners was the issue of localization of parts. It was naturally in Shanghai and SAIC’s interest to have as much sourced locally as possible, whereas this had few benefits for VW. But not only was this an issue of developing local industrial base and transferring knowledge, it was also an issue of foreign exchange. Buying only CKDs from Germany meant huge demand on foreign exchange, something of which China was conspicuously short at the time. In 1986, Chinese automotive technology was 30 years behind that of Europe, Japan, and the United States, and there was not a single local part that was usable in the Santana. Localization efforts were, unsurprisingly, slow at first but picked up pace rapidly. Then-mayor Jiang Zemin recognized these difficulties and allowed sourcing to take place outside the Shanghai region, taking advantage of military facilities with higher technical capabilities, as well as other auto companies that had been importing foreign technologies. In 1987, only 2.7 percent of the Santana was manufactured with local content, but by 1993 this proportion reached 80 percent; and in 1997, 92.9 percent. Moreover, most of this was not only local to China but also local to Shanghai. Much of this localization effort was directly coordinated by the local government through its Localization Office, which was under the mayor’s office. The Localization Office served to solve problems, identifying localizable parts and then developing factories capable of sourcing them, providing access to preferential finance rates.

Zhu Rongji also had a heavy hand in the JV’s development. After becoming mayor in 1988, Zhu encouraged the establishment of a Shanghai taxi company that would exclusively buy from Shanghai VW. In 1990 Shanghai VW accounted for 2 percent of Shanghai’s output, and at full capacity was estimated to be capable of 17 percent. Santana sales were spectacular, and as any visitor to China at the time could tell you, the cars were ubiquitous.

**Shanghai GM**

While sales were proceeding briskly for Shanghai VW’s Santana, SAIC was unhappy with the level of technology being imported. SAIC decided to form another sedan manufacturing JV to put pressure on VW. GM was already in China, with a JV with Jinbei (a First Auto Works, or FAW, company) building light-duty trucks. GM had a history in China dating back to 1922; in 1924 a GM Buick sedan was sold to China’s last emperor, Pu Yi. GM made bold promises to transfer its top technology to China, and it was

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5 Except—as noted by Harwit, *China’s Automobile Industry*, 102—that once 40 percent was localized CKDs would be taxed at a lower rate.
7 Ibid., 109.
10 Harwit, *China’s Automobile Industry*, 103.
11 Ibid.
12 This and much of the section on Shanghai GM taken from Zhigang Tao, “Shanghai General Motors: The Rise of a Latecomer,” Asia Case Research Center, University of Hong Kong, 2005, 5.
on this basis and expectation that SAIC chose to work with them. Another key was that the new IJV would be situated in Pudong, an area of Shanghai that the local government was working to further develop. In 1997 SAIC and GM formed a JV, Shanghai GM (SGM), with an investment from GM valued at $1.6 billion.

For GM, China was not only a huge market but also a gateway to greater Asia sales and sourcing. In this respect GM’s strategy dovetailed with that of SAIC. GM benefited from more advanced manufacturing in China, and therefore worked hard to transfer knowledge and technology to local engineers. GM set up training programs with five Chinese universities and sent engineers to North America to observe start-up production operations. It also set up a local research-and-development (R&D) firm, which allowed Chinese engineers access to GM’s latest designs.13

GM also made design adjustments to suit the local market. One of the consistent (and justified) complaints about Santanas was that the back seat was too cramped. Buicks focused on expanding the comfort of the back seat, recognizing that Chinese executives would have drivers and that the executives themselves would sit in the rear. Other amenities, such as DVD players and air conditioning controls, were also placed in the rear. Engine size was also reduced so that it conformed to the Chinese government’s procurement requirements.

The market environment SGM encountered was also very different from that of Shanghai VW. China’s accession to the World Trade Organization (WTO) was rapidly approaching, and SGM had to face competition that would be bringing in whole vehicles from abroad. To deal with this, GM recognized that it needed to have a robust distribution network in China.14 VW had turned over all distribution to SAIC, but GM made control over distribution a requirement of the JV terms. GM set up its own dealer network, similar in concept to its U.S. network, with the exception that inventory was kept very low on dealer lots, with dealers making sales calls instead of waiting at the lot.15

GM also set up an R&D company, the $50 million Pan-Asia Technical Automotive Center (PATAC), to work with SAIC on new vehicle design and reengineering. GM and SAIC subsequently set up a number of other JVs, including SAIC Wuling in 2002, which makes minivans.

SGM’s sales reached their target in four years, and almost from the beginning surpassed localization targets. Despite its late start compared with VW, SGM became China’s top carmaker in 2007, holding 11.7

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13 Ibid., 5–6.
14 Ibid., 7.
15 Ibid., 11.
percent of the market to VW’s 10.4 percent.\textsuperscript{16} If all GM-SAIC brands are included, then 2005 was the year GM-SAIC took over top spot.\textsuperscript{17}

GM has also helped (and continues to help) SAIC modernize its sourcing operations, moving from a relationship-based system used by Shanghai VW to a more competitive one at GM. GM’s relationship with Delphi was very similar to the relationship SAIC had with its subsidiary companies, and GM helped move these relationships to a more competitive, market-based model.\textsuperscript{18}

\textit{Recent Developments}

SAIC had a web of various competing companies and shareholdings, which led to competition but also to accusations of impropriety. Chery, in whom SAIC held a stake, was sued for infringing upon the design of the Chevy Spark. Chinese courts ruled in favor of Chery, but industry observers felt that intellectual property infringement was evident (and this from a company whose name, Chery, seemed to more than hint at knowledge of the Chevy brand).

SAIC has also branched out into the purchase of foreign companies. SAIC purchased some of the assets of MG Rover in 2004, and then acquired Nanjing Automobile group, which had acquired other of these assets. SAIC not only acquired the MG brand but also the intellectual property rights to two Rover platforms. These platforms were used to create the Roewe brand in China. Also acquired was the Longbridge plant in the United Kingdom. In 2008 the plant started to assemble MG kits imported from China.\textsuperscript{19} The year 2004 also saw SAIC acquire 49 percent of South Korea’s Ssangyong Motor Company.

SAIC-GM-Wuling recently opened a factory in Guangxi to produce its budget brand, Baojun. The investment totaled $1.3 billion, and the plant will have a capacity for 400,000 vehicles per year. A powertrain factory is also being built.\textsuperscript{20}

SGM targets sales of 1.3 million cars in 2012 (compared with 1.2 million in 2011), and Shanghai VW should come in closely behind. In February both SGM and SVW each sold over 100,000 vehicles in China. The China market for autos in 2011 was 18.5 million; 14.4 million of these are passenger vehicles.\textsuperscript{21} That said, there are signs that growth is slackening in the Chinese auto market due to a slowing economy and the high price of gas.


\textsuperscript{18} Thun, “Industrial Policy,” 473.

\textsuperscript{19} Tang, “Rise of China’s Auto Industry,” 14.


In 2009, GM sold a 1 percent stake in SGM to SAIC Motor in order to raise much-needed capital in the wake of the 2008 economic crisis. This move resulted in a 49/51 percent ownership structure, with SAIC Motor as the majority shareholder. GM announced in April 2011 that it plans to back its 1 percent share, which would mean equal ownership of SGM between the two companies.22

Shareholder Composition

SAIC Motor announced that it had achieved the status of “a listed company in its entirety” in December 2011.23 SAIC Motor is, however, still much closer to the state than this description suggests.

Since its formation in 2003, the State-Owned Assets Supervision and Administration Commission (SASAC) has selectively encouraged some SOEs under its control to publicly list portions of their assets with the goal to develop the financial system and to help firms raise capital and increase management efficiency. In 2007 it established two of its subsidiaries to issue A-shares on the Shanghai Stock Exchange as joint stock limited companies—SAIC Motor and Huayu. Typical of listed SOEs, this arrangement was structured with the subsidiaries retaining the most productive assets and the parent company acting as the majority shareholders in the semipublic subsidiaries.24 From February 2010 through December 2011, SAIC Motor undertook an ambitious restructuring program to become a completely listed company. As part of this restructuring, SAIC Motor consolidated many of its parent companies’ assets related to automobile production and issued private share placements, the largest of which the company valued at approximately $1.5 billion.25 The company became more completely publicly listed in the narrow sense that more of SAIC Group’s productive assets related to auto manufacturing were under control of its listed subsidiary. However, the restructuring placed the semipublic subsidiary under even more state control, with SAIC Group’s stake increasing from 72.95 percent to 77.21 percent.26 In addition to SAIC

22 See http://www.reuters.com/article/2012/04/19/gm-saic-idUSL2E8FJAGV20120419.
24 For a brief description of how SOEs are partially listed in China, see Directorate for Public Governance and Territorial Development, Organization for Economic Cooperation and Development, “Governance in China,” 310, http://www.oecd.org/document/32/0,2340,en_2649_33735_35340704_1_1_1_1,00.html.
Group’s ownership of SAIC Motor, management personnel also ties SAIC Motor to the state. For example, Hu Maoyuan serves as chairman of the Board for both SAIC Motor and SAIC Group.27

**Current Strategy**

SAIC Motor is currently focused on increasing sales of its own brands (non-JV) Roewe and MG. In 2011 they sold only 160,000 units, but target 700,000 annually by 2015. January 2012 saw only 11,001 own-brand unit sales, so SAIC Motor may need a boost from government demand and regulatory assistance. A slowing economy and rising fuel prices may put pressure on the company.

SAIC Motor has also made clear its attention to develop new energy vehicle (NEV) technology both internally and with its JV partners. Since 2010, the company has launched NEV projects with three of its JV partners—GM, VW, and Volvo Buses—and developed an NEV under its own Roewe brand. This new direction is clearly a response to the central government’s active encouragement of domestic NEV development (see the section below on recent developments in China’s NEV policy). Although a stated priority of SAIC Motor, the company’s NEV business is nascent and has yet to reach meaningful scale.

**Competitiveness Indicators**

One way to compare SAIC Motor’s current competitiveness to that of its peers is to look at is recent performance in terms of market share, sales, and profitability.28 In this case, we compare SAIC Motor with Ford and Toyota. It is important to keep in mind, however, that traditional metrics may be especially misleading in judging the overall success of SAIC Motor. The contributions SAIC makes to employment, both in its own companies and in its suppliers, and to industry infrastructure are significant to the region and local government.

**Market Share**

In 2011, the top 10 auto manufacturers by sales volume in China were SGM, Shanghai Volkswagen, FAW Volkswagen, Dongfeng Nissan, Beijing Hyundai, Chery, Geely, Changan Ford, Dongfeng Peugeot Citroen, and FAW Toyota. While domestic brands struggled, IJVs and international luxury brands performed exceptionally well: Dongfeng Nissan, SGM, FAW Volkswagen, and Shanghai Volkswagen grew (year on year, y-o-y) by 18.18 percent, 16.54 percent, 16.57 percent, and 10.62 percent, respectively. BMW, Audi, and Mercedes Benz sold 232,600, 309,900, and 193,000 cars, respectively (growth of 37.6 percent, 37.4

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28 The figures used in the graphs and tables are based on company documents unless otherwise noted.
percent, and 30.6 percent). SAIC Motor’s Roewe brand unit sales were flat, with SAIC Motor’s growth coming from SVW and SGM.

Increases were made in global share due to high sales volumes in China.

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29 Ibid.
China Market Share (2010)

- Ford: 2.60%
- Toyota: 6.00%
- SAIC: 22.80%
- Other: 68.60%

Source: Company documents.

Japan Market Share (2010)

- Ford: 0.00%
- Toyota: 48.20%
- SAIC: 0.00%
- Other: 51.80%

Source: Company documents.
Sales

Around 90 percent of SAIC Motor’s sales come from its foreign JVs. Its overall revenue is dwarfed by that of its international competitors, but sales growth has been strong.

<table>
<thead>
<tr>
<th>Year</th>
<th>Ford Revenue (US$ millions)</th>
<th>Toyota Revenue (US$ millions)</th>
<th>SAIC Revenue (US$ millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>160,123.00</td>
<td>179,083.00</td>
<td>3,908.58</td>
</tr>
<tr>
<td>2007</td>
<td>172,455.00</td>
<td>203,218.67</td>
<td>14,309.80</td>
</tr>
<tr>
<td>2008</td>
<td>146,277.00</td>
<td>263,028.20</td>
<td>15,505.13</td>
</tr>
<tr>
<td>2009</td>
<td>118,308.00</td>
<td>211,023.45</td>
<td>20,456.75</td>
</tr>
<tr>
<td>2010</td>
<td>128,954.00</td>
<td>204,443.10</td>
<td>47,481.26</td>
</tr>
<tr>
<td>2011</td>
<td>136,264.00</td>
<td>220,855.81</td>
<td>69,078.85</td>
</tr>
</tbody>
</table>
**Profitability**

SAIC Motor's profits have been mostly healthy and in line with those of its international competitors.

**Sales Growth**

![Chart showing sales growth for Ford, Toyota, and SAIC from 2007 to 2011.](chart)

<table>
<thead>
<tr>
<th>Company</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ford</td>
<td>7.7</td>
<td>-15.2</td>
<td>-19.1</td>
<td>9.0</td>
<td>5.7</td>
</tr>
<tr>
<td>Toyota</td>
<td>13.5</td>
<td>29.4</td>
<td>-19.8</td>
<td>-3.1</td>
<td>8.0</td>
</tr>
<tr>
<td>SAIC</td>
<td>266.1</td>
<td>8.4</td>
<td>31.9</td>
<td>132.1</td>
<td>45.5</td>
</tr>
</tbody>
</table>

*Source: Company documents.*
Sales Growth

Source: Company documents.

Operating Profit Margin

Source: Company documents.
Research and Development

SAIC operates an R&D facility with GM, PATAC, yet questions have been raised regarding how much “true” R&D happens there, and how much is simply reengineering. Even if it has focused primarily on reengineering, it has also been a conduit through which to develop a more international culture at SAIC. When asked about the level of innovation of Chinese automakers, Kevin Wale, president of GM China, said “there is probably more innovation in going to market and in thinking about new business opportunities than there is in technical innovation. Technical innovation is lagging behind the rest of the world.” Wale suggests that China excels, however, at innovation by commercialization, taking products to market and testing them, going through a number of commercial iterations, where a Western company would spend that amount of time on R&D and testing. GM is, however, planning on doing more R&D in China due to the benefits of performing R&D in close proximity to the local market. It has started the GM China Advanced Technology Center, which focuses on five-years-out technology, initially focusing on battery technology and a materials lab.

This should be worrying for SAIC, as the initial rationale for the JVs was to transfer technology and build up SAIC’s R&D capacity. Most signs point to this strategy as having been unsuccessful. That said, despite

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31 Ibid.
being unable to internalize much of the technology, the JVs did enable the development of the local and national industry, which may be more important to government officials and industrial planners.

The Chinese government has tried by fiat to stress the importance of R&D, both to encourage domestic manufacturers to increase R&D and to push foreign companies to increase local R&D efforts. New regulations mandate that auto manufacturers that supply the government must have spent no less than 3 percent of their core revenue on R&D in the previous two years.

Still, as seen below, SAIC’s R&D spend in both absolute terms and relative to revenue lags that of its international competitors by huge margins.
Government policies continue to be a source of major competitive advantage to SAIC. While traditional advantages given to SOEs are still likely substantial factors (e.g., land provision, tax breaks, and financing support), the additional levers of government procurement and policy support are important to highlight. In SAIC Motor’s early days, the government’s focused on the two goals of import substitution and developing indigenous innovation capabilities. The government used foreign exchange controls, high import tariffs, ownership restrictions, local content mandates, and R&D requirements to further these goals. Following WTO accession, much of the protective measures had to be removed, including local content mandates and foreign exchange controls, and import tariffs had to be significantly lowered.32

The government is now pushing for more indigenous development, so on December 29, 2011, the National Reform and Development Commission dropped vehicle manufacturing from the “encouraged” external investment list, ending benefits that analysts at Booz & Company said include the waiver of import duties on automaking equipment and tax breaks.

32 Many of these practices continued until they were challenged in the WTO in 2007.
It remains puzzling, however, how despite high levels of government support, the appetite for risk-taking
and increased R&D spending is still so limited. One basic factor may be that innovation and meaningful
R&D in the auto industry requires a much longer time horizon than do many other technology industries.

**Government Procurement**

The types of cars eligible for government procurement in China are determined by a product catalogue
overseen by the Ministry of Industry and Information Technology. The most recent catalogue, released in
late February 2012, includes no foreign car models. Instead of an explicit ban on foreign car companies,
the catalogue protected domestic manufacturers through two specific procurement requirements that
have the clear intended effect of excluding international companies. First, according to efficiency
guidelines, government vehicles must have an engine smaller than 1.8 liters and cost less than RMB
180,000.33 Second, only companies that have spent 3 percent or more of their revenue on R&D qualify for
a listing in the procurement catalogue.34 International car companies have much to lose from these
regulations. The Chinese government’s procurement market for cars is approximately $12.7 billion, and
analyst estimates claim that government purchases account for 4.5 percent of all auto sales in China.35
Additionally, foreign car brands, including JVs based in China, currently make up an estimated 80
percent of China’s official fleet.36 The Chinese government bought about 900,000 autos in 2010, making it
a very significant market.37 Traditionally, Audis have been a popular choice for government officials, so a
move to domestic brands could certainly help SAIC Motor. That said, there has already been push-back
against the restrictions, and many analysts and industry participants believe that these regulations will be
watered down.

Furthermore, as sales slow in China, automakers are looking to the government for support. The Ministry
of Industry and Information Technology’s minister, Miao Wei, stated that “the government should take
measures to help support domestic automakers because of the state’s obligation to help in any industry
where the homegrown companies are early in their development cycle.”38

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33 “Chinese Carmakers Surge on Official Vehicle List: Beijing Mover,” Bloomberg, February 27, 2012,
mover.html.
34 Ibid. How many Chinese auto companies can currently fulfill this criteria is unclear.
35 Ibid.
36 Ibid.
37 Jian Yang, “Why Banning Foreign Fleet Purchases Won’t Rescue China’s Automakers,” Business China, March 2,
38 See http://www.bloomberg.com/news/2012-03-08/china-says-car-sales-growth-forecast-will-be-difficult-to-meet-
this-year.html.
Recent Developments in China’s New-Energy Vehicle Policy

2009- Auto Industry Restructuring and Revitalization Plan

The General Office of the State Council launched the Automotive Industry Restructuring and Revitalization plan as a stimulus policy to counter the global financial crisis. Although a plan for the entire auto industry (and favoring domestic autos by restricting engine size to 1.6l), it also focused heavily on new-energy autos, aiming to “take new-energy autos as a breakthrough point, strengthen independent innovation, [and] foster independent brands.” This announcement was soon followed by two supplementary measures to provide directives for implementation: (1) the Interim Administration of Fiscal Subsidies to Energy Efficient and New Energy Automotive Sample Scheme and (2) the Auto Industry Investment Policy.

Targets

- “Increasing the production capacity for new-energy vehicles to 500,000.”
- “Advancing the level of new-energy vehicle so that they are globally competitive.”

Implementation

- Consumer subsidies for domestically produced new-energy vehicles.
- Subsidies in 13 pilot cities for NEV purchases by municipalities.
- RMB 10 billion to be disbursed from central government over the period 2009–11 for a comprehensive modernization of the auto industry, including developing and improving new-energy vehicle technology.
- Reduced taxes on purchases of new-energy vehicles.

2011: Energy-Saving and New-Energy Automotive Industry Plan

China announced the Energy-Saving and New-Energy Automotive Industry Plan, which will guide new-energy auto production through 2020. This is no doubt meant to complement the designation of new-energy vehicles as one of the seven “strategic emerging industries” of the 12th Five-Year Plan. The Energy-Saving and New-Energy Automotive Industry Plan also extended many policies of the 2009 revitalization plan.

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40 Automotive Industry Restructuring plan, as translated in “China’s Support Programs for Automobiles,” 28.
41 Ibid.
42 Ibid.
43 This section is based on “China’s Support Programs for Automobiles,” 36–38.
New Energy Vehicles

In line with China’s goal of becoming a competitive player in the NEV market, SAIC Motor has actively sought to develop NEVs both through JVs and independently. One of SAIC Motor’s oldest JVs with GM, PATAC, a joint R&D lab in Shanghai, developed a hybrid version of the Buick LaCrosse and an electric version of the Chevrolet Sail.44 The LaCrosse uses GM’s eAssist hybrid technology, which is a sort of “light hybrid,” moderately extending gas mileage over a traditional engine.

In September 2011, GM announced that it would develop electric cars with SAIC Motor. Reports claim that GM entered into this partnership at least in part because its imported hybrid Volt did not qualify for a green vehicle subsidy under the Energy-Saving and New-Energy Automotive Industry Plan. According to GM, however, the rationale for this cooperation was to reduce development costs.45 At time of the announcement, GM emphasized that “the Chinese government had not requested the transfer to China of specific technologies from the Volt.”46 The New York Times claimed that although GM will continue to export the Volt to China, it is hedging against a protected NEV market through entering this JV, in which it will cede battery and inverter technology.47 An official at SGM, however, strongly disagreed with this and stressed that this was a decision based clearly on market needs: the key to the China market is producing a cheap EV.48 The Volt is too expensive and essentially overdesigned and overengineered for the Chinese market.

45 Author interview, August 2012.
47 Ibid.
48 Author interview, August 2012.
Volkswagen, another long-term partner of SAIC Motor, similarly announced that it plans to produce electric vehicles in China through its JV with SAIC motor beginning in 2014.\(^49\) SAIC Motor and Volvo Buses developed a fleet of 32 new-energy buses for the 2010 Shanghai Expo through their IJV Sunwin, which was established in 2001. They are expanding upon this partnership through a second IJV announced in 2011 named Shanghai Green Bus Drive System Co.\(^50\) Despite these initiatives and pilot programs meant to stimulate the greening of China’s municipal fleets and to develop core NEV technology, it is unclear what practical influence these efforts will have on both scores.

SAIC Motor has been looking internally for green innovation as well. In July 2009 SAIC Group announced an RMB 12 billion investment in NEVs under its own brands.\(^51\) Under its own Roewe brand, SAIC Motor introduced the 550 plug-in hybrid at the 2011 Shanghai Auto Show.\(^52\) The Roewe E50, a min-electric vehicle, has recently been launched with promotions that should bring its price tag down from CNY 222,300 to CNY 122,300. Free license plates will also be given, potentially saving drivers an extra CNY 60,000.\(^53\) SAIC has invested in over 1,000 charging stations in Shanghai, though many are located in the suburbs.\(^54\)

Along with its focus on vehicles, SAIC Motor has collaborated with parts manufacturers to make NEV technology more realizable. SAIC has a technology partnership with A123 Systems, a Massachusetts company, on lithium ion battery technology for NEVs.\(^55\)

**VW and GW Distribution, Sourcing, and Localization**

Within China, SAIC is one of the strongest domestic automakers. It has relatively robust manufacturing capabilities and access to an extensive local parts sourcing network. It has ownership and interest in many of these parts suppliers, making it much like GM and Delphi used to be. Some of its brands are also better localized for the domestic market than some similar international competitors, though this is less of an

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\(^54\) Ibid.

issue at the high end. SGM has been cognizant of the increasing competition from international firms, so it has focused on developing local distribution and sales networks. This is likely to be a sustainable advantage as markets move from tier one cities to the lower tier cities inland.

**Problems: Lack of Technology, Design, and Brand**

But aside from the manufacturing, localization, and distribution advantages, SAIC has much to fear from international firms. SAIC is a good example of how extensive government support and attempted forced technology transfer have not translated into significant technology gains or sustainable advantages. Instead of absorbing new, critical technologies from the JVs, SAIC has essentially jointly manufactured and then marketed autos that were previously developed abroad and then localized in China (parts and minor design tweaks). In a study of the Chinese auto industry, IBM Consulting points out that "the Chinese are disappointed that cooperative development has not occurred, so there is a need to develop 'win-win' situation for both groups."56 The study quotes a government employee as saying that "though the stock-holding proportion is equal, the Chinese side has little control or power (over) the technical aspects. Developing our own intellectual property is something our country advocated and expected through these JVs, but there has been little substantial progress."57 In SAIC’s case, after working with VW for a decade, SAIC had become over reliant on the outdated technology from VW and thus “failed to develop any unique know-how and broad management expertise.”58 SAIC spent so much effort on localization and parts development that it suspended existing R&D activities, essentially outsourcing R&D to the foreign partner. SAIC had to drop its own Shanghai brand as it worked on localization of the Santana.59 One excellent study by Nam draws the analogy of a teacher and student:

Teachers, not learners, determine what, where, and how to learn; and . . . the IJV’s contribution may be substantial in building local production capability, where IJV partner firms share common interests, but the contribution may be marginal in nurturing local project execution and innovation capabilities, due to the conflict of interest between the IJV partner firms.60

Much of the localization engineering ends up being significant in scale, but minor in terms of technology transfer. SGM made over 600 engineering changes to the Buick Century to adapt it to the Chinese market. These included things like changing the height and legroom of the back seat and adjusting the suspension

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57 Ibid., 14.
for Chinese roads. So while significant development work needs to be done locally, this does not get to the core technology content for which China is looking. As an import-substitution strategy, it has been effective, especially for auto parts; but as a technology transfer initiative, it has been less so. Even in the case of SGM, which is probably the best example of a successful IJV in the auto sector, local innovation capabilities have not attained the critical level: “Simply mastering the ’outcomes’ of others’ innovation does not lead to better in-house innovation capability.”

It seems, at this point, that the Chinese auto industry has failed to capitalize on the IJVs for building R&D capacity. While many platforms or transferred or acquired from international firms, much of the self-development has essentially been reverse engineering of foreign brands (sometimes simply copying).

SAIC’s current strategy of acquiring assets from nonaffiliated foreign companies represent an effort to address these technology shortcomings. Unable to use the platforms and technology from the VW and GM JVs, SAIC has been forced to look elsewhere for core technology. A successful acquisition strategy will be crucial for SAIC’s success.

SAIC’s Relationship with Japan and the United States

SAIC has obviously learned much from GM, from production and engineering, to distribution, sales and management. As has been examined earlier in this paper, many of the parts that were coming from the United States have now been supplanted by parts made in China. These tend to be lower-value-added parts, with GM retaining manufacture and provision of the high-value-added parts. Primary parts that are being made in China and exported to the United States now are aluminum wheels, brakes and related parts, stereo (audio) equipment, ignition and wiring sets, trailer parts, radiators, child car seats, and safety belts. But for core technology, SAIC is still very much dependent on U.S. assets. Moreover, they have difficulty internalizing this technology, as the intellectual property resides within either the JV or with GM.

SAIC USA recently opened its North American Operations Center in Birmingham, Michigan. It aims to employ 100 workers who will focus on purchasing, logistics, and design, engineering, and quality control for auto parts. Outside the obvious business interests, this should also provide SAIC with greater opportunity for cultural internationalization.

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64 Cooney, “China’s Impact,” 15.
SAIC’s relationship with Japan has been much less significant. To some extent, SAIC relies on Japanese technology when there are Japanese components required by one of its JV partners. On its own, SAIC also sources some parts from Japan, including the automatic gearboxes for its MG line. SAIC also acquired a stake in Shanghai Koito, a Sino-Japanese JV that makes headlights. In terms of developing deeper relationships with Japanese technology providers, there have been concerns in Japan about the potential for intellectual property and human capital loss that has limited this involvement. In terms of next-generation automobiles, there may also be a mismatch in technology directions, as China has purportedly been focused more on electric vehicles while Japan has been more focused on hybrids.

**Key Findings**

- Heavy government support has been directed at the Chinese auto industry, and this has certainly helped the industry as a whole, but the firm-level benefits are questionable. That said, a company that is not successful by conventional standards may be considered a success in its role of creating a broader industry. In terms of internalizing technology and developing its own brands, SAIC Motor is not a particularly strong company. However, SAIC Motor has been able to create the infrastructure and environment for the broader industry, locally in the Shanghai delta region and also across China.

- There is still a mismatch between technology and some of China’s strategic industries. Industrial planners in China want to jump from conventional vehicles directly to NEVs, while most Chinese auto manufacturers are focused on hybrids as a frontier technology. The complexity of the auto industry and the need for long-term R&D investment make this kind of leapfrogging more difficult than in many other sectors.

- Customization is important for reaching Chinese consumers. One of the reasons why SAIC Motors’ IJVs were so successful is because they were able to adapt international products to meet the tastes and needs of Chinese consumers. Consider the 600 engineering changes to the Buick Century for the China market.

- Absorption via technology transfer is not easy, especially in the auto industry. Sharing technology is not as easy as just handing over designs. There is a great deal of human capital, processes, and other intangibles necessary for successfully replicating a technology. Proper intellectual property protection also prevents developments from one business to flow fully into other businesses. For this reason, among many others, forced technology transfer as a condition for JVs is misguided, as it will not result in the desired internalization.

- Long-term competitiveness necessitates a strategy of long-term R&D. While SAIC Motor has realized that technology absorption via JV is not leading to sufficient internal capabilities, its new strategy of technology acquisition (for the MG and Rover platforms) is also unlikely to propel it
into direct competition with foreign brands. While this will allow them to catch up to current capabilities in some aspects, other major auto companies are looking 20 years out. PATAc is doing real R&D with SAIC, but this is 5-year-out innovation, not 20.
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