

# Auto Industry

## Qìchē gōngyè 汽车工业

**Some 118 million vehicles, over 60 percent privately owned, were traveling China's roads by 2007, although sales sagged in 2008. Despite the decline, in January 2009 China seemed on its way to becoming the largest auto market in the world. The government hopes that by 2013 one in ten cars built in China will run on alternative energy.**

The Western image of China as a nation of bicyclists is anachronistic; cars are fast replacing bicycles as China's standard mode of transportation. The economic reforms of the 1980s led to twenty years of rising income, creating a consumer society where it is now easier for people and businesses to buy many different products, including passenger cars, pickup trucks, and SUVs. Based on statistics for the month of January 2009, with China car sales (735,000) surpassing for the first time those of the United States (656,976), China seems to be on the way to becoming the world's No. 1 vehicle market (Kurtenbach 2009); China is already the No. 3 or No. 4 manufacturer—depending on the period measured—behind the United States, Japan, and Germany. Sales of both imported and domestic-made models are forecast to grow steadily in the coming years, as long as the overall economy remains strong. China's automobile industry has developed from a cottage industry producing outdated Russian designs to a major world player in just one generation. The growth of the auto industry is one more indication of China's economic power.

### Early Days

The first car in China arrived in 1902, thanks to Yuan Shikai (1859–1916), a high military official of the Qing dynasty and, later, Sun Yat-sen's (1866–1925) successor as president of the Chinese Republic. Yuan imported a car made by the Hong Kong plant of the American firm of Charles and Frank Duryea. He bought the car to win favor with Empress Dowager Cixi (1835–1908). By 1913 Henry Ford was selling his famous Model T in Shanghai.

China traces its auto industry to production dates from 1931. That year Tang Zhongming (1879–1980), an engineer and inventor, built an internal-combustion engine powered by charcoal, which he mounted into a car. This machine was meant to be used as military vehicle by Tang's patron, Yang Hucheng (1893–1949), a Guomindang general during the Chinese Civil War.

The first modern automaker, First Automobile Works—now known as First Automotive Group Corporation, or FAW—began producing cars and trucks, using Soviet technology, in 1953 in Changchun, Jilin Province. FAW remains one of the “Big Five” automakers in China.

During the 1950s and 1960s, with the help of the Soviet Union, Chinese factories produced light- and heavy-duty trucks for military and civilian use. Several more automobile enterprises opened, including The Second Automobile Works—now known as Dongfeng Motor Corporation—founded in Hubei Province in 1968. The construction of this plant was part of Mao Zedong's (1893–1976) Third Front strategy, a massive project of industrial development intended to provide homeland

security. Similar plants were set up in other provinces and major cities throughout China, often with one venture for cars and another for trucks.

## Joint Ventures

During the Cultural Revolution (1966–1976), all of China's industries were in turmoil, and production declined. But transport was understood to be crucial and foreign exchange constraints limited the import of vehicles; building a modern automotive industry became a goal of the post-1978 leadership. As part of the reforms of late 1970s and early 1980s, China's leaders realized that a thriving automobile industry could contribute to economic development and attract foreign investment. But Chinese enterprises lacked the technology and the capacity to design and manufacture cars. So China turned to foreigners to acquire the needed technologies, usually by forming joint ventures. Because autos were considered a strategic industry in China, government policy limited foreign firms to a 49-percent stake in vehicle assembly plants. Thus, despite foreign firms' attraction to China's huge, untapped car market, joint ventures were the only means of entry. To date only one firm (Honda) has been able to obtain an exception using a promise of exports.

Since the 1980s, joint ventures of Chinese and foreign-owned companies have powered China's auto industry. The Chinese government and Chinese businesses generally prefer the joint venture to other business structures when dealing with foreign companies. Joint ventures do, however, benefit the foreign investor by providing a local partner, typically a state-owned enterprise, thereby allowing the foreign investor favorable access to China's huge markets and labor force. The Chinese benefit from the manufacturing, technology, and marketing experience of the foreign partner. Four of China's Big Five automakers operate through joint ventures.

FAW had been producing medium-sized trucks since 1956 and its own car brand, the Hongqi, since 1958, when it formed a joint venture with Volkswagen in 1991 to focus strictly on cars. Since then, FAW has formed many joint ventures with businesses from around the world, including the United States, Russia, and Japan, to produce cars and parts.

In 1984 Volkswagen and the Shanghai Automotive Industry Corporation (SAIC) formed Shanghai Volkswagen Automotive Company, Ltd., (SVW), a 50-50 joint venture fixed for forty-five years. SVW is the largest foreign-invested enterprise in China in terms of sales. The company produces more than 450,000 cars a year and is headquartered in Anting International Auto City, in the Jianding district of Shanghai.

Dongfeng Motor Corporation also has joined in a number of joint ventures since the 1980s, including agreements with Peugeot/Citroen, Honda, Nissan, Kia, and Hyundai. It manufactures and assembles cars, trucks, buses, and parts under its own name and with its foreign partners. Although the corporation's stocks are publicly traded, the Chinese government maintains 70 percent control of the company.

Chang'an Automobile (Group) Company, Ltd., (also called Chang'an Motors, Chang'an Auto, and Chana Auto) is the fourth-largest auto producer in China. It is headquartered in Chongqing, a provincial-level municipality in western China. Chang'an was founded in 1862 in Shanghai and developed the first industrial group in modern China, manufacturing a variety of products, including guns. In 1957 it began producing Jeeps. The company has joint ventures to build cars and engines with Suzuki, Ford, and Mazda.

Chery, the fifth-largest automaker in China, is owned by the local government of Wuhu, Anhui Province. Chery is the largest independent auto manufacture in China. Although it has not engaged in any joint ventures with foreign or domestic enterprises, it has formed strategic partnerships with companies in the United States, Austria, and Iran, and has plants in Iran, Russia, and Egypt.

Forming joint ventures for domestic manufacturing has been an effective business strategy for China's automakers. Throughout the world the auto industry's long-term tendency is to build where vehicles are sold. This way automakers need not worry so much about fluctuations in foreign exchange rates and the need to adapt products to match the unique nature of foreign markets.

China's Big Five automakers take part in over a dozen loosely-integrated joint ventures. There are in addition about forty other smaller companies, operating under the protection of provincial governments. This contrasts with twelve firms in the United States, the world's largest market. In the past, provincial governments were able to

**Ford introduced its new global small car, the Fiesta, at the Beijing Auto Show. In China it will be built at the new \$510 million assembly plant in Nanjing. The Fiesta will be a fuel-efficient offering for financially troubled Ford, but it will not go on sale in the United States until 2010. PHOTO BY RIKKI N. MASSAND.**



impede outside firms from selling in the local market; such local protectionism has now receded. The overall market thus remains highly fragmented, and with the exception of a few joint ventures (SAIC-VW, SAIC-Buick, and the main ventures of Honda and Toyota) most firms operate at too low a volume to realize economies of scale yet face pressure to meet modern emissions and safety standards. There will inevitably be a shake out over the next few years.

## Makes and Models

China's Big Five automakers, along with about forty other smaller companies, produce the full range of commercial and passenger vehicles and parts and components. The following focuses on several Big Five specialties.

FAW produces commercial trucks and buses, coaches, passenger cars, SUVs, pickups, and parts under license from Toyota, Volkswagen, Audi, and Mazda. Its best known make, however, is its own Hongqi, a luxury sedan and limousine favored by the rich and by government leaders since the 1950s. In 2006 FAW launched the Besturn series of high-end performance luxury cars.

SAIC makes licensed versions of Volkswagen and

General Motors vehicles. GM is the top-selling brand in China. In addition, SAIC makes the Roewe 750, a highly revised version of the Rover 75; MGs, including the Austin, Morris, and Sterling; and the Soyat, a Chinese brand.

Dongfeng produces commercial vehicles, including trucks and buses, and passenger vehicles, including sedans and SUVs, under licensing arrangements with its joint-venture partners.

Chang'an Motors builds licensed versions of Suzuki, Ford, and Mazda commercial trucks and passenger vehicles. In 2005 the company introduced its own car brand, the Chang'an CM8. For the 2008 Olympic Games in Beijing the company supplied a number of hybrid-drive cars as taxis for athletes and spectators.

Chery makes large and mid-size sedans, city cars, and panel vans, with such names as Cowin, Eastar, Tiggo, and Karry.

## Parts and Accessories

An important part of the auto industry in China is the auto parts sector, which in the United States, Japan, and Europe accounts for roughly three times the employment of

the automotive assembly sector. By the end of 2007, there were 7,579 makers of auto parts and fittings in China, 72.3 percent of the entire auto industry in terms of the number of manufacturers. Revenue from the auto parts sector accounted for about 35 percent of the entire industry's revenue and about 41 percent of the profit. Unlike the auto assembly plants, most parts plants were private companies (5,137), the rest being either foreign owned (1,120) or state owned (1,322).

Certain subsectors of the auto parts sector—particularly engines, chassis, tires, and auto electronics—have been expanding rapidly in recent years. The auto parts sector has been able to meet about 60 percent of China's demand for parts and accessories, although competition from foreign auto parts makers has been increasing. To meet the competition, the government has been developing policies to help the domestic parts makers to become more competitive through acquisitions and mergers or by going public.

## Steady Growth

China's auto industry has grown dramatically since the 1990s. In 1990 only 42,000 cars were produced in China,

compared to some 5 million in the United States. By 2000 production in China had jumped to 2 million units. Production grew to 7.2 million vehicles in 2006 and more than 8.8 million in 2007. (The United States produced about 10 million vehicles that year.) Industry analysts predict that by 2020 China's auto industry will be the largest in the world.

Sales for Chinese-made cars have been brisk in recent years. China itself is the main market. In 2007 the top ten passenger-vehicle manufacturers in China sold 3,062,561 cars, about 65 percent of the total national sales.

In 2007 Shanghai GM, a joint venture between General Motors and SAIC, sold 500,308 vehicles, leading car sales in the Chinese market for the third consecutive year. Shanghai GM is the first passenger-car company in China to sell more than 500,000 vehicles a year. In 2007 Shanghai GM sold 160,500 Chevrolet vehicles, up 56.4 percent from 2006; 332,000 Buick vehicles, an increase of 27,800 units from 2006; 7,040 Cadillac vehicles; and 618 Saab vehicles.

FAW-Volkswagen, a joint venture of FAW and Volkswagen Group of Germany, sold 459,359 vehicles in 2007. The Jetta accounted for 43.49 percent of the total volume.

Shanghai-Volkswagen, a joint venture between SAIC



**China's choice to debut the Fiesta, "the last hope" of Ford Motor Company, is a timely addition to the Chinese market, since the auto industry plans to "go green" with 15 percent lower CO<sub>2</sub> emissions in the next five years. This coincides with the vision of a cleaner China. In an attempt to make the auto industry more green, electric-car-charging stations are already planned in China. PHOTO BY RIKKI N. MASSAND.**

and Volkswagen Group, sold 436,343 vehicles in 2007. Just four models—Passat, Santana, Santana 3000, and Polo—represented 91 percent of its total sales.

Chery in 2007 sold 381,000 vehicles; 119,800 were exported.

The fastest growing automaker in China in 2007 was Chang'an Ford Mazda, a joint venture between Chang'an Motors, Chang'an Ford, Ford Motor Company, and Mazda. The company was formed in 2005. In 2007 it sold 217,100 vehicles, a 60-percent increase over 2006 sales. Also in 2007 a spin-off company, Chang'an Ford Mazda Engines, began producing the Mazda Z engine for use by Chang'an Ford.

The top ten automakers, in terms of sales, in 2007 were FAW-VW, Shanghai-GM, Shanghai-VW, Chery, FAW-Toyota, Dongfeng-Nissan, Guangzhou-Honda, Chang'an-Ford-Mazda, Dongfeng-Peugeot-Citro, and Beijing-Honda.

Meanwhile, as noted above, the integration of the national market is intensifying competition, and with a dozen-plus firms investing in new capacity, prices have been forced down, despite this growth in demand. Rising sales do not always mean rising profits. As early as the second quarter of 2007, China's automakers began to see profits dip. The increased cost of materials, most notably steel and energy (mainly coal), had begun to cut

**In the last two decades China has built many super highways. While China produces its own makes of cars, joint ventures with international car makers and foreign cars offer potential car buyers a choice.** PHOTO BY TOM CHRISTENSEN, CAPTION BY JOAN LEBOLD COHEN.



into earnings. And sales flattened in 2008 in China, as was the case with car sales around the world.

## Export Market

While most of the cars sold by Chinese automakers remain in China, the automakers had been gradually penetrating foreign markets until the financial crisis of 2008. Rising production and demand generated a record year for exporters in 2007. Exports rose 79 percent from the previous year. Automakers shipped 612,700 vehicles and chassis overseas. Trucks accounted for 40 percent of exports; passenger cars, 31 percent; and buses and chassis, the rest. Automakers and parts makers sold their products in 220 countries and regions. The value of exports more than doubled from 2006 levels to reach \$7.31 billion.

But by the third quarter of 2008, the export bubble had begun to burst. Exports were down 20 percent from the previous year. China's major export markets—Russia, Vietnam, South America, and Central America—were experiencing their own financial problems. In addition, Russian and other countries raised their trade thresholds, which obstructed Chinese auto exports.

Quality issues have also affected exports. Chinese automakers had been trying for years to crack the U.S. market as they have the European market. By the end of 2008, Chinese cars still had not met the emissions and safety standards demands of the United States.

## Domestic Market

As of 2007 China was the world's second largest car market, following the United States. In 2007 Chinese drivers bought 8.8 million cars, minivans, and SUVs, and 3 million commercial vehicles, up from just 1.6 million vehicles sold in 1997. China is the largest market in the world for Volkswagens. In 2007 some 118 million vehicles were traveling China's roads, 61.2 percent privately owned. Owing to improved technology and sales mechanisms, China-made cars are good value for the money.

The fastest growing segment of the Chinese car market is the first-time buyer, estimated to be 80 percent of China's car buyers. Fewer than 50 of every 1,000 Chinese own cars. In the United States, 750 Americans of 1,000

own cars. The worldwide average is 120 of 1,000. In the so-called mature markets like the United States, Europe, and Japan, first-time buyers account for less than 15 percent of the market.

Although most of the sales of Chinese vehicles, including cars, are sold to the Chinese people, many buyers still prefer imported cars. Jaguars, Landrovers Escalades, Humvees, Range Rovers, and other high-end Mercedes SUVs are extremely popular with China's newly rich. Sales of BMWs rose 42 percent in 2007.

Some months in 2008 saw declines in sales; some months saw gains in sales. But, overall, sales of both domestic and foreign cars remained flat in 2008. Chinese car owners were more concerned with the cost of gasoline, which was expected to continue to rise, than with the cost of new cars. China's newly rich first-time buyers, however, showed little concern for costs in 2008 and continued to buy Chinese cars and gasoline. Nevertheless, because of the global economy and the ripple effect, China's auto industry was not immune to the financial turmoil of 2008. By the end of the year, there was much talk among automakers and policymakers about rebuilding consumer confidence, finding ways to fight foreign competition, and planning China's first large-scale restructuring of the industry. But based on figures for the month of January 2009, China overtook the United States in number of car sales (735,000 and 656,976 respectively). If China's pace continues, and the U.S. figures continue to plunge, China will become the leading auto market in the world. According to Mike DiGiovanni, General Motors' executive director of global market and industry analysis, China's expected auto sales could reach 10.7 million units in 2009, while he projects a figure of 9.8 million for the United States (Kurtenbach 2009).

## National Impact

China's auto industry is but one industry driving the economy, but it has had a large impact—both negative and positive—on the nation and the people. It is expected to affect the economy, government policy, and social institutions for years to come.

Before 1980, when there were relatively few passenger cars in China, urban air pollution was much lower than it is now. Also, in part because there were fewer cars, the country did not consume the huge quantities of oil—domestic

or imported—that the United States and other countries used. Since 1980, motor vehicles have become the leading source of urban air pollution, and China's demand for oil has skyrocketed. By 1993 China became a net importer of oil for the first time. By 2004 China was the fourth-largest importer and by 2005 the second-largest consumer of oil in the world. To address pollution, China has now eliminated the use of lead gasoline, and requires catalytic converters and other standards that reduce emissions. Many old vehicles remain in use, and the regulation of trucks lags behind that of passenger cars.

Upgrading the auto industry and providing more roads for all the new cars are two key component of the government's eleventh five-year plan (2005–2010).

Upgrading, according to the plan, has been gradual and has focused on strengthening the industry through steady, sustainable growth, innovation, and increased vocational training to provide workers for the auto industry (and other industries as well). The production of cleaner, more fuel-efficient cars is byproduct of the plan with far-reaching effects.

The plan called for investing \$700 billion in the highway infrastructure. The goal is to build 2.3–2.5 million kilometers (about 1.2 million miles) of new road, including 55,000 kilometers (about 34,000 miles) of expressway. Expressways are being built to connect all cities with populations of 200,000 or more.

The complex interplay of China's auto industry with a growing and affluent middle class, shifting foreign and domestic markets, foreign competition, environmental concerns, and government policy is bound to have a profound effect on China's future prospects.

## Future Prospects

The future of China's auto industry—and the auto industry throughout the world—remained uncertain at the end of 2008, but statistics for January 2009 proved hopeful. Full results of the eleventh five-year plan had yet to be realized. Many analysts believe that China's auto parts sector will continue to do well and show the greatest gains in employment, exports, and profits.

One positive note is China's interest in electric motor scooters and cars. The country has invested heavily in the technology to build and keep running hybrid motor

scooters, cars, and buses. Electric-car charging stations have been built in Shanghai, Beijing, Tianjin, and other large cities as part of a pilot project. The hope is that by 2013, one in ten cars built in China will run on alternative energy.

The government has designated the automobile industry as one of the pillars of its economic growth and development. Much planning and work will be done to keep China's auto industry one of the most dynamic and prosperous in the world.

Wendell ANDERSON

## Further Reading

- Automotive News China. (2008) Retrieved December 30, 2008, from <http://www.autonewschina.com/en/index.asp>
- China Car Times. (2008). Retrieved December 30, 2008, from <http://www.chinacartimes.com>
- Kurtenbach, E.. (2009, February 10). China tops U.S. in monthly auto sales for 1st time. Retrieved February 11, 2009, from <http://www.manufacturing.net/News-China-Tops-US-In-Monthly-Auto-Sales-For-1st-Time-021009.aspx>
- Tuinstra, F. (2008, November 18). The car market as a crisis benchmark. *China Herald*. Retrieved December 30, 2008, from <http://www.chinaherald.net/2008/11/car-market-as-crisis-benchmark.html>
- Gallagher, K. S. (2006). *China shifts gears: Automakers, oil, pollution, and development*. Cambridge, MA: MIT Press.
- Gan, L. (2003). Globalization of the automobile industry in China: Dynamics and barriers in greening of the road transportation. *Energy Policy*, 31(6), 537–551.
- Harwit, E. (2001). The impact of WTO membership on the automobile industry in China. *China Quarterly*, 167, 655–670.
- McDonald, J. (2008, April 20). Automakers view China as one of the top markets in world. *Huffington Post*. Retrieved December 30, 2008, from [http://www.huffingtonpost.com/2008/04/20/automakers-view-china-as-\\_n\\_97611.html](http://www.huffingtonpost.com/2008/04/20/automakers-view-china-as-_n_97611.html)
- Thun, E. (2006). *Changing lanes in China: Foreign direct investment, local governments, and auto sector development*. New York: Cambridge University Press.
- Zhao, J. (2006). Whither the car? China's automobile industry and cleaner vehicle technologies. *Development and Change*, 37(1), 121–144.