Next gear: Renewed consumer spending and a move toward green vehicles will drive growth
### Industry Definition

Companies in this industry manufacture cars and automobile chassis. These companies, referred to as automakers, typically produce cars, including electric cars, in assembly plants. The manufacture of light trucks (e.g., vans, pickups and SUVs), heavy trucks and motorcycles is excluded from this industry.

### Main Activities

The primary activities of this industry are:

- Automobile assembling
- Automobile chassis manufacturing

The major products and services in this industry are:

- Compact and subcompact cars
- Luxury cars
- Midsize and full-size sedans
- Sports cars

### Similar Industries

33611b SUV & Light Truck Manufacturing in the US

Companies in this industry manufacture light trucks (such as vans and pick-up trucks) and sport-utility vehicles (SUVs).

33612 Truck & Bus Manufacturing in the US

This industry manufactures heavy trucks and buses.

33621 Truck, Trailer & Motor Home Manufacturing in the US

Businesses in this industry manufacture car bodies and assemble vehicles on a purchased chassis.

### Additional Resources

For additional information on this industry:

- [www.autoalliance.org](http://www.autoalliance.org)
  Alliance of Automobile Manufacturers
- [www.oica.net](http://www.oica.net)
  International Organization of Motor Vehicle Manufacturers
- wardsauto.com
  WardsAuto

IBISWorld writes over 700 US industry reports that are updated up to four times a year. To see all reports, go to [www.ibisworld.com](http://www.ibisworld.com)
Industry at a Glance

Car & Automobile Manufacturing in 2013

Key Statistics

Revenue $87.0bn
Profit $2.1bn
Annual Growth 08-13 -0.3%
Annual Growth 13-18 3.5%
Exports $45.8bn
Businesses 155

Market Share

Toyota Motor Corporation 15.6%
General Motors Corporation 15.3%
Ford Motor Company 12.0%
Hyundai-Kia Automotive Group 11.4%
Honda Motor Co. Ltd. 8.5%

Revenue vs. employment growth

World price of crude oil

 PRODUCTS and services segmentation (2013)

15% Luxury cars
4.7% Sports cars
36.2% Compact and subcompact cars
44.1% Midsize and full-size sedans

Key External Drivers

Consumer sentiment index
World price of crude oil
Demand from new car dealers
World price of steel
Trade-weighted index

Industry Structure

Life Cycle Stage Mature
Revenue Volatility Very High
Capital Intensity High
Industry Assistance High
Concentration Level Medium
Regulation Level Medium
Technology Change High
Barriers to Entry High
Industry Globalization High
Competition Level Medium

FOR ADDITIONAL STATISTICS AND TIME SERIES SEE THE APPENDIX ON PAGE 40

SOURCE: WWW.IBISWORLD.COM
Executive Summary

The lingering effects of the recession have significantly altered the state of the Car and Automobile Manufacturing industry over the five years to 2013. At the onset of the economic turmoil in 2008, automakers had already been enduring crashing consumer demand for new vehicles. The situation took a turn for the worse in 2009, though, as US vehicle sales fell to historic lows and industry revenue plummeted an alarming 36.5%. The Big Three automakers (GM, Ford and Chrysler) all took desperate measures to get back on their feet. These measures included plant closures, suspending research and development, drastically reducing employment and making pleas for government bailouts. Despite these efforts, Chrysler and GM sought bankruptcy protection in May and June of 2009, respectively.

Concerns of further turmoil in the automotive sector have been stanch, however, with the upick in vehicle sales and production in recent years. As the economy slowly improved through 2010, consumer disposable incomes rose and financing options became more widely available, allowing consumers to unleash pent-up demand for new vehicles that was delayed through the recession. This restored demand shot revenue up 40.1% in 2010, while continued production and sustained sales boosted revenue 4.8% in 2011. Continuing this recovery, revenue is estimated to grow 2.2% in 2013. The success of the past two years has helped the industry mask some of the turmoil it faced during the recession; as a result, revenue is expected to fall at an average annual rate of only 0.3% to $87.0 billion over the five years to 2013.

The outlook for the Car and Automobile Manufacturing industry over the next five years is much brighter. Beginning in 2013, industry profit margins are expected to reach a relatively healthy 2.4% of revenue as companies benefit from rising vehicle sales and the cost-cutting measures enacted in 2009, providing better operational efficiency at manufacturing plants. By 2018, margins are also expected to grow to 3.4% of revenue in spite of rising input costs. Moving forward, automakers are expected to focus production on smaller, lighter and more fuel-efficient vehicles to become more competitive in the wake of rising gas prices. Shifting consumer preferences, along with a general recovery in the demand for vehicles, will grow revenue at an estimated average of 3.5% annually to $103.4 billion by 2018.

Key External Drivers

**Consumer sentiment index**

When consumers sentiment is low, people will generally postpone big-ticket purchases of new vehicles. Consumer confidence plummeted during the recession, the effects of which flowed upstream to automakers. Consumer sentiment is expected to increase during 2013, creating a potential opportunity for the industry.

**World price of crude oil**

The price of gas represents a significant part of the running costs of a vehicle. The retail price of gasoline has grown rapidly; combined with declining disposable income, it has led consumers to think twice about their fuel consumption. Consequently, consumers have demanded smaller and more fuel-efficient vehicles, even though domestic automakers have historically focused on...
Industry Performance

Key External Drivers continued

larger, less fuel-efficient cars. The world price of crude oil is expected to decrease during 2013, but is still at a historically high level, posing a potential threat to the industry.

Demand from new car dealers
The performance of the New Car Dealers industry is largely reflective of the automotive sector as a whole. The financial crisis has taken a toll on dealers, and a significant proportion of companies had trouble finding funds to stock their showrooms in 2010. Stocking woes and falling consumer demand have negatively affected demand for automobile manufacturing in the past year. The demand from new car dealers is expected to increase during 2013.

World price of steel
Steel is a key input in the production of automobiles and represents a significant cost to automakers. High steel prices lead to cost pressures that cannot always be passed on to consumers. Automakers’ production costs could exceed sales revenue in some instances. The world price of steel is expected to increase during 2013.

Trade-weighted index
Exchange rates play an important role in the industry’s ability to remain competitive. Traditionally, the market consists of Korean automakers at the low end, Japanese automakers in the middle and European automakers at the high end. A depreciation of the US dollar typically leads to a rise in exports, which has a positive effect on industry revenue. The trade-weighted index is expected to increase during 2013.

![Graph showing world price of crude oil and consumer sentiment index](SOURCE: WWW.IBISWORLD.COM)
Industry Performance

Current Performance

After enduring a difficult period of low production and even lower sales during the recession, domestic automakers have returned to the starting line with their engines revving. In 2010 and 2011, as most industries slowly crawled out of the recession, the automotive sector took off at full speed. Car sales grew 11.0% and 10.8% in 2010 and 2011, respectively, according to Ward’s Auto, a leading automotive analysis publication. In 2013, automakers are benefiting from increased new car sales, with revenue expected to grow 2.2% for the year to $87.0 billion. After the recession, demand for new vehicles was jump-started once again as financing became more easily accessible, more Americans returned to work and disposable income began to recover. Automakers responded to the newly restored consumer vehicle demand by ramping up production output by 38.8% and 10.8% in 2010 and 2011, respectively.

Although the past three years have been favorable to automakers, this rapid revenue growth comes on the heels of two severely tumultuous years during the economic downturn. Faced with increasingly weak demand, automakers struggled to make ends meet. Consumer confidence plummeted in light of the subprime mortgage crisis and global recession. Also, credit availability and disposable income contracted, which made it difficult for consumers to finance a new car. Consequently, car sales fell precipitously, forcing difficult times on most automakers. Even though the economy has recently been gaining steam and vehicle sales are up, the effects of the recession still hover over the industry, with revenue remaining slightly below its peak historic levels. As a result, this high volatility in industry performance has led to an annualized 0.3% drop in revenue over the five years to 2013.

Plunging profit

Although the recession played a major role in hampering the operations of most automakers, many of these manufacturers were already facing longstanding operational issues that were exacerbated during the downturn. For example, while this industry includes only automobiles, the same companies also manufacture trucks and sports-utility vehicles. The plummeting sales of these vehicles over the past five years, occurring in tandem with rising labor costs, high production costs and legacy cost (such as pensions) pressures, created a challenge for many automakers’ profitability. The Big Three (GM, Ford and Chrysler) reported massive losses in 2008, and their financial positions continued to deteriorate in 2009. The dismal performance of the Big Three eventually spread to the domestic international (foreign automakers with US plants, including Toyota, Nissan and Honda) in the second half of 2008. In 2009, Toyota posted losses for the first time in 70 years. All of these troubles battered profitability, culminating in an industry-low profit margin of 0.4% of revenue in 2010. After industry-wide downsizing and reduction efforts in 2009
Industry Performance

Plunging profit continued

and 2010, profit margins have grown to 2.4% in 2013, though still down from 3.5% in 2007.

Cash for Clunkers

The government stepped in to save the automotive industry from a total crash with a bailout plan in 2009. In addition to this massive intervention, the government also created a program intended to perk up sales in the midst of the downturn. In late July 2009, the US government rolled out a car-buying incentive program called the Car Allowance Rebate System, commonly known as Cash for Clunkers. The program gave cash rebates of $3,500 to $4,500 to consumers who traded in their used, fuel-inefficient vehicles for new, fuel-efficient ones. The program, which ran for one month instead of the intended four months, ended August 24, 2009, and was highly successful. As of August 26, 2009, 690,114 new-car and light-truck sales amounted to $2.9 billion under the Cash for Clunkers program. In terms of manufacturers’ production, the effect was delayed, but the sales increase eventually helped reduce inventory levels that had built up during the recession.

Operations contract

The Car and Automobile Manufacturing industry is unique in that a significant proportion of workers belong to the United Auto Workers union (UAW). As such, these workers have relatively high wages for a manufacturing job, with the average wage in 2012 eclipsing $64,000. In addition, these workers carry substantial bargaining power, which has led to numerous work stoppages. The most recent stoppage, for example, caused GM to lose money at the beginning of 2008. Automakers have responded to these high costs by investing in high-tech automation equipment and eliminating peripheral labor. In 2009, following the bankruptcies of GM and Chrysler, the UAW made major concessions that will lead to a gradual decrease in the average industry wage. Automakers employing UAW members have historically paid almost double the wage of companies employing nonunion workers. With the recent ramp up in sales and production, though, automakers have rehired a significant amount of labor at less cost. As such, in the five years since 2008, employment has fallen at an average annual rate of only 0.3% to total 71,199 workers.

Plant closures in the automotive industry made news headlines in 2008, particularly in Michigan and Ohio, where the majority of the industry is centered. The contraction in staff numbers is also linked to numerous plant closures during the past three years, with establishments falling most severely in 2009 by 22.6%. In 2008, the capacity utilization rate in motor-vehicle assembly plants and automotive-parts manufacturing plants fell below 60.0% for the first time since 1991. Ford reported that more than half of its plants were operating at less than 60.0% of their productive capacity in July
Industry Performance

Operations contract continued

2008. However, rising demand for new vehicles in 2010 and 2011 prompted automakers to retool idle facilities, resulting in a rise in industry establishments and employment in the latter half of the five-year period.

Global growth

Low domestic sales have led automakers to expand into international markets. Exports have fallen at a slight annual average rate of 0.8% during the past five years, and exports as a percentage of revenue fell from 54.1% in 2008 to about 52.6% in 2013. In general, the export market is still recovering from the steep recessionary decline of 43.4% during 2009 alone. Nonetheless, exports bounced back significantly in the postrecession years, but have tapered off since. Imports have fallen at an annual average rate of about 1.8% since 2008, due mainly to falling domestic demand as a result of the economic recession in the United States. During the past five years, imports as a percentage of domestic demand have been on the rise because consumers are demanding smaller and greener cars made available through relatively cheap imports. The depreciation of the US dollar, which put upward pressure on the price of imported cars, mitigated this trend.

Industry Outlook

Over the five years to 2018, automakers will find the light at the end of the tunnel, with uninterrupted growth in the forecast. The consumer sentiment index is expected to rise at an annual average of 1.8% over this period, as continuous improvements in credit availability and disposable income encourage consumers to sustain interest in purchasing new vehicles. This trend bodes well for automakers, as industry revenue is expected to rise 3.5% annually on average to $103.4 billion. The industry’s growth over the next five years will be jump-started by a 4.2% expected growth during 2014. Most of the projected revenue growth is front-loaded, as the industry completes its recovery from the massive hole the recession caused. However, the industry is still recovering from the financial effects of the recession, and will not quite reach its peak revenue levels from the early 2000s, even at the tail end of the outlook period. High oil prices will temper new vehicle sales but will draw customers to smaller, fuel-efficient cars

Automakers will be optimistic during the next five years, though, seeking growth potential in the hybrid and fuel-efficient car market as the US economy continues to strengthen, having launched the first wave of a new generation of electric vehicles in 2011. At the same time, exchange-rate fluctuations (driven by a weaker US dollar) will encourage automakers to shift production of new vehicles to US assembly plants. Industry profitability is expected to improve continuously as revenue gains outpace the rising input costs.
Industry Performance

The benefits of downsizing

Rising oil prices, expected to grow an average 3.0% annually through 2018, will have mixed effects for this industry. Higher oil prices will temper growth in demand for new vehicles, but it will also make smaller cars more appealing than trucks and sport-utility vehicles. In addition, the rising cost of major inputs, such as steel, will likely eat into operators’ profitability. Nonetheless, industry profitability is expected to improve as revenue gains outpace rising input costs. Profit margins are expected to rise from 2.4% in 2013 to about 3.4% in 2018.

These gains in profitability will encourage reentry for many companies that exited the industry in the past five years. The number of industry enterprises is expected to grow an average 0.6% annually over the five years to 2018 to total 160 companies. However, these gains are minimal compared with the number of companies that exited the industry during the economic turmoil. Instead, automakers will keep riding the success of their downsizing strategies, hoping for further profitability growth and less burden from operating costs.

Slow export growth

Exports as a share of revenue will have limited growth potential compared with the past five years because US manufactured cars are relatively over-equipped and expensive for the developing automobile markets of China, India, Latin America and Eastern Europe. Even without local production requirements, the low vehicle prices required to be successful in emerging markets are incompatible with the product costs associated with US manufacturing efforts. More favorable exchange rates will do little to remedy this disparity. This scenario provided the impetus for Ford Motor Company and General Motors to expand production capacity in China through their joint-venture partners.

Going green

Competition in the hybrid segment is projected to intensify as automakers focus on developing gas-electric hybrid vehicles to increase fuel economies and cut exhaust emissions. Ford and Toyota are expected to concentrate on making hybrids from existing platforms, and Toyota has already unveiled a family of vehicles based on their popular Prius model. The US market for hybrid vehicles and clean-diesel engines is forecast to exceed 11.0% of the total vehicle market in 2013. Sales of light hybrid vehicles are projected to increase to an estimated 2.8 million by 2018, equivalent to 17.7% of the total US light vehicle market.

The next generation of hybrid vehicles is already on its way. Known as plug-in hybrid electric vehicles (PHEV), they are expected to increase in popularity beyond 2018. PHEVs are gas-optional vehicles, and their batteries can recharge through wall outlets. Certain models, notably Chevrolet’s Volt, can use an onboard gasoline generator to recharge batteries while driving. Growth in this segment will be limited until price premiums for this new vehicle class come down.

Hybrid competition will intensify as carmakers strive to meet shifting consumer tastes
Industry Performance

The market for midsize and big cars has been contracting

Industry operators have improved production efficiency

Recent industry performance has mitigated any potential for a true decline

Key Features of a Mature Industry
- Revenue grows at same pace as economy
- Company numbers stabilize; M&A stage
- Established technology & processes
- Total market acceptance of product & brand
- Rationalization of low margin products & brands

Life Cycle Stage

Industry operators have improved production efficiency

Recent industry performance has mitigated any potential for a true decline

Maturity
Company consolidation; level of economic importance stable

Quality Growth
High growth in economic importance; weaker companies close down; developed technology and markets

Quantity Growth
Many new companies; minor growth in economic importance; substantial technology change

Decline
Shrinking economic importance

SOURCE: WWW.IBISWORLD.COM
Industry Performance

Having endured the tumultuous recession era and now recovering in the aftermath, the Car and Automobile Manufacturing industry is in the mature stage of its life cycle. Industry value added (IVA), or the measure of the industry’s contribution to the overall economy, is growing at an average annual rate of 1.4% over the 10 years to 2018. Comparatively, US GDP is growing at an estimated 2.1% average annual rate over the same period. The industry’s slower growth can be attributed to the downturn of the entire automotive sector during the recession in 2008 and 2009. However, this poor performance is not indicative of the industry as a whole. The industry’s performance over the past two years, with increased vehicle sales and improved operating efficiency, has alleviated any potential for a true decline.

Industry output has skyrocketed in the wake of an improved economy and increased consumer sentiment. Old stalwarts of the industry, such as compact vehicles and midsize sedans, have sold well, but new vehicle options are being introduced to meet consumers’ changing preferences. For example, as gas prices continue to rise, consumers have gravitated away from gas-guzzling trucks, SUVs and large sedans toward vehicles with smaller, more fuel-efficient engines. Also, the prominence of hybrid and hybrid-electric vehicles on the market is growing and will continue to do so through 2018. On the other hand, much of the technological changes in this industry have been made in an effort to ease operating costs. In doing so, automakers have improved the efficiency of their production plants, while also enhancing profitability.
Automakers have seen substantially higher car sales since the recession has passed. Car sales bottomed out in 2009 with 5.7 million vehicles sold, but have been growing faster than light truck sales for the past five years, driven by the rapidly rising price of oil and the superior fuel economy that smaller cars offer. To address consumers’ changing preferences, automakers have been overhauling their product portfolios. Fuel efficiency has become a top design concern for manufacturers, with more car models featuring hybrid-electric drivetrains, smaller forced-induction engines and more advanced transmissions delivering fuel economy gains.

Midsize and full-size sedans
Midsize and full-size cars are the mainstay of this industry, generating about 44.1% of industry revenue. Over the past 20 years, midsize and compact car sales have gained market share over full-size cars as consumer preferences changed. This trend has sustained over the past five years, as skyrocketing gas prices have made consumers trend toward mid-size, more fuel-efficient cars. Mid-size cars offer better fuel efficiency than full-size vehicles without sacrificing too much cargo or passenger room. Mid-size vehicles on sale today include the Ford Fusion, Chevrolet Malibu, Dodge Charger and the Toyota Camry. Manufacturer’s suggested retail
products (MSRP) on midsize cars start at about $20,000. In addition, hybrid-electric drivetrains are now commonly available as an upgrade option for midsize cars up from just a few models five years ago. Full-size vehicles on sale today include the Ford Taurus, Chevrolet Impala, Chrysler 300 and the Toyota Avalon. MSRP on full-size cars starts at about $30,000.

Compact and subcompact cars
Compact and subcompact cars account for about 36.2% of industry revenue. Compact and subcompact cars offer exceptional fuel economy, but consumers must submit to limited legroom and smaller engine options. Most cars in this segment come with four-cylinder engines, although six-cylinder V6s are a common option as well. Compact cars on sale today include the Ford Focus, Chevrolet Cruze, Chrysler 200 and Toyota Corolla. MSRP on compact cars starts at about $17,000. Subcompact cars on sale today include the Ford Fiesta, Chevrolet Sonic (formerly Aveo), Hyundai Accent and the Toyota Yaris. MSRP on subcompact cars starts at about $15,000. This segment has expanded over the past five years thanks to the incorporation of high-efficiency engines with superior fuel efficiency.

Luxury cars
Sales of luxury cars generate about 15.0% of industry revenue. Unlike the other product segments of this industry, luxury cars can range in size from subcompacts through full-size cars. Some automakers specialize in luxury cars, most notably BMW and Mercedes-Benz. All other automakers produce their luxury cars with significant parts sharing from similar mass-market models. For example, the Ford Fusion shares its chassis and many drivetrain components with the luxury Lincoln MKZ. Luxury cars on sale today include the Cadillac CTS, BMW 528i and the Lexus GS 350. MSRP on luxury cars is typically $5,000 to $10,000 higher than the comparable mass-market model. Luxury cars suffered slightly over the past five years. The recession hampered consumers' willingness to spend on these vehicles as they shifted toward more efficient or less expensive vehicles.

Sports cars
Sports cars are a niche product in this industry, generating about 4.7% of

Products & Markets

Products and services segmentation (2013)

<table>
<thead>
<tr>
<th>Segment</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midsize and full-size sedans</td>
<td>44.1%</td>
</tr>
<tr>
<td>Luxury cars</td>
<td>15%</td>
</tr>
<tr>
<td>Compact and subcompact cars</td>
<td>36.2%</td>
</tr>
<tr>
<td>Sports cars</td>
<td>4.7%</td>
</tr>
</tbody>
</table>

Total $87.0bn

SOURCE: WWW.IBISWORLD.COM
Products & Markets

Products & Services continued

Industry revenue. Sports cars are an aspirational product, selling in low volumes while boasting broad appeal. Sports cars feature larger performance engines and stiffer suspensions than other cars, emphasizing an entertaining driving experience. Sports cars on sale today include the Ford Mustang, Chevrolet Corvette, Mazda MX-5 and the Nissan 370z. MSRP on sports cars vary widely, from $30,000 to more than $50,000 depending on the model and subsegment. Like luxury cars, sports cars took a hit during the recession because they are not as practical as many compact, mid-size or full-size sedans.

Demand Determinants

Traditionally, motor-vehicle prices were considered the most significant factor in deciding whether or not to buy a new car. In more current culture, the focus has turned to the running costs of the vehicle and its effect on the environment. Income still plays an important role, however, as a fall in disposable income will cause households to delay spending money on cars. Consumer sentiment also plays an important role in determining significant consumer investments, such as a house or a car. When consumers are optimistic about their financial position as well as that of the country, they are more likely to spend their earnings. During recessions, households are pessimistic about the future and tend to tighten their belts and postpone unnecessary expenses until times are better. The demand for motor vehicles is also highly dependent on population growth because individuals make up the majority of car and automobile users. The demand for cars and automobiles rises when population, particularly above the driving age, grows.

During the past five years, motor vehicle affordability has been rising and yet vehicle sales and manufacturing have been falling. This is because the cost of running a car has been growing sharply due to increases in the price of gasoline.

The upside of high fuel prices

Environmentalists have been bemoaning the negative effects of carbon dioxide emissions for years, but their complaints had been falling on deaf ears until the price of fuel started rising. It led consumers to demand more fuel-efficient cars and was also an eye-opener to the negative collateral effects of driving gas-guzzling SUVs. The green revolution is well under way, and consumers will continue to demand greener cars – whether electric- or hydrogen- and ethanol-run – as the price of gas remains elevated during 2013.

The level of import penetration is also a determinant of demand for domestically manufactured vehicles. This is particularly important when it comes to hybrid cars and other small cars, which more often than not, are manufactured outside the United States. The higher the availability of small fuel-efficient imported cars to US consumers, the less they will demand domestically manufactured fuel-inefficient cars.
Exports
A significant portion of vehicles produced in the United States are shipped abroad for sale. In 2013, exports are expected to account for about 52.6% of industry revenue, with 27.3% of exports destined for Canada. The share of revenue consumed by exports has expanded significantly over the past five years. Exports only accounted for 46.0% of revenue in 2007. Falling demand from domestic consumers because of the economic turmoil in the United States led automakers to focus on expanding sales to foreign markets. Additionally, the sliding value of the US dollar during the recession increased the purchasing power of foreign consumers of US goods, enticing these consumers to increase their demand for US exports. Over the five years to 2013, the value of the US dollar relative to the value of its largest trading partners has remained relatively unchanged when compared to 2008, but has been on a volatile path. Given the size of the export market, the importance of maintaining a solid globalized network is key for the performance of US automakers.

Dealerships
Car dealerships, the largest domestic market segment of this industry, contribute about 14.2% of this industry’s revenue. Dealers sell the vast majority of their vehicles directly to consumers. Over the past five years, demand for new vehicles from automotive dealerships plummeted. Consumers curtailed their interest in new vehicle purchases at the downturn of the economy. A lack of disposable income and a pessimistic view of the economy kept consumers at bay. This choke in sales forced dealers to cut their demand for automakers’ products. As a result, the entire segment has declined significantly since 2008. However, a rebound in vehicle production and consumer confidence in 2010 revived dealers’ needs for new cars, a trend that should persist in the long run.

Wholesalers
Wholesalers buy large volumes of identical vehicles from automakers. Wholesalers sell vehicle fleets to businesses like taxi services, rental companies and dealerships. Demand
International trade is a very important aspect of the Car and Automobile Manufacturing industry. Imports represent 75.0% of domestic demand for automobiles, while exports generate 52.6% of industry revenue. The US is one of the largest vehicle marketplaces in the world, as well as home to some of the largest global automakers. Since 1993, trade-flow patterns of cars through the US have grown increasingly complex because of the elimination of trade barriers set by the North American Free Trade Agreement (NAFTA). The NAFTA treaty makes it easier for automakers to run their North American operations as if their supply chains did not cross borders; it is common practice for cars destined for sale in the US to be assembled in Mexico or Canada from US-produced components. This practice tends to inflate import and export statistics between the US, Mexico and Canada.

**Imports**

In 2013, the four main sources of importers of cars to the US are Canada, Japan, Germany and Mexico. The prevalence of imports from Canada and Mexico is primarily due to the incentives outlined in the NAFTA treaty. US-based manufacturers are not the only automakers that target the US market with vehicles assembled just outside of its borders. Volkswagen, the largest German automaker, expanded operations of its assembly plant in Puebla, Mexico in 2010, where it began assembling Volkswagen Jetta sedans for the 2011 model year. Locating assembly plants in Mexico helps automakers reduce labor costs, since the US automotive manufacturing labor force is highly unionized by the United Auto Workers (UAW) union. Imports from Japan and Germany generally rise and fall along with the performance of their largest automakers. Japan’s largest automakers with a US presence are Toyota, Honda and Nissan. Germany’s largest

**Rental companies and government agencies**

Car rental companies rent vehicles out to consumers and businesses. Rental companies typically purchase their vehicles from wholesalers, but direct sales from original equipment manufacturers (OEMs) to rental companies still accounts for about 12.1% of revenue. Government agencies, including local and federal law enforcement, directly purchase an estimated 8.5% of all cars.
International Trade continued

automakers with a US presence are Volkswagen, Daimler and BMW.

Exports
In 2013, the four main destinations of automobile exports are Canada, Germany, China and Saudi Arabia. As with imports, Canada’s dominance in exports is primarily due to the NAFTA treaty. The bulk of US automaker’s manufacturing capacity is in the Great Lakes region, on both the US and Canadian sides of the border. China and Saudi Arabia are both rapidly growing export markets for US-made automobiles. In 2008, roughly 1.7% of US automobile exports were destined for China, compared to 11.3% today. In 2008, exports of cars to Saudi Arabia represented about 5.6% of US automobile exports. China’s rise in the automobile marketplace is due to its rapidly growing affluence, which is radically changing life styles and the standard of living in the country. Saudi Arabia’s growth as an export market has largely been enabled by explosive growth in the price of crude oil and petrochemicals over the past five years, resources in which that country has great abundance.
Products & Markets

Business Locations 2013

Additional States (as marked on map)

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<tr>
<th>State</th>
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<td>MD</td>
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</tr>
<tr>
<td>DC</td>
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</tr>
</tbody>
</table>

Industry establishments (%)

- Less than 3%
- 3% to less than 10%
- 10% to less than 20%
- 20% or more

SOURCE: WWW.IBISWORLD.COM
Business Locations

The majority of establishments are located in the Great Lakes area: General Motors in Detroit; Ford in Dearborn, MI; and Chrysler in Auburn Hills, MI. These three companies are often referred to as the Big Three, or the Detroit Three. The recession wreaked havoc on The Big Three, forcing GM and Chrysler into bankruptcy and drastic cutbacks for Ford. Ford closed assembly plants in St. Louis, Atlanta and St. Paul, MN, in 2007. GM and Chrysler, which both emerged from bankruptcy protection in mid-2009, closed a number of plants as these companies restructured themselves out of loss-making performances. The number of companies in the Great Lakes region has been falling as a result of the restructuring and the Big Three’s financial woes.

The second automotive hub in the United States is found in the Southeast region, where the Japan-based, domestic internationals are found. Toyota’s manufacturing plants are mainly located in Alabama, Kentucky and West Virginia; Honda is based in Alabama; and Nissan is in Tennessee. In sharp contrast with the Detroit Three, the Japan-based automakers have been performing rather well during the past five years. The Southeast region’s importance in the Car and Automobile Manufacturing industry has been growing along with its automakers. However, even though the Southeast region has a significant number of establishments, these employ less than 7,000 people, while Michigan itself employs more than 21,100 people.

The West also plays a significant role in the industry due to California’s strong manufacturing background. Many automakers have joint ventures and plants in the state due to the facilities, such as skilled labor and transport advantages, provided by being close to a manufacturing hub. The smaller Japanese companies, namely Mazda, Isuzu, Mitsubishi, Suzuki, Kia and Hyundai, also have headquarters in Southern California. NUMMI, a joint venture between GM and Toyota, is located in California and was shut down in 2010. NUMMI has since been purchased by electric car startup Tesla Motors and began.
products & Markets

Business Locations continued

production of the Tesla Model S sedan in late 2011.

The three automotive hub regions are, however, expected to gain in the future as new players – particularly small electric-vehicle manufacturers – enter the industry. They are expected to be located in those three main regions. Major players will continue to downsize or maintain their size.
The Car and Automobile Manufacturing industry has a moderate level market share concentration, with the top four companies accounting for an estimated 54.3% of industry output in 2012 (latest data available). The next four largest companies are never far behind, however. The top eight companies account for about 80.4% of industry output. Company market share can vary significantly within a fairly short time in this industry. For example, General Motors (GM), the largest US-based automobile manufacturer, has seen its market share dwindle from 22.4% industry revenue in 2005 to 15.3% in 2012. This dynamic leaves significant opportunities for smaller foreign operators to radically change the industry landscape. Hyundai-Kia Automotive Group, a South Korea-based manufacturer, achieved phenomenal growth from 2007 to 2012, increasing its US market share from 5.9% to 11.4%. Hyundai-Kia’s growth was driven by a winning combination of successful product redesigns and aggressive pricing. IBISWorld expects the market share winners over the five years to 2018 will be the companies that can most effectively balance affordability, technological advancement (particularly with engines and entertainment) and attractive vehicle styling.

Strong supply chain links
Close relationships with suppliers and good distribution channels are important. Manufacturers need to be able to access parts on a timely basis to ensure the smooth flow of production. Good distribution channels are needed to minimize supply chain costs.

Establishment of export markets
Development of export markets is crucial in an industry where the domestic demand is shrinking.

Use of most efficient work practices
Good industrial relations through a motivated workforce ensure the smooth running of a production plant. Work stoppages can be costly to automakers and good industrial relations can hedge manufacturers against that type of risk.

Optimum capacity utilization
Idle plants are costly. Maximizing capacity utilization is an important cost advantage.

Access to the latest available and most efficient technology and techniques
The degree of investment in technological improvements and product development is important. In the current environment, the development of fuel-efficient, hybrid and alternative-fuel vehicles is crucial for competitive purposes.

Ability to negotiate with workers’ union
The workers’ union has strong bargaining power, which can lead to work stoppage and higher labor costs.

The industry has struggled to make a profit since 2004, when gasoline prices began to rise significantly. In the case of the Big Three domestic automakers, weakening demand for their products and structural inefficiencies have prevented meaningful recovery. Chapter 11 bankruptcies for General Motors and Chrysler forced new contract negotiations with the unions and the elimination of pension liabilities. This industry

IBISWorld identifies 250 Key Success Factors for a business. The most important for this industry are:
turbulence provided the first real opportunity for domestic automakers to restructure and form more sustainable business models. In 2013, the automakers are expected to turn a profit of about 2.4% of revenue due to a combination of improved retail sales conditions, specifically credit access and consumer confidence, and lower labor expenses due to union concessions made during 2009.

**Purchases**
Automobile manufacturing requires a large array of component parts from parts suppliers. For the most part, companies in this industry perform the final assembly and design of vehicles; as a result, purchases account for the majority of industry costs at about 78.1%. Industry operators purchase vehicle components, from engines and transmissions to radiators and electronics. Companies contain cost fluctuations by purchasing parts under contract with suppliers, which usually include provisions mandating annual price decreases. Automakers typically have very long-term relationships and contracts with a handful of large automotive suppliers.

**Wages**
Wages make up the next-largest component of this industry’s cost structure, consuming roughly 5.4% of revenue. The three domestic automakers have struggled to maintain profitability under very expensive labor union contracts, which include defined-benefit pensions and limits to operators’ ability to fire union workers; average wages tend to be highly inflated in this industry, at over $80,000 historically. Since 2009, industry wages have been falling because of concessions made by industry labor unions. High operating
Cost Structure

Benchmarks continued

Costs, excess capacity and declining popularity of their products has resulted in large losses for the three domestic manufacturers; losses and illiquid assets force these companies to cover operating costs with loans, resulting in relatively high interest expenses.

The long-term relationship between the automakers and the United Auto Workers (UAW) union, which remains in question, will play a tremendous role in the future cost structure and success of this industry. Artificially high labor costs (guaranteed under union contracts) have historically been a major impetus to poor short-term management decisions: the US automakers began to rely on truck and SUV sales, which have higher gross margins, because these vehicles could be made profitably even with expensive labor. Manufacturers that continue signing labor contracts favoring the UAW will struggle to compete with nonunion manufacturers, which will be able to offer mass-market small cars with lower prices or higher quality than unionized competitors.

Basis of Competition

Level & Trend

Competition in this industry is Medium and the trend is Increasing

Automakers compete primarily on the basis of price, fuel economy, reliability, styling and utility. Business customers and consumers place different weights on each trait; businesses tend to emphasize utility and reliability, while consumers are more concerned with price and styling.

Automakers periodically redesign a vehicle’s styling (typically every five years) but only occasionally change the vehicle’s mechanics. Recently redesigned cars typically sell in significantly higher volumes after the redesign, so automakers with a relatively fresh product lineup tend to outperform automakers that are lacking new vehicle styles. In some cases a redesigned vehicle will actually sell worse than the outgoing model, which can be a disastrous outcome for an automaker that has invested large amounts of time and money in the new product.

Industry customers choose their vehicle purchases on the basis of price. Each car class (subcompact, compact, mid-size and full-size) has a premium subcategory resulting in a range of prices. For example, the mid-size Ford Fusion sedan pricing starts at just over $20,000, while the mid-size Lincoln MKZ pricing starts at $34,000, even though the vehicles are very similar. The two vehicles are marketed to different market segments, with the luxury sedan being differentiated through more expensive interior materials (e.g. leather, natural wood) and styling.

Over the past five years, business customers and consumers have become increasingly concerned with fuel economy. With these concerns in mind, consumers have gravitated away from SUVs and light trucks, instead increasing the popularity of compact and mid-size cars. Consumers have also pushed manufacturers to offer more fuel-efficient drivetrain options. Ford is in the process of moving its entire vehicle lineup from traditional naturally-aspirated engines to smaller forced-induction (i.e. turbocharged) engines; the resulting vehicles have similar performance to outgoing naturally-aspirated models but boast significantly higher fuel economy.

Moreover, manufacturers are expanding their offerings of hybrid-electric, electric and clean diesel engines to improve fuel economy.

Reliability is a pervasive concern of all vehicle shoppers. These concerns were more pressing a decade ago when domestic automakers noticeably lagged behind Toyota and Honda in reliability. Enhanced quality control procedures and superior manufacturing equipment have since mitigated the disparity.
**Competitive Landscape**

**Barriers to Entry**

**Level & Trend**

Barriers to Entry in this industry are **High and Steady**

With moderate concentration, a high level of capital requirements and rapid technological change, this industry is extremely difficult for new entrants to succeed in. Generally, manufacturing cars is a capital-intensive enterprise requiring sophisticated manufacturing facilities and robust supply chains. Production facilities use specialized equipment and substantial floor space. In addition, prospective automakers need proprietary or licensed vehicle designs and an experienced workforce. Vehicles are made from thousands of separate parts, so sufficient volumes of reliable supplies typically require long-term contracts with several parts supply firms.

New entrants must comply with strict regulatory standards for safety and environmental concerns. These standards are subject to periodic revisions, which may require additional research and development. R&D expenses can be reduced by forming a partnership with an existing automaker as many foreign manufacturers have done.

**Globalization in this industry is High and the trend is Increasing**

Globalization is a central force in the Car and Automobile Manufacturing industry. Foreign-owned firms like Toyota, Honda, Nissan and Volkswagen are major operators in the US market. At the same time, US-based automakers like Ford, GM and Chrysler generate sizable shares of their revenue from sales outside of the US. Finding an efficient business model to operate in this globalized industry environment is a key ingredient to any automaker’s success.

Since 2005, Ford has focused on this concern with its “One Ford” initiative, which streamlined vehicle design and platform sharing across Ford’s global operations, which helps the company save on manufacturing costs and leverage its size. Prior to the “One Ford” initiative, Ford models in Europe and the

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**Trade Globalization**

- **Exports/Revenue**
  - Local: 0-50
  - Domestic: 50-100
  - Global: 100-200

- **Imports/Revenue**
  - Local: 0-50
  - Domestic: 50-100
  - Global: 100-200

**Going Global: Car & Automobile Manufacturing 2000-2013**

- **Exports/Revenue**
  - Local: 0-50
  - Domestic: 50-100
  - Global: 100-200

- **Imports/Revenue**
  - Local: 0-50
  - Domestic: 50-100
  - Global: 100-200

---

**Barriers to Entry checklist**

<table>
<thead>
<tr>
<th>Level &amp; Trend</th>
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<td>Intensity</td>
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<td>Technology</td>
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<td>Change</td>
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<td>Regulation</td>
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<td>&amp; Policy</td>
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<td>Industry</td>
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</tr>
<tr>
<td>Assistance</td>
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</tr>
</tbody>
</table>

**Source:** WWW.IBISWORLD.COM

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International trade is a major determinant of an industry’s level of globalization. Exports offer growth opportunities for firms. However there are legal, economic and political risks associated with dealing in foreign countries. Import competition can bring a greater risk for companies as foreign producers satisfy domestic demand that local firms would otherwise supply.
US would routinely have different styling, chassis platforms and engines, even for similarly sized vehicles. The 2011 Ford Focus was the first modern Ford that is synchronized between US and European models, though the European model still has more engine options than the US model (due to European regulatory structures that favor diesels over gasoline engines).

GM, the largest US-based automaker, has had a successful joint venture in China since 1997. GM’s China joint venture is with Shanghai Automotive Industry Corporation (SAIC), one of the five largest automakers in China. Under the joint venture, SAIC manufacturers Chevrolet, Buick and Cadillac vehicles for the Chinese market. GM’s stake in the joint venture is 49%. The joint venture’s design department is playing an increasingly prominent role in GM’s global design following GM’s 2009 bankruptcy, primarily due to the breakout success of Buick designs in China. The 2011 Buick Regal and Lacrosse designs came out of that joint venture.
Player Performance

Toyota Motor Corporation is the top automaker operating in the US market, in terms of revenue. The company is headquartered in Toyota, Aichi, Japan with its North American operations based in Torrance, CA. Toyota employs more than 300,000 workers in its 50 manufacturing facilities across the globe. The company’s vehicles are sold in more than 170 countries. For its 2011 fiscal year (latest data available), Toyota generated about $228.4 billion in global revenue through all of its operating segments. The company has long had a strong presence in the United States, being at or near the top in car sales for the past five years.

Though Toyota has performed well in the United States for the past five years, its success has not come without some pitfalls. Up until 2010, Toyota gained market share in the US every year since 1999 due to its safe, practical and reliable lineup of sedans and coupes. In 2010, though, Toyota’s peerless brand reputation for vehicle reliability and safety was tarnished by an enormous recall, affecting about eight million vehicles, related to unintended acceleration in several of its Toyota and Lexus vehicles. The cause of the vehicles’ unintended acceleration is not perfectly clear (though driver error seems most likely), but investigations by the National Highway Traffic Safety Administration (NHTSA) revealed unsavory discussion of the problems by Toyota executives before the issue garnered national attention. The scandal gave credence to the claim that Toyota was systematically ignoring certain vehicle complaints that could have interrupted the company’s goal of increasing US market share. To compound these scandal-ridden issues in 2010, Toyota endured its most significant operational problems from the past five years when the Great East Japan Earthquake struck in March 2011. The damage caused production to halt at most of the company’s Japanese plants and created a parts shortage that spread across its global network of production facilities. As a result of hampered production and parts shortages, sales for the company’s 2012 fiscal year dipped.

In 2010, Toyota’s top three selling cars in the US were the mid-size Toyota Camry, the compact Toyota Corolla and the hybrid Toyota Prius. The Toyota Prius, first launched in Japan in 1997, was the first mass-produced hybrid gasoline-electric car and has been a major success for Toyota. Toyota now uses its signature Hybrid Synergy Drive (HSD) technology in some of its cars and SUVs as an option, as well as limited licensing arrangements, such as Nissan’s Altima hybrid. The innovative technologies used in the car, including regenerative braking (using the force of braking to help recharge the battery), contribute to the car receiving a 50 miles-per-gallon rating from the US Environmental Protection Agency. Toyota is expected to capitalize on its head start in the race for alternatively fueled vehicles by making its HSD technology even cheaper to produce,
Player Performance continued

enabling Toyota to expand use of the technology across its product offering. Just as Toyota’s US sales were recovering, the company announced another recall in October 2012 of about 7.4 million vehicles worldwide, including 2.5 million in the United States. The total cost to the company has not been revealed; however, the company stated that the recall issue affects the Corolla-twin Matrix, the Vitz and Yaris subcompact cars, the Scion xA and xD, the Highlander sport-utility vehicle (SUV), the Sequoia SUV and the Tundra pickup truck. Other major markets affected include China, Europe and Japan.

Financial performance

Toyota's US car sales at the manufacturing level have fallen dramatically over the past five years, especially considering its brand’s strong performance prior to some of these pitfalls. However, the US car and automobile division of the company managed to return to profitability in fiscal 2011 after operating at a loss in 2009 and 2010. While revenue plunged in fiscal 2009 due to the recession and dipped again the following year, the company reversed its declining revenue in 2012 with 12.4% growth. In 2012, the earthquake’s effect on the company’s supply of parts hampered production across most markets, including the United States. The forecast for the 2013 fiscal year is expected to be brighter for the company as it continues to revamp operations; nonetheless, after multiple mishaps at the production level, revenue from Toyota’s US car and automobile manufacturing is expected to fall at an average 4.9% annually over the five years to fiscal 2013, to reach about $14.2 billion. Despite this loss, Toyota has managed to maintain its prominent status in the automotive market because of its solid production practices and its commitment to new vehicle technology.

### Toyota Motor Corporation (US car and automobile manufacturing segment) – financial performance

<table>
<thead>
<tr>
<th>Year*</th>
<th>Revenue ($ million)</th>
<th>(% change)</th>
<th>Operating Income ($ million)</th>
<th>(% change)</th>
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<td>2012-13**</td>
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<td>56</td>
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*Year-end March; **IBISWorld Estimate

SOURCE: ANNUAL REPORT AND IBISWORLD
General Motors Corporation (GM) is headquartered in Detroit and operates in about 157 countries, employing close to 207,000 people. Its notable brands include Chevrolet, GMC, Buick and Cadillac. In 2011, GM reclaimed the title of world’s largest automaker from Toyota based on its vehicle unit sales throughout the year. GM generated roughly $150.3 billion in global revenue during 201.

The Chevy Volt
To revamp its image and attract a new consumer base, GM has made big bets on alternatively fueled vehicles catching on in the future. For the 2011 model year, GM released the Chevy Volt, a compact car that uses an unusual hybrid power train. Unlike the Toyota Prius, the Chevy Volt’s power is always provided by its electric motors, but a small onboard gasoline engine acts as a generator to recharge the car’s lithium ion batteries when its charge is low. Typically, new technology would be folded into other vehicles and platforms to become profitable, though this strategy has not yet been the case with the Volt’s electric powertrain. Initial sales of the Volt have not reached the projected goals that the company set. As a result, the company announced a temporary production halt at the Volt’s manufacturing plant. GM instead will focus on keeping sales up for its successful coupes and sedans, such as the Chevy Malibu, the Chevy Impala and the Chevy Cruze.

Financial performance
Over the five years to 2012, revenue from GM’s US car and automobile manufacturing segment has fallen at an average annual rate of 3.7% to $13.9 billion. The troubling repercussion of this overall decline in sales is that GM’s US market share fell from 20.2% in 2007 to 14.9% in 2012. While GM is expected to regain some of its market share over the next five years, is not forecast to benefit from the same momentum that other companies are experiencing, like Ford. Much of GM’s struggle to regain this prominence stems from a rocky performance over the past five years.

GM filed for Chapter 11 bankruptcy in June 2009. On July 10, 2009, GM emerged from bankruptcy with ownership split between the US federal government, the United Auto Workers union, the Canadian government and Old GM bondholders. On November 18, 2010, GM’s shares returned to public trading on the New York Stock Exchange, selling at about $33-per-

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**General Motors Corporation (US car and automobile manufacturing segment) – financial performance**

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenue ($ million)</th>
<th>(% change)</th>
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<th>(% change)</th>
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*Estimate

SOURCE: ANNUAL REPORT AND IBISWORLD
share, allowing the US federal government to reduce its stake in the company. During Chapter 11 bankruptcy, GM eliminated about one-third of its plant assets and workforce and reduced its debt from nearly $95.0 billion to $17.0 billion. With this new balance sheet, GM can turn a profit even with low vehicle sales. To further stabilize its balance sheet, GM shuttered several other vehicle brands: Hummer, a specialty SUV brand; Pontiac, an SUV brand, upmarket from Chevy; Saturn, a budget-oriented brand, downmarket from Chevy; and Saab, a Swedish sporty brand. Narrowing GM’s brand portfolio helped the company focus its design and marketing efforts and reduced the practice of “rebadging,” in which a vehicle is simply given a different name, branding and trim options from the vehicle it was derived from.

The Ford Motor Company is an American automaker based in Dearborn, MI. Ford operates in the United States under the Ford and Lincoln brands while also holding a small portion of Mazda in Japan and Aston Martin in the United Kingdom. The company operates close to 100 plants worldwide, employing about 164,000 people. Over the past five years, Ford notably was the only one of America’s “Big Three” automakers that weathered the 2009 recession without a government bailout or filing for Chapter 11 bankruptcy protection. Since the recession, Ford has carried its momentum to solid growth, while its peers GM and Chrysler continue to recover. In 2011, Ford generated about $136.3 billion in global revenue.

**Evading the turmoil**

By continuing its operations without resorting to bankruptcy or bailout, Ford has earned some goodwill from the American public, many of whom resent the aid given to GM and Chrysler. Ford’s CEO, Allan Mullaly (former head of Boeing), has been restructuring the company’s business practices since 2007, which put Ford in a better position when the recession hit. Mullaly’s “One Ford” initiative has the central goal of streamlining Ford’s global design and production by sharing designs, platforms and parts for Ford vehicles sold in

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### Ford Motor Company (US car and automobile manufacturing segment) – financial performance

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenue ($ million)</th>
<th>(% change)</th>
<th>Operating Income ($ million)</th>
<th>(% change)</th>
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<td>2012*</td>
<td>10,887.4</td>
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<td>534.9</td>
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*Estimate

SOURCE: ANNUAL REPORT AND IBISWORLD
The Hyundai-Kia Automotive Group is South Korea’s largest automaker and the second-largest Asian automaker after Toyota. Operating from Ulsan, South Korea, Hyundai maintains the world’s largest automobile-manufacturing plant, which has an annual productive capacity of 1.6 million vehicles. Hyundai Motors bought rival manufacturer Kia Motors in 1997 to form Hyundai-Kia Automotive Group. The rapid growth in sales of both Hyundai and Kia vehicles in the United States has helped Hyundai achieve the fastest-growing US sales of any

### Financial performance

Over the five years to 2012, revenue from Ford’s US car and automobile manufacturing segment is expected to grow at an average annual rate of 3.8% to roughly $10.9 billion. The company has been riding the success of its midsize Fusion, the compact Focus and the sporty Mustang. Despite avoiding a bailout and weathering through the recession better than its US peers, Ford’s market share of the industry has fluctuated over the past five years. Its market share dipped to a historic low of 10.4% in 2008, through this proportion is expected to reach 12.0% in 2012.

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenue ($ million)</th>
<th>(% change)</th>
<th>Operating Income ($ million)</th>
<th>(% change)</th>
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<td>10,343.1</td>
<td>7.1</td>
<td>1,024.4</td>
<td>6.2</td>
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*Estimate

**SOURCE: ANNUAL REPORT AND IBISWORLD**
Honda Motor Company is Japan’s second largest automaker, as well as the world’s largest motorcycle manufacturer. The company is headquartered in Tokyo, Japan with its North American operations based in Torrance, CA. Honda currently employs about 180,000 people in its assembly plants in 15 different countries. In 2011, Honda generated about $107.8 billion in global revenue from all of its operating segments.

Innovation and quality
Honda is noted for its unusually high spending on research and development (R&D), which is the equivalent of about 5.0% of revenue. Honda’s research efforts have resulted in major developments in robotics, jet-engine design and numerous automotive technologies. Honda was one of the first automakers to mass-produce engines with variable valve timing, which can significantly increase an engine’s fuel efficiency or power output. Honda was also the first automaker to offer a hybrid vehicle, the 2000-2006 Honda Insight, but it did not achieve the commercial success of its rival, Toyota Prius. In the United States, Honda sells vehicles under the Honda and Acura (luxury) brands. In JD Power’s 2010 overall vehicle-quality study, Honda tied with Ford for highest overall quality among mass-market brands. In the same study, Acura received a perfect score. Among driving enthusiasts, Honda has developed a reputation for excellence in engineering. Despite being known for its engine designs, Honda has never produced a V8 for passenger vehicles. In Japan, cars are taxed according to engine displacement, which encourages automakers to develop smaller and more powerful engines. Honda’s top-of-the-line engines are V6 engines with variable valve timing.

Financial performance
From fiscal 2007 to fiscal 2013, Honda’s sales from its US cars and automobile manufacturing segment have fallen dramatically. As a result, revenue is expected to fall at an average annual rate of 3.1% to $7.7 billion. During this period Honda’s US market share fell...
Major Companies

Player Performance

continued

from 11.2% to 8.5%. Like its neighboring rival Toyota, Honda’s production has been hampered by the damage caused from the Great East Japan Earthquake in March 2011. As a result, Honda’s fiscal 2012 sales dropped, causing its industry-relevant revenue to drop 12.8% during the year. Honda’s management has been less focused on increasing sales volume as Toyota. Honda’s top-three selling vehicles in the United States in 2011 were the mid-size Honda Accord, the compact Honda Civic and the subcompact Honda Fit.

<table>
<thead>
<tr>
<th>Year*</th>
<th>Revenue ($ million)</th>
<th>(% change)</th>
<th>Operating Income ($ million)</th>
<th>(% change)</th>
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</table>

*Year-end March; **IBISWorld Estimate

SOURCE: ANNUAL REPORT AND IBISWORLD

Nissan

Estimated market share: 8.0%

Nissan Motor Company is Japan’s third-largest automaker and formerly a core member of the Nissan Group of companies. In 1999, Nissan Motor Company entered an alliance with Renault S.A., a French automaker. Carlos Ghosn has been the CEO of both Nissan and Renault since 1999. Renault and Nissan have completely separate corporate structures and brand identities, but collaborate on matters of engineering and automotive design. The two companies primarily focus on complementary markets, avoiding significant competition between the brands (Renault is focused on Europe, while Nissan is focused on Japan and the United States). Nissan, like Toyota and Honda, suffered from the damage caused by the Great East Japan Earthquake in March 2011. However, the company did not endure as much of a setback in its production as either of its rivals did. As a result, Nissan has managed to maintain its US market share close to 8.0%.

In December 2010, Nissan released the Nissan Leaf, a compact hatchback, fully electric car. The Leaf’s retail price starts at $32,780, but may be reduced through state and federal subsidies. The Leaf is the first mass-produced electric vehicle for sale in the United States. Nissan intends to become the leading manufacturer of electric cars, with significant model expansions during the next five years. In April 2010, Daimler AG, a major German automaker (manufacturer of the Mercedes-Benz and Smart brands), entered into the Nissan-Renault alliance; Daimler, Nissan and Renault each exchanged 3.9% of their shares with each other. The alliance will focus on technology sharing and the mutual development of battery and electric drivetrain technologies. Nissan is expected to generate about $7.3 billion in
Other Companies continued

**Chrysler**  
*Estimated market share: 5.1%*

Chrysler Group LLC is the smallest of America’s “Big Three” automakers (GM, Ford and Chrysler). The company sells vehicles under the Chrysler, Dodge, Jeep and RAM brand names. Chrysler and Dodge are the only brands that make cars. The truck-specific RAM brand name was spun off of Dodge in 2010. From 1998 through the first half of 2007, Chrysler was owned by German automaker Daimler AG (Then known as DaimlerChrysler). In 2007, Daimler sold an 80.1% stake in Chrysler to American private equity firm Cerberus Capital Management. In 2009, Chrysler went into Chapter 11 bankruptcy protection. While in bankruptcy, Chrysler shed much of its excess production capacity (idle plants) and pension debts. Chrysler’s ownership structure following its exit from Chapter 11 bankruptcy split ownership between four stakeholders: the United Auto Workers (67.7%), Fiat SpA (20.0%), the US federal government (9.9%) and the Canadian government (2.4%). Fiat, an Italian automaker, offered to partner with and take over management of Chrysler. Much of Chrysler’s senior management personnel were replaced with experienced executives from Fiat. Since the emergence from bankruptcy, Fiat has purchased the US federal government’s share in Chrysler, along with part of the United Auto Workers share, and now owns about 53.5% of the company.

Sergio Marchionne, the CEO of both Chrysler and Fiat, has his work cut out for him. Chrysler’s US market share fell from 11.0% to 5.1% from 2007 to 2012. Exasperating this issue, Chrysler has long preferred selling trucks and SUVs: trucks have accounted for more than 64.0% of Chrysler’s vehicle sales since before 1998, peaking at 74.0% in 2009. If Marchionne is successful, it will be his second time turning around an ailing automaker: he returned Fiat to profit in 2006, after 17 straight quarters of losses. To accomplish this task, Marchionne has brought on many engineering and design executives from Fiat to turn around product development and advertising at Chrysler. However, refreshing Chrysler’s product offerings is a monumental task that will take time; Chrysler expects to replace all of its existing model designs by 2013. The first new Chrysler model designed in partnership with Fiat, the 2011 Jeep Grand Cherokee, has received much critical acclaim and paints an optimistic future for this troubled automaker. Chrysler is expected to generate about $4.6 billion in revenue from its US car and automobile manufacturing operations in 2012.

**Volkswagen AG**  
*Estimated market share: 4.8%*

The Volkswagen Group (VW), based in Wolfsburg, Germany, is one of the largest automakers in the world. VW’s largest market is Europe, followed by China, where it is the largest joint venture automaker. The compact Volkswagen Golf (previously known as the Rabbit in the United States) is one of the best-selling vehicles in the world. In the US market, VW sells cars under the Volkswagen, Audi, Bentley, Lamborghini, Bugatti and Porsche brands. Porsche AG and VW formally merged in 2011, after more than 60 years of close cooperation and co-ownership. In the 1930s Ferdinand Porsche, the founder of Porsche AG, won a contract from the German government to develop a “car for the people” (Volkswagen in German), which resulted in the Volkswagen Beetle.

In the United States, VW markets vehicles under the Volkswagen brand as affordable “German engineering,” featuring higher quality interiors and
materials than is typical of mass-market vehicles in the United States. VW’s closely related Audi brand of cars offers true luxury features on vehicle platforms that are similar to those of Volkswagen. VW’s Bugatti and Bentley brands round off the group’s luxury offerings with very-high end luxury vehicles that sell for a minimum of $100,000. VW’s Lamborghini and Porsche brands are sports-oriented premium marques with a loyal following among driving enthusiasts. VW is notable for being one of a limited number of automakers offering diesel engines in passenger cars to the US market.

VW’s US market share is about 4.8% in 2012, up from 3.9% in 2007. VW is expected to continue making

(substantial market share gains in the United States. In public statements, VW’s CEO Martin Winterkorn has said he views the United States as a “growth market” and that he wants to triple US sales by 2018. VW’s 2010 expansion of its Puebla, Mexico, assembly plant will be instrumental in achieving this goal. The 2011 VW Jetta, the first vehicle assembled at the new facility, retails for nearly $4,000 less than the previous model year, principally due to cost savings from the new manufacturing arrangement (previously the vehicle was imported from European facilities). VW is expected to generate about $4.4 billion in revenue from its US car and automobile manufacturing operations in 2012.)
Operating Conditions

Capital Intensity | Technology & Systems | Revenue Volatility
Regulation & Policy | Industry Assistance

Capital Intensity

Level
The level of capital intensity is **High**

Assembly plants are highly automated production lines fitted with high-tech machinery and equipment. Firms in this industry must spend large sums on their plants and equipment, with periodic reinvestment in the case of equipment failure. For every dollar spent on labor, the average industry firm will invest nearly $0.39 in capital equipment. This ratio is slightly skewed toward labor because of the generosity of union compensation agreements. For example, the average wage of employees in this industry including pensions for currently employed workers is $65,481. Foreign-owned manufacturers operating domestically pay their production workers roughly half this amount.

General Motors and Chrysler began reducing labor expenses after bankruptcy, eliminating liability for pensions to retired employees and...

Tools of the Trade: Growth Strategies for Success

**New Age Economy**
Recreation, Personal Services, Health and Education. Firms benefit from personal wealth so stable macroeconomic conditions are imperative. Brand awareness and niche labor skills are key to product differentiation.

**Investment Economy**
Information, Communications, Mining, Finance and Real Estate. To increase revenue firms need superior debt management, a stable macroeconomic environment and a sound investment plan.

**Capital Intensive**

**Labor Intensive**

**Traditional Service Economy**
Wholesale and Retail. Reliant on labor rather than capital to sell goods. Functions cannot be outsourced therefore firms must use new technology or improve staff training to increase revenue growth.

**Old Economy**
Agriculture and Manufacturing. Traded goods can be produced using cheap labor abroad. To expand firms must merge or acquire others to exploit economies of scale, or specialize in niche, high-value products.

Change in Share of the Economy

**New Car Dealers**

**Paint Manufacturing**

**Car & Automobile Manufacturing**

**SUV & Light Truck Manufacturing**

**Truck & Bus Manufacturing**

**Automobile Wholesaling**

SOURCE: WWW.IBISWORLD.COM
Operating Conditions

Capital Intensity continued

reducing starting wages for new employees. Despite months of negotiations, Ford was left out of this arrangement. In December 2009, Ford issued an open offer of $70,000 for each of its union employees to quit while new employees would earn half the wage of current employees.

Technology & Systems

Level
The level of Technology Change is High

Over the past five years, the Car and Automobile Manufacturing industry has displayed a high level of technological change, mostly in the form of lighter, more fuel efficient sedans and coupes. On the actual manufacturing side, modern vehicle design processes make heavy use of computer-assisted design software, allowing an initial concept to be developed in days rather than months. The latest vehicle assembly plants are automated with most labor performed by specially designed robotic arms. In December 2009, General Motors passed an industry milestone by announcing it would begin operating three of its assembly plants on a 24-hour basis. Traditionally, these factories operate with two eight-hour production shifts and one eight-hour resupply shift. GM plans to adjust its production processes to allow single stages of the assembly line to be re-supplied independently during production. With its position as the one of the top two largest automakers worldwide, GM can be a standard-bearer on this new production style.

The largest technological change in this industry’s products has been more widespread availability of green technologies. Each year, many automakers are reintroducing vehicle makes and platforms to include hybrid, diesel or electric versions. For example, GM introduced the Chevrolet Volt for model year 2012, the company’s flagship electric vehicle. The introduction of the Volt gave way for other electric vehicles in the United States such as the Nissan Leaf and the Ford Focus Electric. Additionally, the ever expanding availability of hybrid and clean diesel vehicles has also seen new automakers dip into the green vehicle market with models like Volkswagen Passat Diesel and the Kia Optima Hybrid. Though the jury is still out on electric vehicles and their potential success in the market, the increased production of all green vehicles shows a general trend that the industry is heading in.

Generally, automakers are heavily involved in the research and development of vehicle technologies, including electric, hybrid-electric and fuel-cell vehicles. Cars and trucks are host to an ever-increasing array of electronic gadgets typically designed with a supply firm. Spending on research is an important component of an automaker’s long-term business strategy. Automakers constantly race to innovate new technologies that improve the ease, cost or safety of driving. These technologies could change the industry when they become commercially viable.
### Operating Conditions

#### Revenue Volatility

**Level**

The level of Volatility is **Very High**

Over the five years to 2013, the Car and Automobile Manufacturing industry has exhibited a very high level of revenue volatility, with average change of about 29.1% per year. The type of new models introduced in a given period can influence revenue volatility. The introduction of new models with innovative features and styles gives consumers the incentive to upgrade cars more regularly. This is also applicable when complements, such as gasoline, are priced affordably. However, during periods of high gasoline prices, consumers tend to shy away from larger cars and opt for smaller fuel-efficient cars. The price of fuel rose sharply in the past five years, which contributed to a rise in the volatility of this industry. The level of incentives offered by manufacturers to consumers, such as zero financing or the cash for clunkers government incentive, can also affect the demand for cars and, consequently, revenue volatility. Volatility over the past five years has also been exacerbated by the recession and its effect on production levels. Monthly production during the past couple of years has been almost unpredictable. The massive declines in revenue in 2009 were offset by a rapid increase in revenue in 2010 due to the low-base effect. This volatile behavior was brought about by the recession, which severely affected the automotive sector.

#### Regulation & Policy

**Level & Trend**

The level of Regulation is **Medium** and the trend is **Increasing**

A higher level of revenue volatility implies greater industry risk. Volatility can negatively affect long-term strategic decisions, such as the time frame for capital investment.

When a firm makes poor investment decisions it may face underutilized capacity if demand suddenly falls, or capacity constraints if it rises quickly.

Automakers are required to comply with government regulations regarding safety, fuel consumption and pollution control. Federal law requires that a manufacturer recall a vehicle if it finds a defect that “poses an unreasonable risk to safety.” The National Highway Traffic and Safety Administration (NHTSA) compiles complaints from consumers and can prod a manufacturer to recall a vehicle; this is a rare occurrence today, as automakers are keen to preemptively recall products.

Since 2004, the NHTSA has ranked vehicles for risk of rollovers, using a percent-risk rating system. Light trucks and SUVs with a high center of gravity are the most prone to rollover. Since 2006, automakers have advertised vehicle safety ratings with stickers on new vehicles. All vehicle window stickers display the star ratings awarded by the NHTSA for

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*Axis is in logarithmic scale*
Operating Conditions

Regulation & Policy

Frontal, side and rollover crash-safety test ratings.

Emissions issues
Some 25% of greenhouse gases generated in the US were attributable to car and truck exhausts, attracting the interest of environmental groups and government agencies. In August 2004, California released its plan to reduce greenhouse gas emissions from cars and trucks by about 30% by requiring costly technology to control air pollution in new cars. The California Air Resources Board indicated that the initial phase from 2009 through 2012, the plan calls for regulation requiring technology to reduce emissions by about 25% for cars and light trucks, and by about 18% for larger trucks and sport-utility vehicles. When it is fully implemented by 2017, the recommended regulation would reduce emissions by up to 34% for cars and light trucks and by 25% for larger vehicles. California accounts for about 14% of the US auto market.

In April 2007, the US Supreme Court ruled that the Environmental Protection Agency has the authority to regulate vehicle emissions that are contributing to global warming. The decision is seen to have far-reaching consequences for the automobile sector, which had supported the Bush administration’s argument that the EPA did not have the right to regulate tailpipe emissions under the Clean Air Act. Automakers were worried that the EPA would push for more drastic emissions standards with their expanded power. When emissions regulations change, automakers have to invest into new technology, which impacts on their costs. Technological innovations also come at the cost of profit as automakers find it challenging to manufacture vehicles fitted with new technology without taking losses.

Fuel economy
In early April 2003, the National Highway Traffic Safety Administration (NHTSA) approved the first increase in US fuel economy regulations (known as the CAFE standards, or the corporate average fuel economy standards) in nine years, requiring vehicle makers to increase the average fuel efficiency of light trucks by 1.5 miles per gallon by 2007. The regulation required light truck fleets to average 21.0 miles per gallon (mpg) in the 2005 model year, 21.6 mpg in 2006 and 22.5 mpg in 2007. Passenger car targets were set at 27.5 mpg by 2007.

In December 2007, a new energy bill was passed. After the bill was passed, the NHTSA announced new CAFE standards. They will require cars, trucks and SUVs to average 35 mpg by 2020, up from 27.5 mpg for cars and 22.5 for light trucks in 2007. Fuel efficiency regulations are carried out through research and development, which is costly to automakers.

In May 2009, the Obama administration proposed changes to the 2007 standards. The President announced that by 2016 (earlier than the previously regulated 2020 deadline), an automakers’ fleet of vehicles will have to average 35.5 mpg. Cars will average 39 mpg, while light trucks will average 30 mpg. It should be noted that this allows for automakers to have individual vehicles that get above or below the set mpg, as long as their entire fleet have an average of 35.5 mpg. This new standard will reduce the disparity between stringent environmental regulations in states such as California and the fuel economy requirements of the Federal Government. IBISWorld believes that these new standards will lead to increases in the price of a new vehicle, by as much as $1,000.
Operating Conditions

Automobile manufacturers are frequent beneficiaries of government assistance. Automakers have a powerful lobbying presence, which often results in policies that favor the industry. In recent years, these policies have centered on research subsidies and the highly publicized bailout of General Motors (GM) and Chrysler. In addition to these high-profile cases, government agencies at all levels are required to purchase vehicles produced by a domestic automaker.

The federal government subsidizes research on alternatively fueled vehicles on an ad hoc basis. In 2004, the Department of Energy (DoE) provided $350 million in assistance to stimulate science and research projects into hydrogen fuel cells, which produce no pollutants or greenhouse gases but are expensive to produce. GM, Chrysler and Ford each participated. In 2009, the DoE gave out $2.4 billion in grants for the development of batteries, parts and programs for electric vehicles. The money has not been completely dispersed, but GM and Chrysler received $100 million and $70 million, respectively.

**Key tariffs**

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**Source:** USITC

Auto bailout

In September 2008, the federal government approved a $25 billion loan to US automakers for investment in alternatively fueled vehicle production including biofuels, electric drives and fuel cells. The majority of this investment will be spent on manufacturing equipment and test vehicles for electric drivetrains on small vehicles. Fully electric light trucks will require additional research and development.

US automakers began lobbying for $25 billion bailout package in November 2008. The initial request was turned down. In December 2008, GM and Chrysler returned with a more detailed proposal to request $34 billion, claiming impending bankruptcy if demands were not met. Congress approved their request while giving oversight of the package to the executive branch’s automotive task force. Despite the infusion of government funds, GM and Chrysler each entered chapter 11 bankruptcy in the first half of 2009, on June 1 and April 30, respectively. However, GM and Chrysler have since repaid their loans from the federal government, which has also divested from Chrysler and has plans to divest from GM soon. Additional details are discussed in the Major Companies section of this report.
### Key Statistics

#### Industry Data

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#### Annual Change

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Figures are inflation-adjusted 2013 dollars. Rank refers to 2013 data. SOURCE: www.ibisworld.com
Jargon & Glossary

Industry Jargon

DOMESTIC INTERNATIONALS  The Japan-based automakers operating in the United States: Toyota, Nissan and Honda.

HYBRID  A car that runs on an electric battery combined with a gasoline engine to be more fuel efficient than a standard car.

SPORT-UTILITY VEHICLE (SUV)  A rugged automotive vehicle similar to a station wagon but built on a light-truck chassis.

THE BIG THREE  The three biggest domestic automakers: General Motors, Ford and Chrysler.

IBISWorld Glossary

BARRIERS TO ENTRY  High barriers to entry mean that new companies struggle to enter an industry, while low barriers mean it is easy for new companies to enter an industry.

CAPITAL INTENSITY  Compares the amount of money spent on capital (plant, machinery and equipment) with that spent on labor. IBISWorld uses the ratio of depreciation to wages as a proxy for capital intensity. High capital intensity is more than $0.333 of capital to $1 of labor; medium is $0.125 to $0.333 of capital to $1 of labor; low is less than $0.125 of capital for every $1 of labor.

CONSTANT PRICES  The dollar figures in the Key Statistics table, including forecasts, are adjusted for inflation using the current year (i.e. year published) as the base year. This removes the impact of changes in the purchasing power of the dollar, leaving only the “real” growth or decline in industry metrics. The inflation adjustments in IBISWorld’s reports are made using the US Bureau of Economic Analysis’ implicit GDP price deflator.

DOMESTIC DEMAND  Spending on industry goods and services within the United States, regardless of their country of origin. It is derived by adding imports to industry revenue, and then subtracting exports.

EMPLOYMENT  The number of permanent, part-time, temporary and seasonal employees, working proprietors, partners, managers and executives within the industry.

ENTERPRISE  A division that is separately managed and keeps management accounts. Each enterprise consists of one or more establishments that are under common ownership or control.

ESTABLISHMENT  The smallest type of accounting unit within an enterprise, an establishment is a single physical location where business is conducted or where services or industrial operations are performed. Multiple establishments under common control make up an enterprise.

EXPORTS  Total value of industry goods and services sold by US companies to customers abroad.

IMPORTS  Total value of industry goods and services brought in from foreign countries to be sold in the United States.

INDUSTRY CONCENTRATION  An indicator of the dominance of the top four players in an industry. Concentration is considered high if the top players account for more than 70% of industry revenue. Medium is 40% to 70% of industry revenue. Low is less than 40%.

INDUSTRY REVENUE  The total sales of industry goods and services (exclusive of excise and sales tax); subsidies on production; all other operating income from outside the firm (such as commission income, repair and service income, and rent, leasing and hiring income); and capital work done by rental or lease. Receipts from interest royalties, dividends and the sale of fixed tangible assets are excluded.

INDUSTRY VALUE ADDED (IVA)  The market value of goods and services produced by the industry minus the cost of goods and services used in production. IVA is also described as the industry’s contribution to GDP, or profit plus wages and depreciation.

INTERNATIONAL TRADE  The level of international trade is determined by ratios of exports to revenue and imports to domestic demand. For exports/revenue: low is less than 5%, medium is 5% to 20%, and high is more than 20%. Imports/domestic demand: low is less than 5%, medium is 5% to 35%, and high is more than 35%.

LIFE CYCLE  All industries go through periods of growth, maturity and decline. IBISWorld determines an industry’s life cycle by considering its growth rate (measured by IVA) compared with GDP; the growth rate of the number of establishments; the amount of change the industry’s products are undergoing; the rate of technological change; and the level of customer acceptance of industry products and services.

NONEMPLOYING ESTABLISHMENT  Businesses with no paid employment or payroll, also known as nonemployers. These are mostly set up by self-employed individuals.

PROFIT  IBISWorld uses earnings before interest and tax (EBIT) as an indicator of a company’s profitability. It is calculated as revenue minus expenses, excluding interest and tax.
Jargon & Glossary

**IBISWorld Glossary continued**

**VOLATILITY** The level of volatility is determined by averaging the absolute change in revenue in each of the past five years. Volatility levels: very high is more than ±20%; high volatility is ±10% to ±20%; moderate volatility is ±3% to ±10%; and low volatility is less than ±3%.

**WAGES** The gross total wages and salaries of all employees in the industry. The cost of benefits is also included in this figure.
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It is combining data with analysis to answer the questions that successful businesses ask

Identify high growth, emerging & shrinking markets
Arm yourself with the latest industry intelligence
Assess competitive threats from existing & new entrants
Benchmark your performance against the competition
Make speedy market-ready, profit-maximizing decisions

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