Economic Impact of Hyundai in the United States

Center for Automotive Research
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All statements, findings, and conclusions in this report are those of the authors and do not necessarily reflect those of Hyundai Motor America.

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EXECUTIVE SUMMARY

This study estimates the economic impact in 2011 of Hyundai's U.S. operations on the U.S. economy. In addition to the direct workers employed by Hyundai in all of its U.S. operations, many more people are needed to supply the goods and services that are directly or indirectly related to the operations of a motor vehicle company, or have jobs that are supported when the direct and indirect workers spend their paychecks in their communities. The report finds the following jobs are supported by Hyundai's manufacturing operations and Hyundai's dealership operations:[1]

- A total of 94,400 private sector jobs, and $5.9 billion in annual wages and salaries, are generated as a result of Hyundai's total U.S. operations.
    - Of the total jobs, 33,300 private sector jobs are created as a result of Hyundai's direct employment in its manufacturer-related activities in the United States. Associated wages and salaries are estimated at $2.4 billion.
    - The remaining 61,100 private sector jobs are generated by Hyundai's dealerships in the United States. The associated wages and salaries are estimated at approximately $3.5 billion.
- Hyundai manufacturing and Hyundai dealership operations contribute more than $7 billion to the U.S. economy (as defined by Gross Domestic Product or GDP).

In this analysis, Hyundai's manufacturing-related U.S. operations are defined as manufacturing, marketing, distribution, research, development, design, headquarters, and all other operational activities within the company, as well as employment at Hyundai affiliates. The direct employment at Hyundai and affiliate facilities totals 5,199 employees,[2] and it is estimated that this direct employment supports 9,100 indirect jobs and 19,000 spin-off jobs. The total is 33,300 jobs in the U.S. economy that are supported by Hyundai's operations, associated with total annual compensation of nearly $2.4 billion.

There are 28,000 direct jobs for people who sell and service new Hyundai vehicles. From the direct sales and service employment, it is estimated that an additional 10,600 indirect jobs and 22,500 spin-off jobs are supported; these combined sum to 61,100 jobs in the U.S. economy that are supported by Hyundai's sales and service operations, and a total annual associated compensation of nearly $3.5 billion.

[1] All modeled numbers used in the text are rounded.

[2] The employment numbers used are from the end of the year 2010.

This study confirms that Hyundai's U.S. operations are creating and retaining jobs thereby having a large impact on the U.S. economy. U.S. auto industry jobs that are related to Hyundai tend to be very well-compensated, leading to higher than average household spending and tax payment impacts.

CAR's mission is to conduct research on significant issues related to the future direction of the global automotive industry, as well as organize and conduct forums of value to the automotive community. The Sustainability and Economic Development Strategies Group at the Center for Automotive Research (CAR) has carried out the majority of national level automotive economic contribution studies completed in the United States since 1992. This body of work includes studies performed for the U.S. Department of Commerce, the Alliance of Automobile Manufacturers (AAM), the Association of International Automobile Manufacturers (AIAM), the Motor & Equipment Manufacturers Association (MEMA), Honda Motor Company, Toyota Motor North America, and economic impact studies for various automakers.[3]

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[3] See for example:

Contribution Of Honda To The Economies Of Seven States And The United States, Prepared for American Honda Motor Company, January, 2009 The Center for Automotive Research.

Contribution of the Motor Vehicle Supplier Sector to the Economies of the United States and its 50 States. Prepared for the Motor & Equipment Manufacturers Association, Ann Arbor, January, 2007. The Center for Automotive Research.

Contribution of Toyota to the Economies of Fourteen States and the United States in 2003. Prepared for Hyundai Motor North America, Inc., Ann Arbor, June, 2005.Institute of Labor and Industrial Relations, University of Michigan and the Center for Automotive Research.

Contribution of the U.S. Motor Vehicle Industry to the Economies of the United States, California, New York, and New Jersey in 2003. Prepared for the Alliance of Automobile Manufacturers, Inc., Ann Arbor, May, 2004. Institute of Labor and Industrial Relations and the Office for the Study of Automotive Transportation, University of Michigan and the Center for Automotive Research.

Contribution of the Automotive Industry to the U.S. Economy in 1998: The Nation and Its Fifty States. A Study Prepared for the Alliance of Automobile Manufacturers, Inc. and the Association of International Automobile Manufacturers, Inc. Ann Arbor, Winter 2001. The Office for the Study of Automotive Transportation, Transportation Research Institute, and the Institute of Labor and Industrial Relations, University of Michigan.

The Contribution of the International Auto Sector to the U.S. Economy. A study prepared for the Association of International Automobile Manufacturers, Inc., Ann Arbor, March, 1998. McAlinden, Sean P., et. al.

Economic Contribution of the Automotive Industry to the U.S. Economy – An Update – A Study Prepared for the Alliance of Automobile Manufacturers, Center for Automotive Research. Ann Arbor, Fall 2003. Office for the Study of automotive Transportation,

Competitive survival: Private Initiatives, Public Policy and the North American Automotive Industry – Prepared for the U.S.-Canada automotive Select Panel. University of Michigan Transportation Research Institute, Ann Arbor, June, 1992. The research staff of the Center for Automotive Research performed a number of these studies when located at the University of Michigan's Office for the Study of Automotive Transportation.

INTRODUCTION

The motor vehicle industry is the largest manufacturing industry in the United States. No other single industry is linked as closely to the broader U.S. manufacturing sector or generates as much direct retail business and employment as the motor vehicle industry. This study describes the economic contribution of Hyundai Motor America and its U.S. Hyundai-affiliate companies. This study does not examine the economic impact of Kia, although some performance measures and discussions in Section Three of the study do include Kia.

Purpose of this Economic Impact Study

The goal of an economic impact study is to determine the additional economic opportunities that have been created by the U.S. operations of Hyundai Motor America and all U.S. Hyundai affiliate companies (hereafter referred to as Hyundai). Motor vehicle manufacturers require an extensive network of parts suppliers, service companies and dealerships. By choosing to sell and produce in the U.S. market, Hyundai has created jobs not only at its own facilities, but also supports jobs across the automotive industry—extending into nearly every community in the nation.

The importance of this study is directly related to the importance of foreign direct investment and operations in the sustainability of the overall U.S. automotive industry. The U.S. domestic auto industry restructured and contracted; meanwhile, international manufacturers have continued to expand their U.S. operations. Hyundai growth and expansion of its product development and manufacturing capabilities in the United States has outpaced the industry and other major manufacturers in recent years.

The Center for Automotive Research (CAR) has undertaken this study, describing the economic contribution of Hyundai's total manufacturing and non-manufacturing operations in the United States. The first section of the study contains estimates of the economic contribution of Hyundai's U.S. operations and dealership partners (employment and income) to the economy of the United States for 2011. The second section of the study describes the methodology used to generate the results, including precautions that were taken in the modeling process to avoid double counting. The third section presents an overview of Hyundai's operations in the United States and discusses Hyundai's achievements in sales, production, environmental leadership, and quality performance.

Hyundai's economic contribution was analyzed using an economic model provided by Regional Economic Modeling, Inc. (REMI). The employment and compensation data used to perform the research were provided by Hyundai. The remaining data on the U.S. economy and the automotive industry were collected by CAR from a wide variety of publicly available sources, which are listed in the References section.

SECTION ONE: ECONOMIC IMPACT ANALYSIS

The Center for Automotive Research has carried out the majority of national automotive economic contribution studies completed in the United States since 1992. The economic impact analysis is divided into several parts discussing the breadth of Hyundai operations in the United States and its role within the U.S. automotive industry.

This study forecasts the economic contribution of Hyundai's operations to the economy of the United States in 2011. The industry segments that were examined include national and regional analyses of the economic contribution attributed to manufacturing, marketing, distribution, research, development, design, headquarters and all other operational activities within the company. Hyundai manufactures automotive products that are sold through dealers throughout the country, and the economic contribution through these retail outlets is also examined.

The analysis was conducted using primary data supplied by Hyundai. Hyundai's expenditures on domestically-produced materials, parts, and components to supply its automotive manufacturing facilities exceeded $8 billion in 2010. This spending on domestically-manufactured products has significant impact on the U.S. economy. Finally, overall compensation and average compensation per employee associated with Hyundai operations are much higher than in other sectors and other industries in the economy.

The beginning of this section details the economic contribution of Hyundai's U.S. automotive manufacturing operations. Later in the section, the economic contribution of Hyundai's U.S. automotive dealer operations is detailed. The final part of this section combines all of Hyundai's operations and economic contributions to estimate Hyundai's total footprint in the United States. Estimates of manufacturing, research and development (R&D), parts supply, supporting affiliate operations, and retail contributions are provided.

Vehicle Manufacturer Activities

The tables in this section detail the forecasted and estimated 2011 employment and income contributions by Hyundai's U.S. automotive manufacturing and related operations to the private sector economy for the country as a whole. Employment estimates are broken out by direct employment (people forecasted to be employed directly by Hyundai); intermediate employment (people employed by suppliers to Hyundai and the suppliers who supply them); and spin-off employment (expenditure-induced employment resulting from spending by direct and intermediate employees who earn an income as a result of Hyundai-related activities).

Employment and income estimates are derived from analyses using a regional economic model, supplied by REMI, of Amherst, MA. (The model and methodology used will be further discussed

in a Section Two.) Direct employment data (including white- and blue-collar job classifications in all areas of company operations) was provided by Hyundai; intermediate and spin-off employment effects were generated by the model.

Hyundai employs 4,116 Hyundai employees[4] and 1,083 Hyundai affiliate partner employees in its U.S. automotive manufacturing and related operations. This direct employment totals 5,199 jobs. These jobs do not include employment at Kia facilities such as the Kia Headquarters or the Kia manufacturing plant in Georgia.

The sources of Hyundai 5,199 direct jobs are

- Hyundai Motor America 619
- Hyundai Motor Manufacturing Alabama 2,455
- Hyundai America Technical Center, Inc. 364
- Hyundai Capital America 670
- Hyundai Motor Company 8
- Hyundai Mobis 298
- GLOVIS (Logistics) 476
- HISNA (IT) 210
- Innocean 99

Employment and payroll data for Hyundai and its affiliates was coded according to the North American Industry Classification System (NAICS) for input into the model—including motor vehicle manufacturing (category numbers: NAICS 3361-3363); management of companies (NAICS 551); professional, scientific and technical services (NAICS 541); securities, commodity contracts and investments (NAICS 523); warehousing and storage (NAICS 493); administrative and support services (NAICS 561); and wholesale trade (NAICS 42).

As can be seen in Table 1-1, there are 9,000 intermediate jobs[5] resulting from Hyundai's direct employment. The spin-off jobs associated with spending (by the people who work in the direct and intermediate jobs) add another 19,000 jobs, bringing the total jobs associated with Hyundai's automotive activities in the United States (direct plus intermediate plus spin-off) to nearly 33,300 jobs. The ratio of total jobs created to direct employment yields an employment multiplier of 6.4 (33,300 ÷ 5,199). This means there are 5.4 additional jobs in the U.S. economy for every one job in Hyundai's automotive manufacturing operations.

[4] Note, the number 4,116 refers specifically to automotive manufacturing-related employees and does not include dealership employment. The employment numbers used are from the end of the year 2010.
[5] All modeled numbers used in the text are rounded.

Table 1-1: Total Contribution of Hyundai's Manufacturing and Affiliate Operations to the Private Sector Economy in the United States, 2011

Economic Impact	Manufacturing and Affiliates
Employment	
Direct	5,199
Intermediate	9,074
Total (Direct plus Intermediate)	14,273
Spin-Off	19,040
Total (Direct plus Intermediate plus Spin-off)	33,313
Multiplier: (Direct+Intermediate+Spin-off)/Direct	6.4
Contribution to GDP ($ Millions)	3,026
Compensation ($ Millions Nominal)	2,385
Less: Transfer Pymts & Social Insurance Contributions	-447
Less: Personal Income Taxes	-251
Equals Private Disposable Personal Income ($ Millions Nominal)	1,687
Personal Income as % of Total Private Economy	0.015

Private sector compensation associated with the total jobs (direct plus intermediate plus spin-off) amounts to $2.4 billion. The estimated personal taxes paid resulting from Hyundai's automotive manufacturing operations in 2011 approach $700 million.

Suppliers

Table 1-2 provides a more detailed look at the intermediate, supplier, and spin-off employment associated with Hyundai's manufacturing-related operations. In the intermediate and spin-off employment categories there are 28,100 jobs which are spread across numerous manufacturing and non-manufacturing industries. As discussed earlier, the intermediate category captures the employment necessary to satisfy Hyundai's demand for the materials and services it needs to design, produce, and sell motor vehicles. This can be broadly considered Hyundai's U.S. supplier network. This supply network consists of the suppliers who supply materials, parts, and services directly to Hyundai, along with the suppliers who supply the

inputs and services to Hyundai's suppliers. Some of these companies supply basic commodities and can be several steps removed from the vehicle design and manufacturing process—however, they are categorized as Hyundai suppliers. In 2010, Hyundai purchased $8 billion in materials, parts, and component systems from U.S. suppliers for its automotive manufacturing operations.

Table 1-2: Intermediate and Spin-off Employment Contribution of Hyundai's Manufacturing and Affiliate Operations in the U.S., 2011

Types of Jobs (Sub-category job titles are indented and listed below the main job category)	INTERMEDIATE		SPINOFF	
		Sub-category		Sub-category
Forestry, Fishing, Related Activities, and Other	22		23	
Mining	40		168	
Utilities	53		28	
Construction	245		2,351	
Manufacturing	1,028		1,860	
Nonmetallic mineral product manufacturing		119		148
Fabricated metal product manufacturing		382		572
Machinery manufacturing		38		166
Computer and electronic product manufacturing		14		49
Electrical equipment and appliance manufacturing		13		30
Motor vehicles parts manufacturing		178		309
Furniture and related product manufacturing		6		85
Miscellaneous manufacturing		23		40
Food & Beverage manufacturing		17		82
Textile mills, textile products, apparel		6		25
Paper mfg., Printing and related support activities		109		74
Chemical, petroleum product manufacturing		37		107
Plastics and rubber product manufacturing		86		173
Wholesale Trade	677		514	
Retail Trade	169		1,864	
Transportation and Warehousing	299		663	
Information	257		297	
Finance and Insurance	607		1,002	
Real Estate and Rental and Leasing	460		472	
Professional and Technical Services	1,879		265	
Advertising, marketing, promotions, media, communications		265		37
Engineering and engineering technician services		364		51
Legal services		368		52
Computer and IT services		497		70
All other professional and technical services		385		54
Management of Companies and Enterprises	181		723	
Administrative and Waste Services	1,799		373	
Educational Services	54		262	
Health Care and Social Assistance	60		1,915	
Arts, Entertainment, and Recreation	277		306	
Accommodation and Food Services	480		652	
Other Services, including Public Administration	487		5,302	
Protection services (police, fire, etc.)		117		1,120
Repair and maintenance services - building and vehicle		203		195
Government services (except protection services)		100		2,575
All other services		67		1,412
TOTAL	9,074		19,040	

Note: Due to rounding, columns or rows may not sum exactly.

As shown in table 1-2, as a result of Hyundai's U.S. operations, there are an estimated 2,900 intermediate and spin-off jobs supported in the manufacturing sector, mostly in the industries that are obviously required to produce automobiles—e.g., 1,000 jobs in fabricated metal products manufacturing, 300 in nonmetallic mineral product manufacturing and 300 in plastics and rubber products manufacturing. Additionally, there are 300 jobs in machinery, computer, electronics and electrical equipment manufacturing. This total does not include any of the 5,199 people directly employed by Hyundai's auto manufacturing operations or its affiliates.

The bulk of the Hyundai-supported employment in the intermediate and spin-off categories is in the non-manufacturing sector—totaling 25,200 jobs. Industries within this category are not normally thought to be associated with automobile manufacturing. However, as a result of suppliers having greater responsibility for more of the value chain, many more distinct industries have become automotive suppliers, including construction—employing 2,600; professional and technical services—employing 2,100; administrative and waste services—employing 2,200; wholesale trade—employing 1,200; and finance and insurance—employing 1,600.

Automobile Dealers

Automobile dealers associated with selling, financing, and servicing new Hyundai vehicles also contribute to the United States economy. The tables in this section detail the estimated employment and income contributions of Hyundai's U.S. new vehicle dealer operations to the private sector economy of the country as a whole. The estimates of employment are broken out by direct employment (people employed directly by Hyundai), intermediate employment (people employed by suppliers to Hyundai dealerships and the suppliers who supply them), and spin-off employment (expenditure-induced employment resulting from spending by direct and intermediate employees who earn an income as a result of Hyundai dealer-related activities). Included in the intermediate employment category are suppliers for dealer service and retail operations.

Complete U.S. dealer-related operations employment and payroll data supplied by Hyundai identified 39,911 employees. Total Hyundai dealer employment was reduced by 30 percent in order to net out activities related to used vehicle sales and servicing (non-warranty). The net number of new vehicle dealer employees is 27,938. The data was coded according to NAICS for retail trade (NAICS 44-45) for input into the model. Table 1-4 shows that another 10,600 jobs associated with suppliers to the dealerships, across many industries. Finally, 22,500 spin-off jobs are a result of the spending of the employees who work at the direct and intermediate jobs. Altogether, this total equals 61,100 jobs—which yields a multiplier of 2.2. The multiplier effect for new vehicle dealers is much lower than the multiplier associated with Hyundai's manufacturing activities because the dealer supplier network is not as broad as that which

supports manufacturing, nor is the compensation for the dealer jobs as high on average as it is for the manufacturing-related jobs. Compensation for the 61,100 total jobs associated with new vehicle dealer activities totals nearly $3.5 billion. Personal taxes paid are forecasted to be more than $1 billion in 2011.

Table 1-3: Total Contribution of Hyundai's Dealership Operations to the Private Sector Economy in the United States, 2011

Economic Impact	New Vehicle Dealer Related
Employment	
Direct	27,938
Intermediate	10,641
Total (Direct plus Intermediate)	38,579
Spin-Off	22,499
Total (Direct plus Intermediate plus Spin-off)	61,078
Multiplier: (Direct+Intermediate+Spin-off)/Direct	2.2
Contribution to GDP ($ Millions)	4,126
Compensation ($ Millions Nominal)	3,487
Less: Transfer Pymts & Social Insurance Contributions	-691
Less: Personal Income Taxes	-380
Equals Private Disposable Personal Income ($ Millions Nominal)	2,416

Table 1-4 shows that intermediate or supplier and spin-off employment resulting from the new vehicle dealer activities is distributed across a number of major industry divisions. New vehicle dealer retail and service activities generate about 10,600 intermediate and 22,500 spin-off manufacturing jobs, totaling 33,100 jobs. Of these, 1,600 are in the manufacturing sector, which represents 4.7 percent of the total jobs related to new dealer activities. As seen in Table 1-4, there are 2,600 intermediate and spin-off jobs in the retail trade sector. When these jobs are combined with the 27,900 direct jobs (dealership jobs, therefore also retail jobs—Table 1-3), a total of 30,500 jobs (approximately 50 percent of all 61,100 jobs) related to new vehicle dealer activities are in the retail trade sector.

Table 1-4: Intermediate and Spin-off Employment Contribution of New Vehicle Dealers in U.S., 2011

Types of Jobs (Sub-category job titles are indented and listed below the main job category)	INTERMEDIATE		SPINOFF	
		Sub-category		Sub-category
Forestry, Fishing, Related Activities, and Other	23		26	
Mining	50		199	
Utilities	63		39	
Construction	300		3158	
Manufacturing	633		923	
Nonmetallic mineral product manufacturing		105		97
Fabricated metal product manufacturing		142		127
Machinery manufacturing		28		70
Computer and electronic product manufacturing		5		13
Electrical equipment and appliance manufacturing		13		15
Motor vehicles parts manufacturing		23		105
Furniture and related product manufacturing		10		104
Miscellaneous manufacturing		22		19
Food & Beverage manufacturing		42		130
Textile mills, textile products, apparel		3		4
Paper mfg., Printing and related support activities		145		74
Chemical, petroleum product manufacturing		34		93
Plastics and rubber product manufacturing		61		72
Wholesale Trade	475		506	
Retail Trade	211		2,359	
Transportation and Warehousing	486		752	
Information	328		383	
Finance and Insurance	838		1,240	
Real Estate and Rental and Leasing	729		635	
Professional and Technical Services	2,030		911	
Advertising, marketing, promotions, media, communications		207		93
Engineering and engineering technician services		280		125
Legal services		286		128
Computer and IT services		814		366
All other professional and technical services		443		199
Management of Companies and Enterprises	188		158	
Administrative and Waste Services	2,482		474	
Educational Services	122		378	
Health Care and Social Assistance	81		2505	
Arts, Entertainment, and Recreation	354		396	
Accommodation and Food Services	629		828	
Other Services, including Public Administration	619		6,628	
Protection services (police, fire, etc.)		219		1,700
Repair and maintenance services - building and vehicle		230		245
Government services (except protection services)		88		2,794
All other services		82		1,889
TOTAL	10,641		22,499	

Note: Due to rounding, columns or rows may not sum exactly.

Total U.S. Contribution of Hyundai Automotive Manufacturing, Corporate, R&D and Dealer-Related Activities

Table 1-5 sums the combined effects of Hyundai's automotive manufacturing operations (shown in Table 1-1), and new vehicle dealer sales and service activities (shown in Table 1-3), to produce the total economic impact of all of Hyundai's U.S. manufacturing- and dealer-related operations. Summing direct employment of 33,137 (5,199 automotive manufacturing-related plus 27,938 new vehicle dealer operations), intermediate employment of 19,700, and spin-off employment of 41,500 produces a private sector employment total of 94,400 employees. Comparing total employment to direct employment produces an overall employment multiplier of 2.8 (94,400 ÷ 33,137), meaning there are 1.8 additional jobs in the U.S. economy for every one job at Hyundai or its dealers. The simulations of Hyundai's total contribution of automotive manufacturing employment and new vehicle dealership employment were constructed to account for and adjust for overlaps in the spin-off and indirect employment categories between the two direct employment populations.

Table 1-5: Total Auto Manufacturing and Dealer Employment in the U.S., 2011

Economic Impact	Manufacturing and Affiliates	New Vehicle Dealer Related	Total
Employment			
Direct	5,199	27,938	33,137
Intermediate	9,074	10,641	19,715
Total (Direct plus Intermediate)	14,273	38,579	52,852
Spin-Off	19,040	22,499	41,539
Total (Direct plus Intermediate plus Spin-off)	33,313	61,078	94,391
Multiplier: (Direct+Intermediate+Spin-off)/Direct	6.4	2.2	2.8
Contribution to GDP ($ Millions)	3,026	4,126	7,152
Compensation ($ Millions Nominal)	2,385	3,487	5,872
Less: Transfer Pymts & Social Insurance Contributions	-447	-691	-1,138
Less: Personal Income Taxes	-251	-380	-631
Equals Private Disposable Personal Income ($ Millions Nominal)	1,687	2,416	4,103
Personal Income as % of Total Private Economy	0.015	0.022	0.037

Note: Due to rounding, columns or rows may not sum exactly.

Total compensation for all 94,400 private sector workers associated with Hyundai's U.S. automotive operations is $5.9 billion. The value added to the U.S. Gross Domestic Product (GDP) from all of these people working is more than $7 billion. Of this GDP contribution, $3 billion is derived from the 33,300 jobs supported by Hyundai's manufacturing operations, and $4 billion is derived from dealership operations.

SECTION TWO: METHODOLOGY

The basic approach in CAR's industry economic impact analyses is to use a specially constructed regional economic impact model, input company-specific data, to generate estimates of the economic contribution associated with Hyundai's U.S. operations.

The Macroeconomic Model

For the estimation of employment and compensation associated with Hyundai's U.S. operations, CAR researchers used an economic model supplied and constructed specifically for this study by REMI of Amherst, Massachusetts. Adjustments were then made to the model to reflect the general characteristics of the automobile industry, the other industries examined and Hyundai's specific employment and compensation data. The REMI model, which has been fully documented and peer-reviewed, was designed for the type of analyses employed in this current study and has been used by CAR and other organizations for over two decades.

The version of the model used in this study represents the economy of the United States. This model permitted simulation of the interaction among all the regional economies and the rest of the nation, providing for an accounting of interregional trade and migration. The model can simulate economic impacts that occur in any one region resulting from changing Hyundai's level of activities in any or all of the regions.

The data provided by Hyundai for input into the model included employment and compensation for each region. The data was coded according to the North American Industry Classification System, and adjustments were made to estimate the used vehicle dealer employees and subtract them from the total to derive new vehicle dealer employment.

Consideration was paid to the potential of double-counting activities between affiliate partner suppliers, dealership operations and Hyundai assembly and corporate operations. Within the framework of the REMI model, there is an inter-industry, input-output (I-O) table that calculates demand for intermediate inputs used in the production of finished goods. By first running the simulation for Hyundai direct operations, then discounting the calculated demand for parts suppliers and affiliates associated with Hyundai manufacturing and corporate operations, the CAR research team was able to adjust for systemic double counts and calculate only the net employment effects when combining affiliate partners and Hyundai direct employment simulations. Since initial efforts were made to avoid double counting between segments of the industry (automaker, parts supply and dealerships), the results for each of these segments can be added together to arrive at the total economic contribution of Hyundai U.S. operations. These results represent the size of the company and its impact on the U.S.

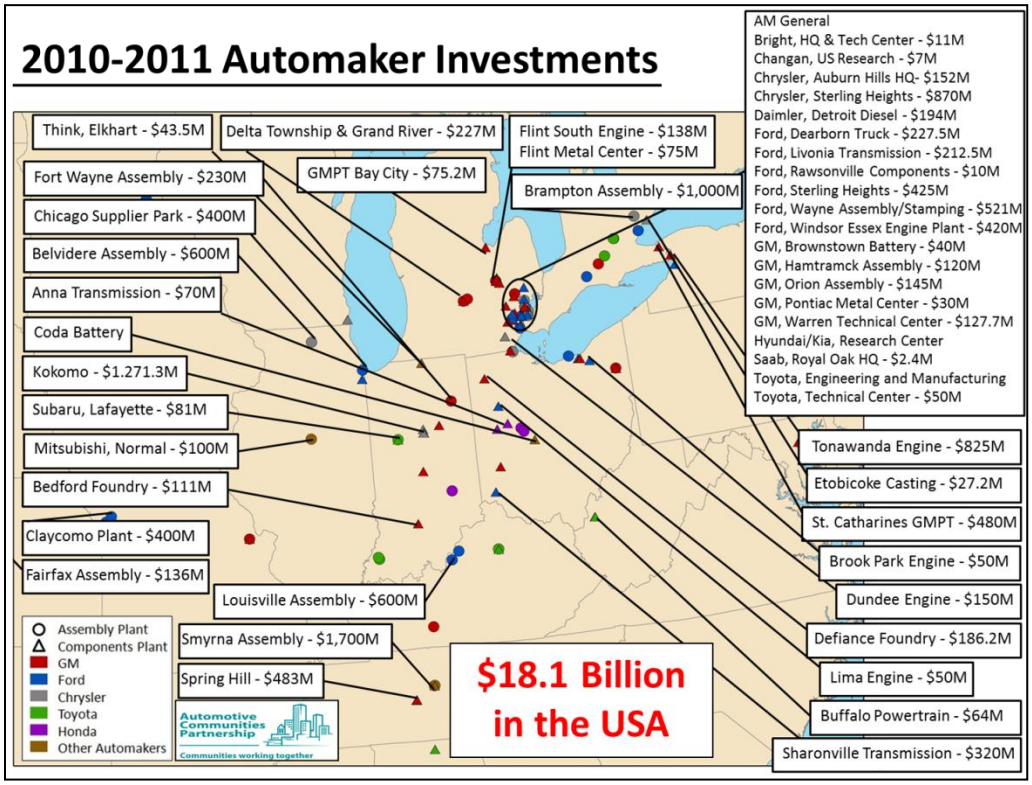
The general analytical methodology is to run baseline simulations for each region's economy, then subtract Hyundai's activities in each of the regions and run another set of simulations. The difference between the simulations represents Hyundai's impact on each region.

SECTION THREE: INDUSTRY OVERVIEW

The North American Automobile Industry

For more than a century, the automotive industry has been a major contributor in shaping the identity of the U.S. economy and has generated millions of jobs. The industry is not static and continues to undergo dramatic changes. Over the past two decades, the U.S. industry has been transformed by billions in new direct investments domestically as well as from Asia and Europe.[6] Much of the foreign direct investment has gone to areas in the country that were not traditional locations for automotive employment—in effect, stretching the footprint of the U.S. auto industry. Over the past two years, companies have been reinvesting in their U.S. production facilities. Total automaker investments in the U.S have totaled $18.1 billion from 2010 through July 2011. A map documenting the majority of these investments is shown in Figure 3-1.

Figure 3-1: Map of Automaker Investments, 2010-2011 Year-to-Date



Source: CAR Research, Book of Deals

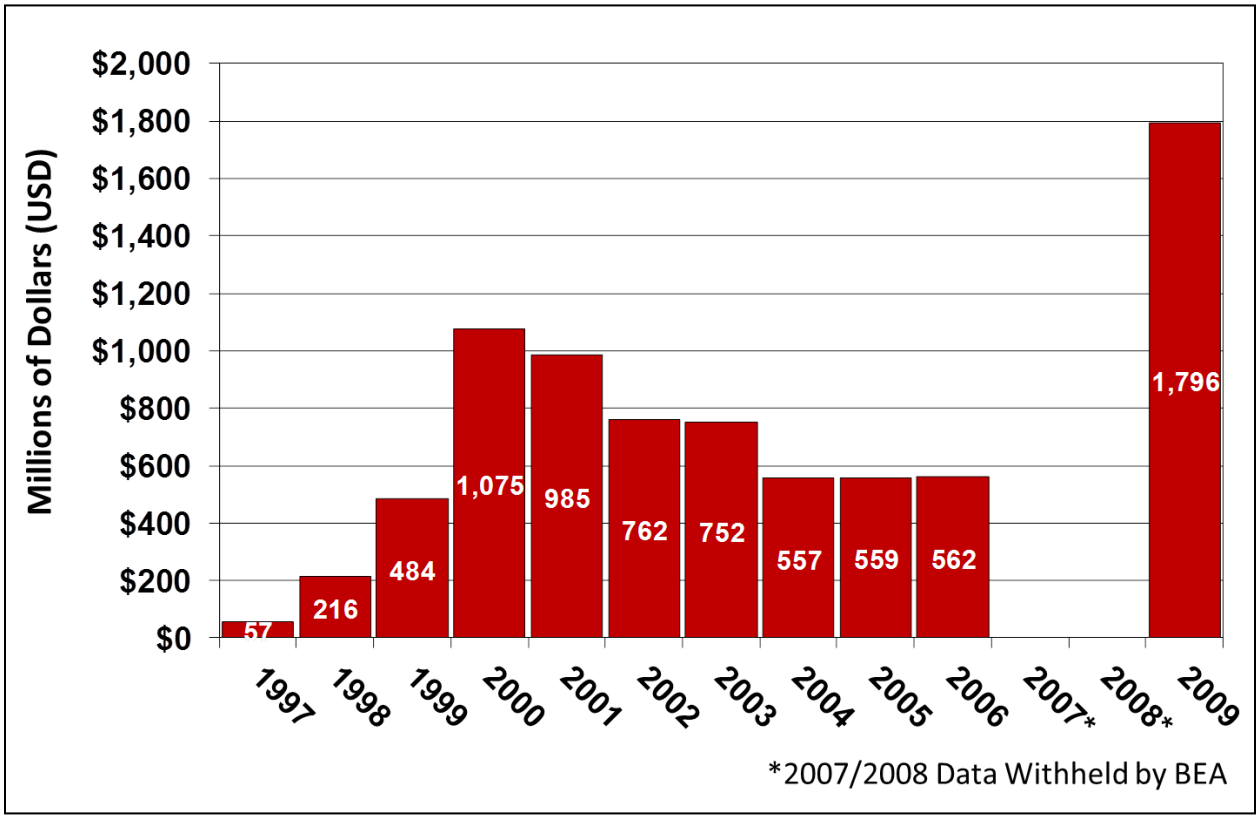
Hyundai, though a relatively new entrant into U.S. manufacturing, has already made substantial investments in its U.S. manufacturing infrastructure. Over the past decade, Hyundai, together

[6] CAR Research, Book of Deals

with Kia, has invested nearly $3 billion at two assembly sites, as documented in CAR's Book of Deals. These investments include construction of the two assembly plants ($1.1 billion for Montgomery, and $1.2 billion for West Point), as well as expansions at both facilities ($443 million for engine plant expansions in Montgomery, and $250 million for transmission and assembly plant expansions at West Point). In addition, Hyundai has invested in numerous R&D, design and technical centers, service parts distribution operations, administrative operations, logistics centers, and a U.S. proving ground.

Hyundai and Kia represent a large portion of Korean direct investment in the United States. Figure 3-2 shows Korean manufacturing investment in the U.S. from 1997 through 2009. While data for 2007 and 2008 are not disclosed by the U.S. Department of Commerce, Bureau of Economic Analysis, the total investment represented by the 11 years shown is under $8 billion, and the manufacturing investments made by Hyundai and Kia during this period are close to $3 billion.

Figure 3-2: Korean Foreign Direct Investment in U.S. Manufacturing, 1997-2009

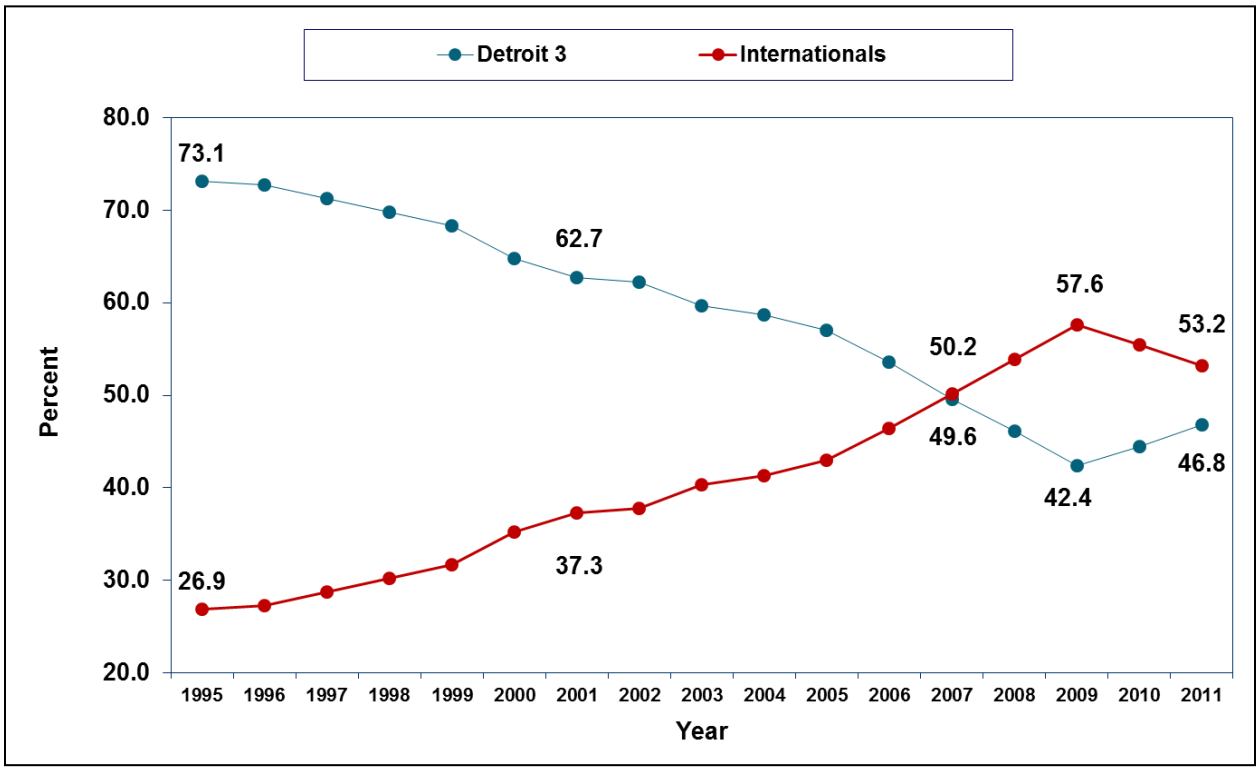


Source: Bureau of Economic Analysis

The composition of the auto industry has transformed as domestic automotive assembly firms (Chrysler, Ford, and General Motors) have slowly lost market share to imports as well as international firms operating in the U.S. In 2007, for the first time in history, there was market

share parity between the Detroit 3 and international firms. The collective market shares of international automakers peaked at nearly 60% in 2009, but have declined over the past two years, with domestic and international firms approaching parity again. The erosion of domestic automaker market share over twenty years, which is shown in Figure 3-3, reveals how competitive the U.S. automotive landscape has become for all auto manufacturers.

Figure 3-3: U.S. Market Share through June 2011



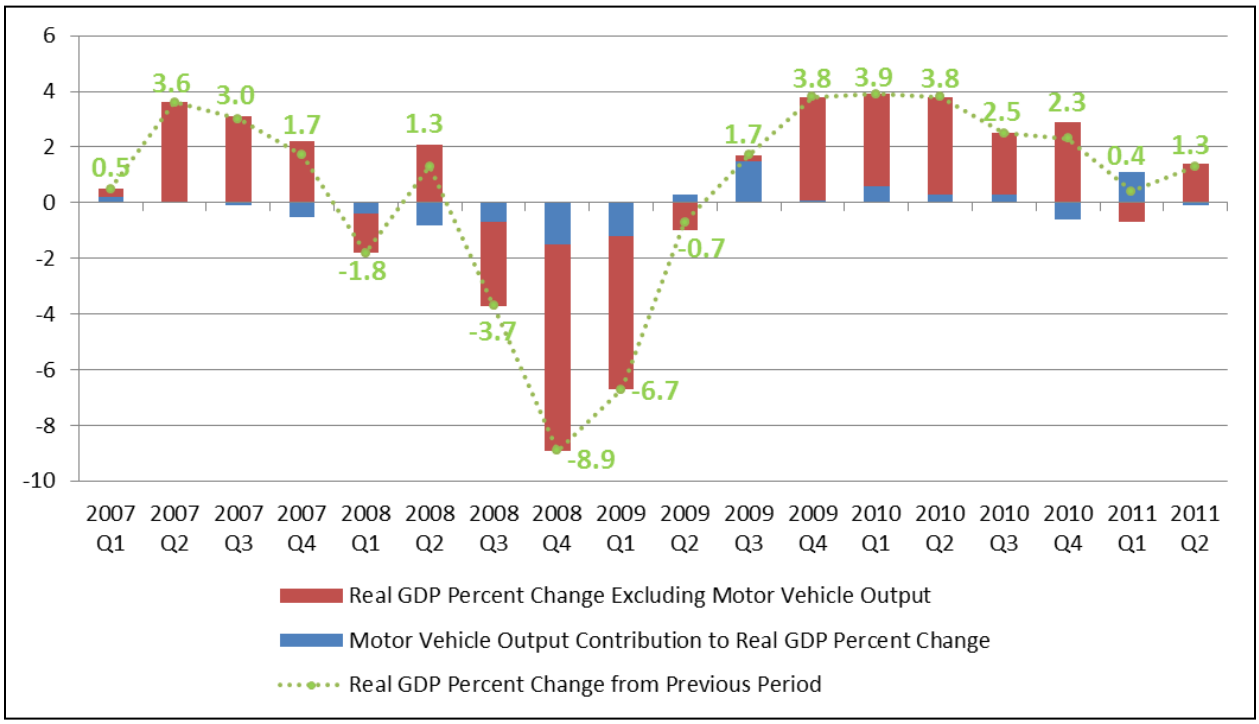
Source: Automotive News Market Data Book, CAR Research

The economic performance of the automotive sector, as well as manufacturing more broadly, is extremely important for the continued development and growth of the national and regional economies. Manufacturing, and auto manufacturing in particular, comprises a large share of total U.S. output. At the end of 2008, U.S. automotive output was 2.2% of GDP; overall manufacturing contributed 11.5%. While the automotive industry adds only a few percentage points to the total GDP, the effects of the industry extend beyond the direct impacts due to the complex manufacturing process chain supporting many tiers of suppliers and jobs across a wide array of industries.

As can be seen in Figure 3-4, growth or decline in automotive output often constitutes a significant portion of total change in GDP. In addition, due to the industry's high multiplier, changes in motor vehicle output have cascading effects into other industries, resulting in significant changes in overall U.S. GDP. This effect can also be seen in Figure 3-4 which shows

that periods of substantial growth and decline in GDP coincide with similar changes in motor vehicle output.

Figure 3-4: Change in U.S. GDP and Automotive Output, 2007-2011

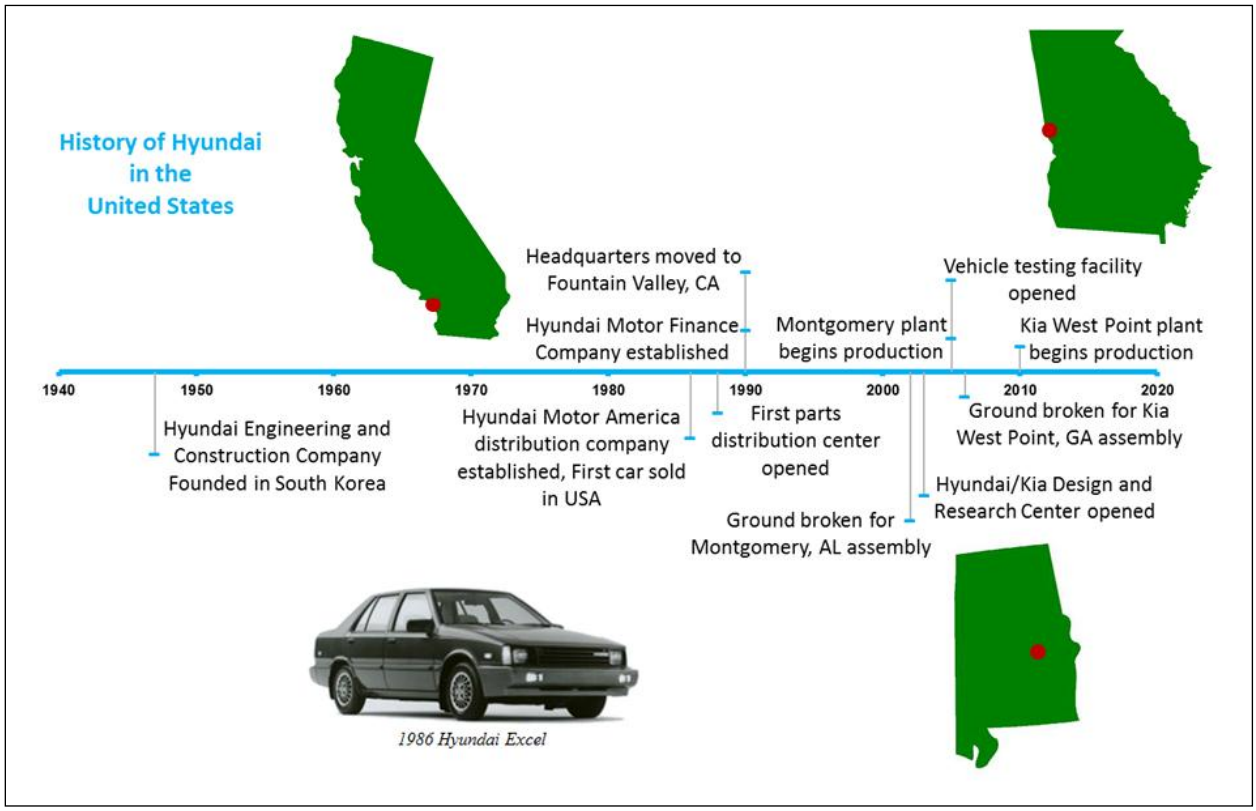


Source: Bureau of Economic Analysis

Hyundai's Presence in the United States

Hyundai was founded in South Korea as Hyundai Engineering and Construction Company in 1947, but did not sell its first motor vehicle in the U.S. until decades later—in 1986—after it had established the Hyundai Motor America distribution company. In 1998 the Hyundai Kia Automotive Group was formed when Hyundai purchased a majority stake in Kia Motors, which had declared bankruptcy in 1997 following the Asian financial crisis. Hyundai began U.S. production in 2005 when it opened its assembly plant in Montgomery, Alabama. Kia's assembly plant in West Point, Georgia came online in 2009. Significant Hyundai milestones are summarized in Figure 3-5.

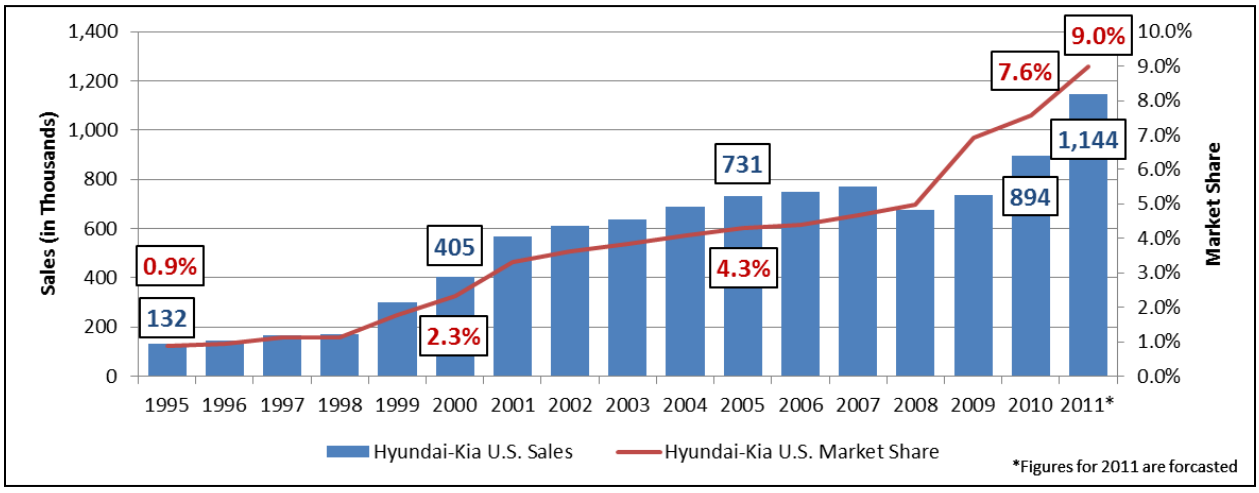
Figure 3-5: Hyundai Timeline



Source: Hyundai, CAR Research

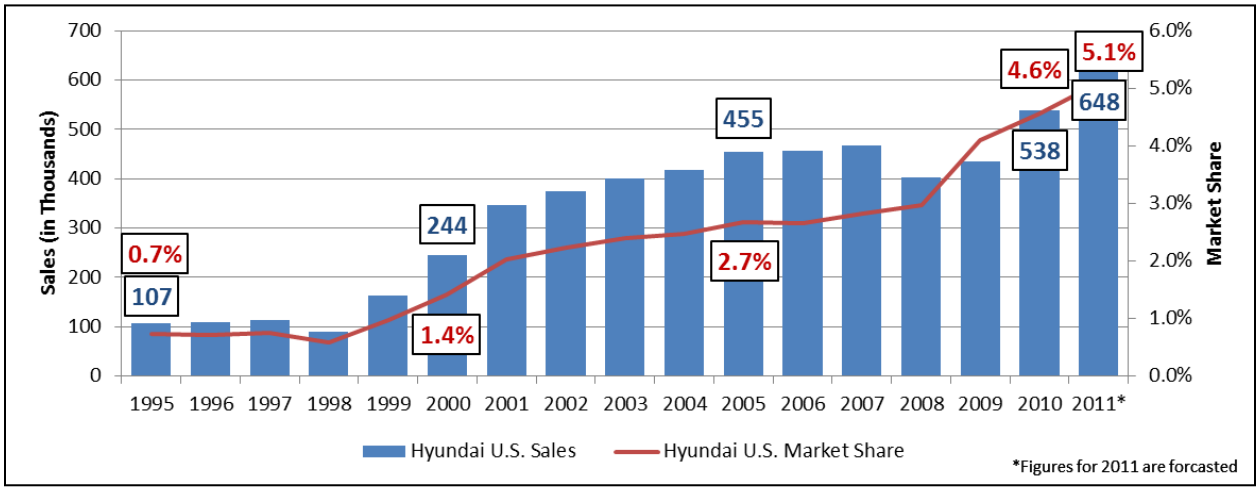
Despite the recent recession, U.S. sales for Hyundai have been strong. While sales of Hyundai vehicles declined in 2008, Hyundai sales began recovering by 2009—a year earlier than the rest of the automotive industry, and by 2010, company sales were above pre-recession levels. In the second quarter of 2011, Hyundai experienced a 37 percent gain in profits from global sales. Within the United States, Hyundai recently increased its sales forecast to 624,000 units, up from 600,000. Based on sales volumes for the first half of the year, together Hyundai and Kia could potentially sell more than one million vehicles in the United States in 2011—a milestone for the company. Annual sales data is graphically displayed in Figure 3-6 and Figure 3-7.

Figure 3-6: Hyundai-Kia Annual U.S. Sales and Market Share 1995 - 2011



Source: IHS Global Insight, CAR Research

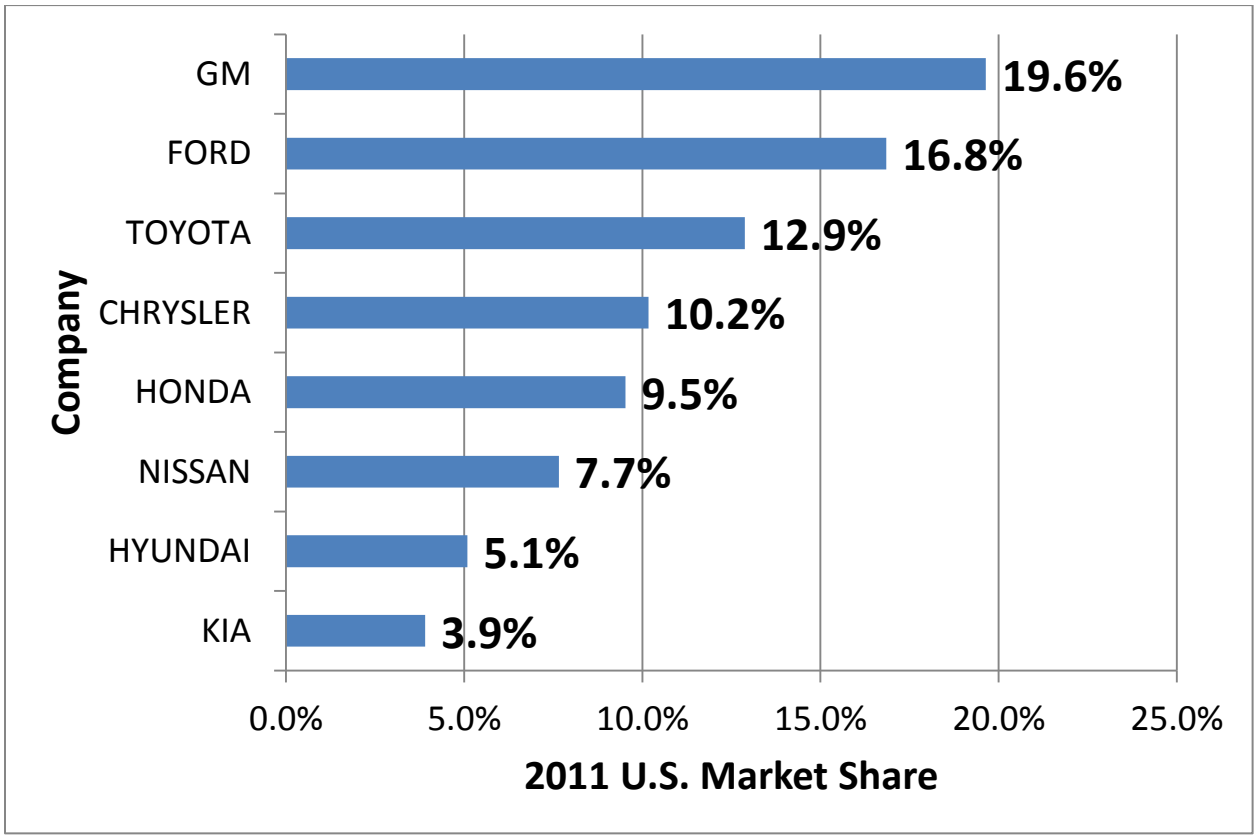
Figure 3-7: Hyundai Annual U.S. Sales and Market Share 1995 - 2011



Source: IHS Global Insight, CAR Research

Over the past decade, Hyundai and Kia have dramatically expanded their share of the market. In 2000 Hyundai and Kia sales made up approximately 2.3 percent of the market. By 2005 the company was responsible for 4.3 percent of total U.S. sales, and in 2010, its market share was at 7.6 percent. Hyundai and Kia combined are poised to gain additional market share in 2011. Figure 3-6 and Figure 3-7 display market share for Hyundai and Kia between 1995 to 2011. Figure 3-8 displays market share for the eight largest automakers in the United States.

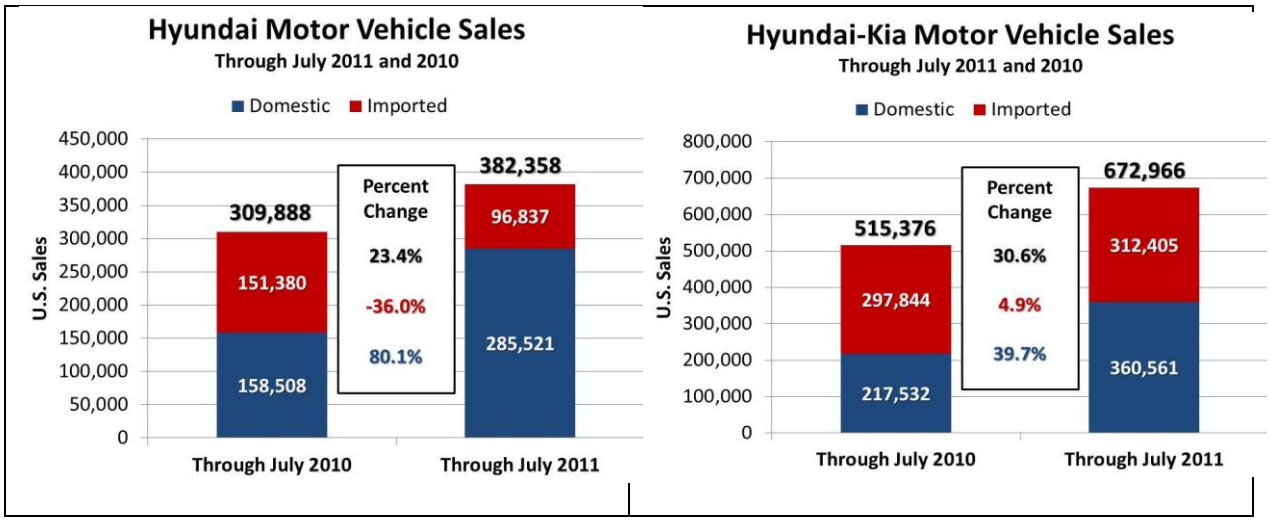
Figure 3-8: U.S. Automobile Industry Market Share by Company, 2011



Source: IHS Global Insight, CAR Research

In 2011, Hyundai has posted strong growth over the past year. Hyundai has experienced a sales improvement of 23.4 percent for current year sales (through July 2011), when compared to sales through July 2010. Hyundai significantly increased its ratio of domestically produced to imported vehicles from 2010 to 2011 (in 2010, 50 percent of sales were imported and in 2011, 25 percent of sales were imported). Overall, Hyundai is domestically producing the majority of the company's vehicles sold in the United States. A comparison between 2010 and 2011 Hyundai and Kia U.S. sales is shown in Figure 3-9.

Figure 3-9: Hyundai and Hyundai-Kia Vehicle Sales Year-to-Date July 2010 and July 2011



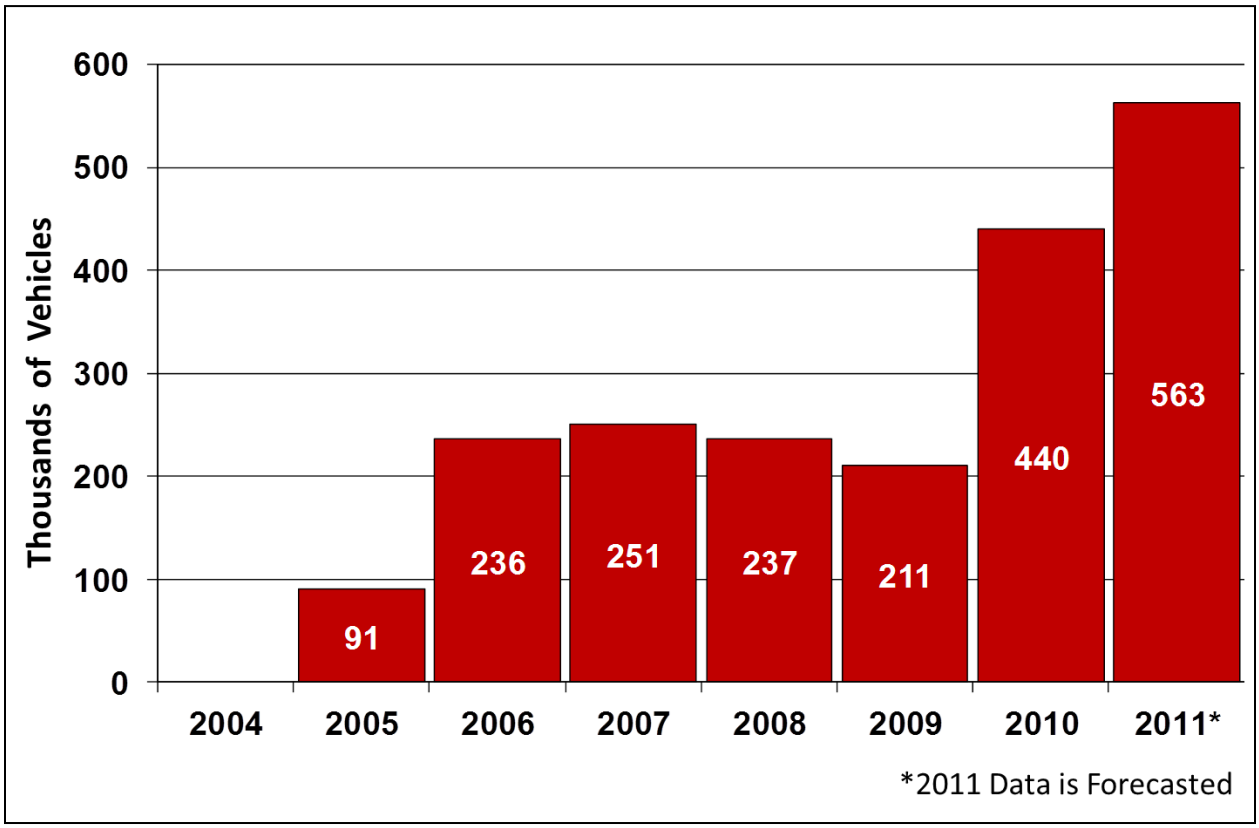
Source: IHS Global Insight, CAR Research

Hyundai recently set a goal of achieving 10 percent annual growth for the next three years. A major factor limiting sales growth for Hyundai is its domestic production capacity. In order to overcome this barrier in the short-term, Hyundai has increased productivity at its Montgomery plant (currently running at 10 percent over planned capacity), moved some production to the Kia plant in Georgia, and secured a larger supply of vehicles produced in South Korea for the U.S. market.

In the longer term, Hyundai will likely need to expand capacity in North America to maintain high sales growth. In addition to Hyundai's expanding U.S. sales, currency exchange rates favor domestic U.S. production. The strong won makes exports from Korea less competitive because it reduces the value of earnings from sales abroad. Hyundai has already announced an expansion of its engine plant in Alabama, which currently produces 360,000 engines per year. The $173 million investment will expand engine production, increasing its capacity by 300,000 units per year (from 360k to 660k units). The project will be complete, and production will begin, in March 2012.

Hyundai is now in its seventh year producing vehicles in the U.S. Hyundai began U.S. production in 2005, when it opened its Montgomery assembly plant in Alabama. In its first year, the Montgomery plant produced fewer than 100,000 vehicles, but ramped up to over 200,000 vehicles the following year. Currently the plant produces over 300,000 vehicles annually. Kia's West Point assembly plant in Georgia came online in 2009, and is currently producing between 100,000 and 200,000 vehicles annually. In total, Hyundai and Kia produced approximately 440,000 vehicles in the United States last year and are on track to produce over 560,000 vehicles in the United States this year. Figure 3-10 displays annual Hyundai and Kia U.S. production.

Figure 3-10: Hyundai-Kia U.S. Production, 2004 - 2011

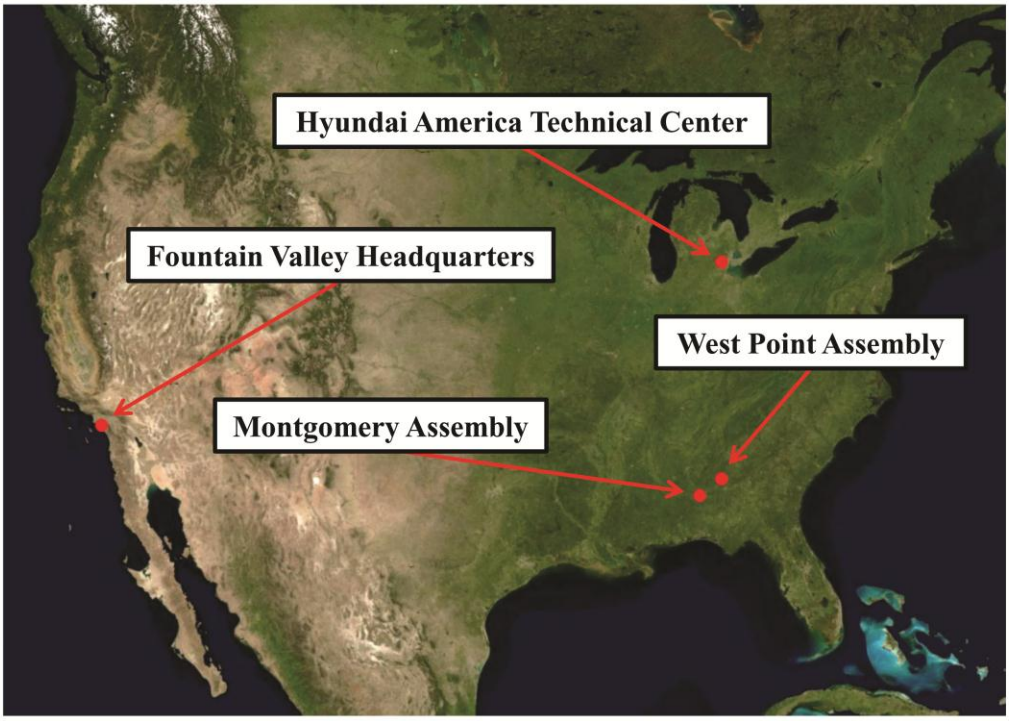


Source: IHS Global Insight

Figure 3-11 details Hyundai and Kia's major facilities in the United States. Assembly plants are located in Alabama and Georgia and provide Hyundai and Kia with a total annual capacity to produce several hundred thousand motor vehicles annually. At its two assembly plants, Hyundai and Kia produce a variety of products including the Hyundai Elantra, Hyundai Sonata, Hyundai Santa Fe, Kia Optima, and Kia Sorento. In addition to the assembly plant, there is a stamping and welding facility and an engine plant at the Montgomery site.[7] While Hyundai has some production (Santa Fe) at the West Point Assembly, West Point is the Kia assembly plant, and Montgomery Assembly is the Hyundai assembly plant. Figure 3-12 depicts the layout of the Montgomery site. At the West Point site there is a body stamping facility, a transmission shop, and a test track in addition to the assembly plant.[8]

[7] HMMA. (2011). "Welcome to HMMA: Hyundai Motor Manufacturing Alabama, LLC." Hyundai Motor Manufacturing Alabama Website. Accessed August 10, 2011. <http://www.hmmausa.com/>.
[8] KIA. (2011). "Built in the USA." Kia Motors America Website. Accessed August 10, 2011. <http://www.kia.com/#/kmmg>.

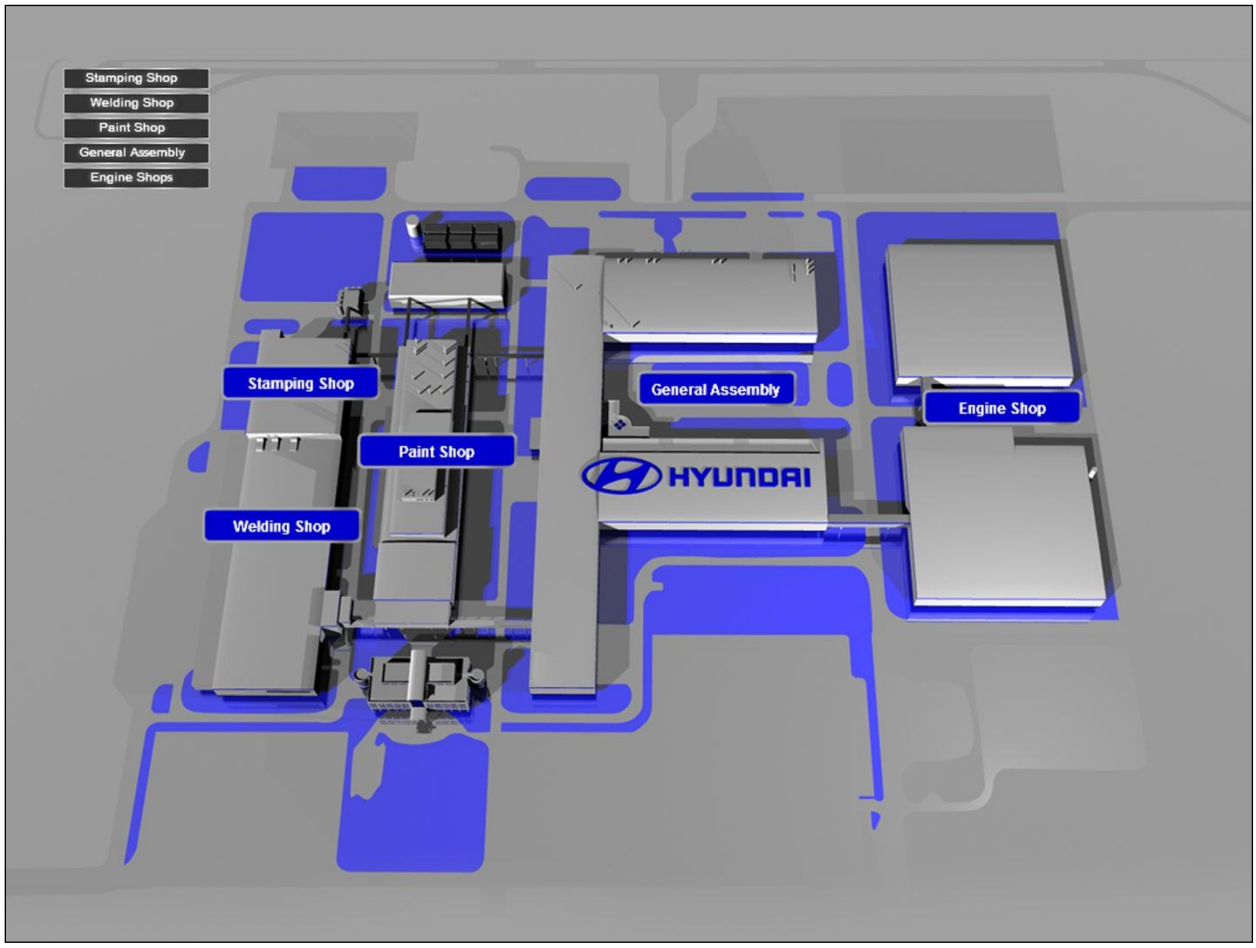
Figure 3-11: Map Depicting Major Hyundai-Kia North American Facilities



Location	City	State	Operations
Hyundai Motor America	Fountain Valley	CA	Headquarters
Montgomery Assembly	Montgomery	AL	Production
West Point Assembly	West Point	GA	Production
Hyundai America Technical Center	Superior Township	MI	R&D

Source: CAR Research

Figure 3-12: Layout of the Hyundai Montgomery Plant



Source: Hyundai

Recent North American Developments

At the beginning of the 2000s, annual U.S. light vehicle sales peaked at 17.4 million, and remained at over 16 million units through 2007. This unprecedented sales activity was largely supported by factors including access to low-interest credit, housing development patterns necessitating increased vehicle ownership, a booming stock market, post–9/11 manufacturer incentives, and an enhanced sense of personal wealth.

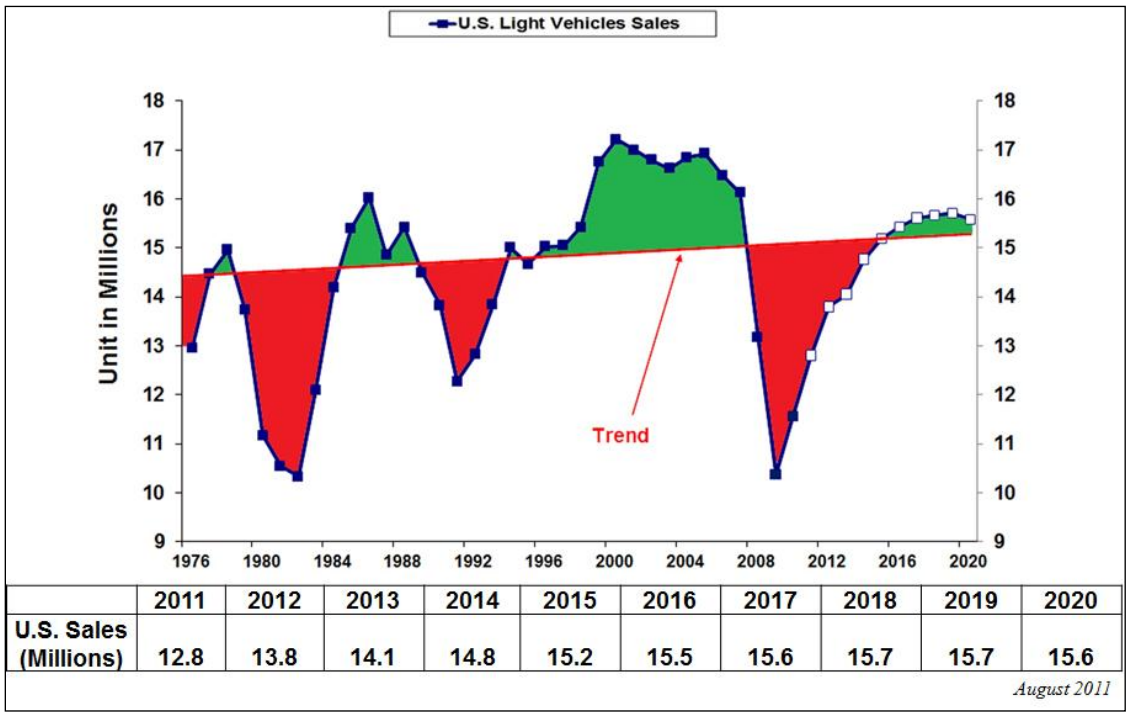
The surplus of vehicles produced in the early part of the decade, the ensuing credit crunch, and the recession are the central factors driving the recent contraction of the automotive industry. In 2008, the motor vehicle bubble burst, as did other bubbles associated with debt financing. Because suppliers, dealers, and assemblers expanded capacity during the early part of the decade, many were vulnerable when sales suddenly began to drop off.

As major consumer lending arms of large banks increased credit requirements and reduced lines of credit to all but the most qualified applicants, many consumers found they could no longer finance motor vehicle purchases. High unemployment rates made the problem worse. With the current unemployment rate still hovering at 9.1 percent (July 2011), economic recovery and the rebound of industry have been affected. Employment, income stability and consumer confidence are major determining factors in the purchase of durable goods such as automobiles. Despite these conditions, the automobile industry is slowly recovering. Many of the leading economic indicators are trending in the right direction–with consumer confidence, the Dow Jones Index, full time employment, and the CPIs for both new and used vehicles all increasing in 2011.[9] Cumulative sales for the year as a whole have improved, with a 10.9 percent increase over last July's figures.[10]

CAR has produced its own forecast based on econometric analysis. The forecast suggests that automobile sales over the next several years will continue to steadily increase, reaching 13 million for 2011, 14.8 million for 2012, and returning to the long-term trend at between 15 and 16 million in the subsequent years. Figure 3-13 displays historical and forecasted sales for the U.S. automotive industry. Regions of the graph highlighted in green are periods where sales were above trend, and regions that are highlighted in red are periods where sales were below trend.

[9] FRED. (2011). "Federal Reserve Economic Data." Economic Research, Federal Reserve Bank of St. Louis. Accessed August 9, 2011. <http://research.stlouisfed.org/fred2/>.
[10] Automotive News. (2011). "U.S. Total Vehicles Sales by Make, July & YTD."Automotive News Data Center. August 2, 2011. <http://www.autonews.com/section/datacenter>.

Figure 3-13: Center for Automotive Research Sales Forecast



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
U.S. Sales (Millions)	12.8	13.8	14.1	14.8	15.2	15.5	15.6	15.7	15.7	15.6

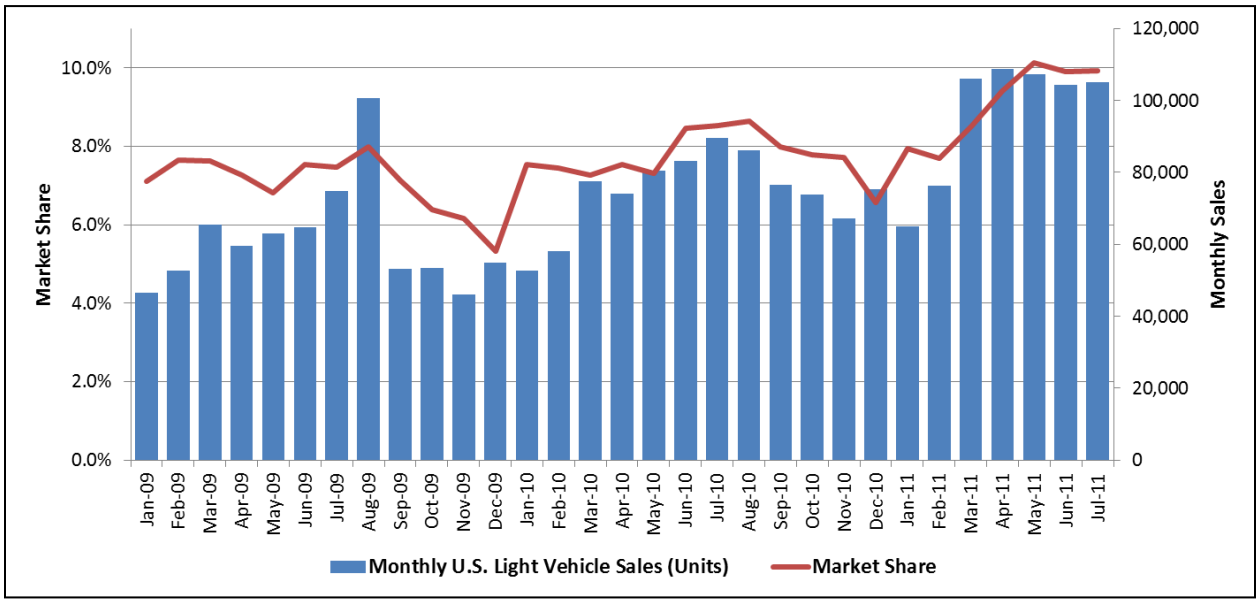
August 2011

Source: CAR Research

During July and August 2009, the U.S. Federal government intervened in the U.S. auto sales market by introducing the Car Allowance Rebate System (CARS), more commonly known as the "Cash for Clunkers" program. Congress originally appropriated $1 billion for the program, but due to how quickly that amount was depleted, the amount was increased to $3 billion. The impact on new vehicle sales was immediate and significant, with roughly 690,000 eligible vehicles turned in by consumers who then received a $3,500 or a $4,500 voucher toward purchasing or leasing a new, more fuel- efficient vehicle.

The program generated new vehicle sales of 998,000 units in July and 1,262,000 units in August of 2009. CARS had a significant stimulating effect on the industry, as dealers sold hundreds of thousands of additional vehicles beyond the norm for that time of year. The higher-than-anticipated volume of new vehicle sales created a tax revenue increase that boosted states' finances. The effect of the program is noticeable in the graph of Hyundai and Kia U.S. sales in Figure 3-14; the months of July and August 2009 show sharp increases in sales of the company's vehicles.

Figure 3-14: Hyundai-Kia Monthly U.S. Market Share and Sales, 2009-2011

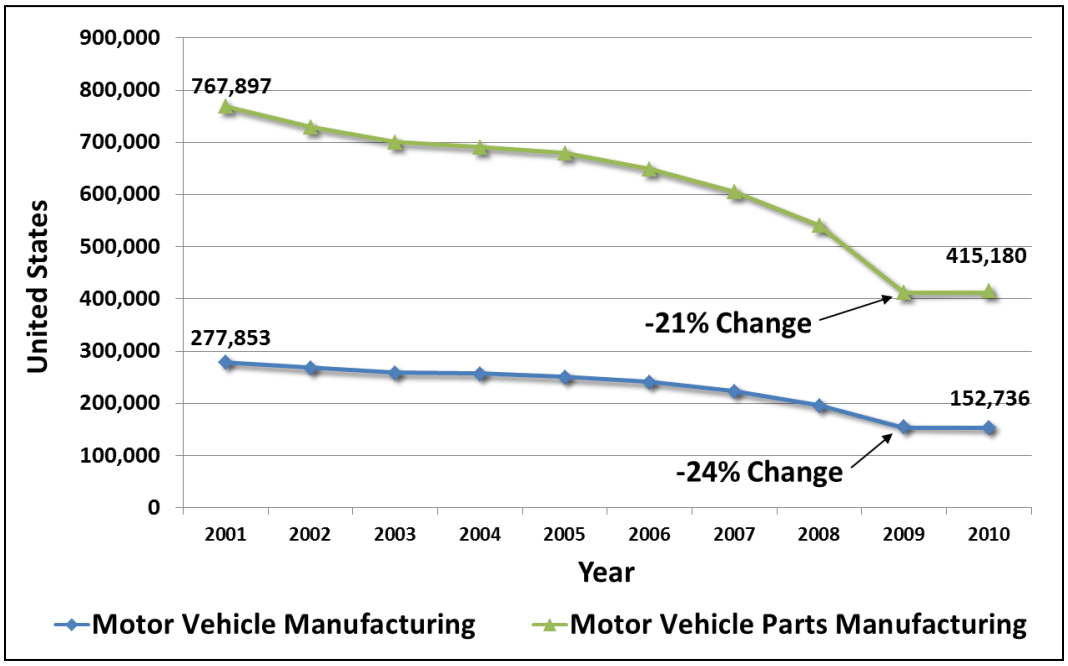


Source: IHS Global Insight

In August 2009, Hyundai posted modest gains in market share as the CARS program stimulated sales of high fuel economy vehicles, such as the Hyundai Elantra—which was among the most purchased vehicles under the program. Hyundai received a lot of press in early July, 2009 for its creative approach to the CARS program—allowing customers to trade in their vehicles and receive the credit beginning on July 2nd, which was a full three weeks before the program officially began. Also notable in Figure 3-14 (which includes Hyundai sales combined with Kia sales) is the steady growth in market share between December 2010 and May 2011, which coincides with a period when national gasoline price increased from below $3.00 to nearly $4.00, and the Japanese automakers were experiencing supply issues caused by the Tsunami that hit Japan in March.

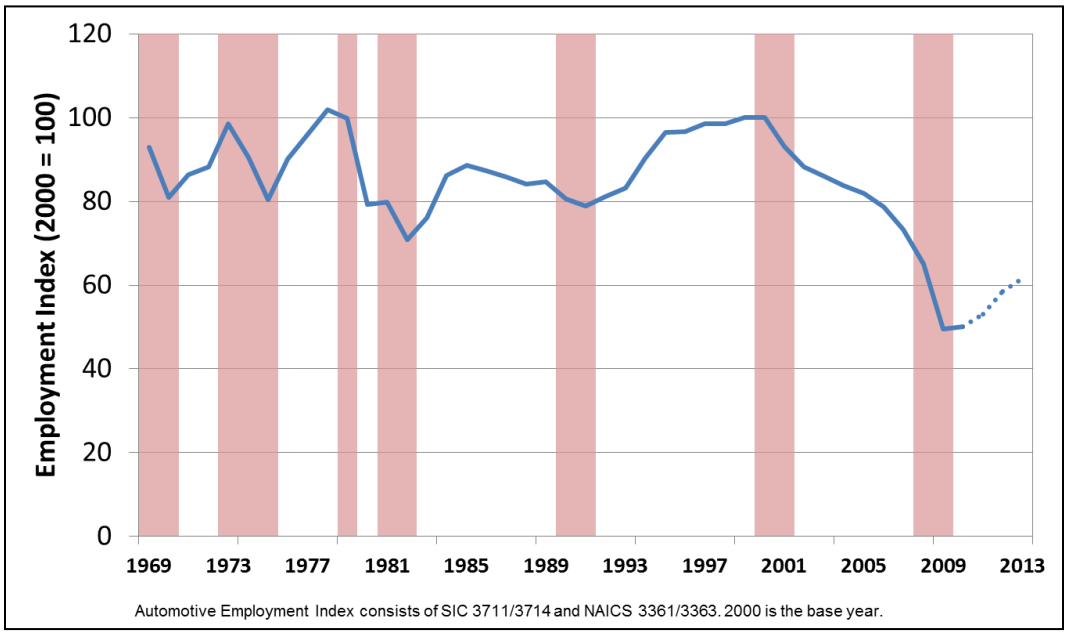
U.S. motor vehicle and parts manufacturing employment has been declining since 2001. Motor vehicle manufacturing employment dropped by more than 125,000 (45 percent) between 2001 and 2010, as seen in Figure 3-15. Similarly, over the same period, motor vehicle parts manufacturing employment declined by more than 350,000 (46 percent). The industry decline accelerated in the recession of 2008-2009, generating considerable jobs losses at automakers, and particularly at automotive parts suppliers. Currently, however, automakers and suppliers have rationalized capacity; the industry is well positioned to be profitable at much lower sales volumes. This can be seen in the relatively flat slope of the lines for both vehicle and parts manufacturing between 2009 and 2010. Industry employment should stabilize and grow in coming years as seen in Figure 3-16, which shows that automotive employment frequently increases towards the end of and following recessions.

Figure 3-15: U.S. Motor Vehicle & Parts Manufacturing Employment 2001-2010



Source: Bureau of Labor Statistics

Figure 3-16: Recessions and U.S. Automotive Employment

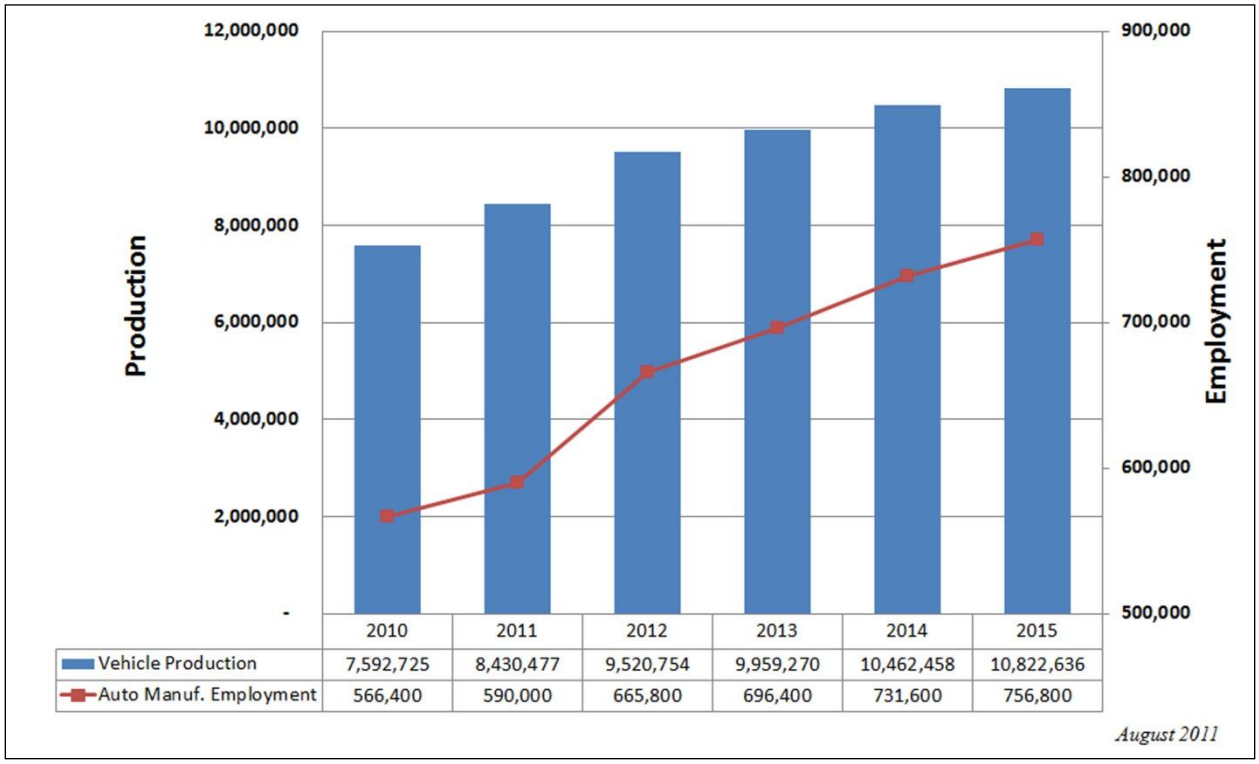


Source: Bureau of Labor Statistics

CAR's own automotive employment forecast suggests that from 2010 to 2015 employment will increase by slightly more than a third, with a compound average growth rate of 6.0 percent. Production is forecast to recover even more quickly, with a compound average growth rate of

7.3 percent, resulting in an over 40 percent increase in production from 2010 to 2011. These forecasted trends are displayed in Figure 3-17.

Figure 3-17: U.S. Vehicle Production & Automotive Employment Forecasts



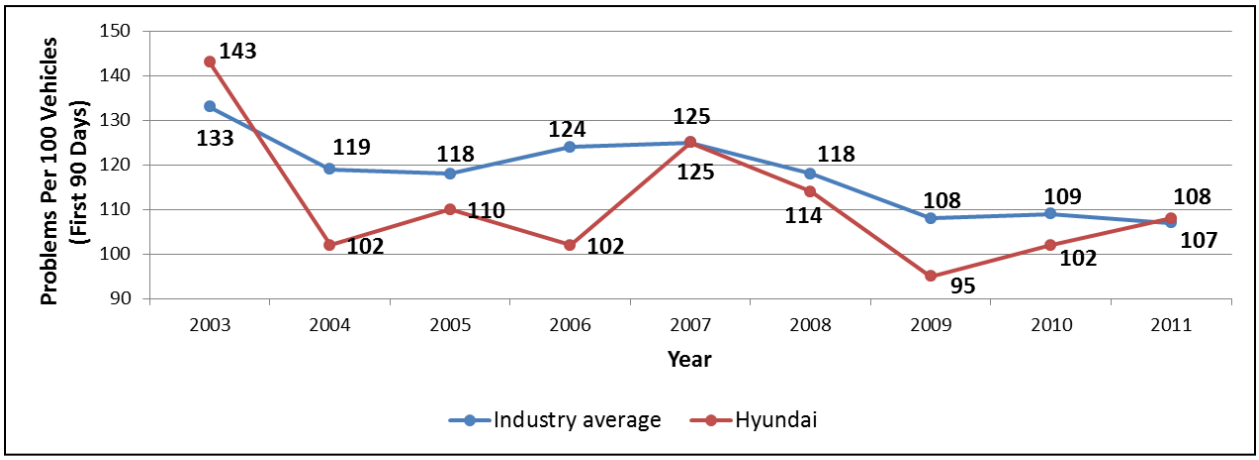
	2010	2011	2012	2013	2014	2015
Vehicle Production	7,592,725	8,430,477	9,520,754	9,959,270	10,462,458	10,822,636
Auto Manuf. Employment	566,400	590,000	665,800	696,400	731,600	756,800

Source: IHS Global Insight, CAR Research

Quality and Performance of Hyundai Vehicles

Since 2004, Hyundai has been at or below the industry average in terms of problems experienced by vehicle consumers as measured by J.D. Power's Initial Quality Study (IQS). Only in 2011, was Hyundai ranked below the industry average in terms of quality on the IQS, but even then, the company was only slightly above the industry average in terms of reported problems per 100 vehicles. Figure 3-18 displays Hyundai and industry average ratings in the IQS from 2003 to 2011.

Figure 3-18: Hyundai and Industry Average J.D. Power IQS Ratings, 2003-2011



Source: J.D. Power

In another J.D. Power study, the 2011 Automotive Performance, Execution and Layout (APEAL) study, the Hyundai Equus was rated as the highest performing model in the premium car category, as well as in the entire study.[11] Hyundai as a whole was the most improved brand of the year, ranking at 15th in the APEAL study, up from 28th in 2010.

Hyundai's Commitment to the Environment

A few years ago Hyundai introduced Blue Drive, a technology-based sustainability strategy for its product lines. Using Blue Drive products and technologies, Hyundai plans to achieve a fleet average of 35 miles per gallon by 2015—several years before it is required by government regulations. Hyundai is dividing its efforts to reduce the environmental impact of its vehicles among several different technologies including fuel cell vehicles (i-Blue concept and Tucson) and hybrids (Sonata).[12] Hyundai has worked to increase the use of recycled, environmentally friendly materials, and considers sustainability and reusability of parts both in the construction process and end-of-life dismantling when designing its vehicles.

[11] Greimel, Hans. (2011). "Hyundai gets another feather for cap." Automotive News. July 28, 2011. <http://www.autonews.com/article/20110728/BLOG06/110729850/1499&sectioncat=product>.
[12] Hyundai. (2011). "About Us: Environment." Hyundai USA Website. Accessed October 5, 2011. <http://www.hyundaiusa.com/about-hyundai/environment/>.

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APPENDIX A: LIST OF ACRONYMS

APEAL – Automotive Performance, Execution and Layout

CAR – Center for Automotive Research

CARS – Car Allowance Rebate System

HMMA – Hyundai Motor Manufacturing Alabama

I-O – Input-Output

IQS – Initial Quality Study

KMMG – Kia Motors Manufacturing Georgia

NAICS – North American Industry Classification System

R&D – Research and Development

REMI – Regional Economic Modeling, Inc.