

**The Contribution of the Japanese-Brand
Automotive Industry to the United States Economy:**

2014 Update

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October 26, 2015

Prepared for
Japan Automobile Manufacturers Association

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** All statements, findings, and conclusions in this report are those of the author and do not necessarily reflect those of the Japan Automobile Manufacturers Association.

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Executive Summary

For more than a quarter of a century, the Japanese-brand automotive industry has been a major contributor in shaping the U.S. economy and has generated and supported millions of U.S. jobs. As of late 2014, Japanese automakers in the U.S. motor vehicle manufacturing industry employed more than 90,000 workers and their dealer network employed more than 365,000 workers. The impressive *growth* of Japanese automakers' U.S.-based employment since 2013 is even more notable. Between 2013 and 2014, Japanese-brand automobile producers and dealers increased their direct employment by 10% and 14.7%, respectively. Today more than 1.52 million U.S. jobs are supported by the Japanese-brand automobile companies' U.S. production facilities, R&D centers, headquarters, and dealer networks – an 11.5% increase over last year's estimate. The industry generates over \$100 billion in worker compensation, which in turn results in more than \$16 billion in personal income taxes to the federal government.

The key findings of this report are as follows:

- **Automobile Production-Driven Employment**
 - Japanese-brand automobile companies directly employ more than 91,000 U.S. manufacturing, R&D/design, and other (e.g. headquarters, sales, etc.) workers.
 - Another 242,000 U.S. workers are employed in intermediate goods and parts industries that supply the Japanese-brand automakers' U.S. vehicle production and other facilities.

- An additional 427,000 U.S. jobs are supported by direct and intermediate employment (often referred to as “spin-off” employment).
 - All told, **over 760,000 U.S. jobs are generated by the Japanese-brand automobile companies’ U.S. production facilities, R&D centers and headquarters representing an 8.6% increase relative to last year’s estimate.**
- **Dealer Network-Driven Employment**
 - Approximately 366,000 U.S. workers are directly employed in the Japanese-brand automobile companies’ dealer network.
 - Another 119,000 U.S. workers are employed in intermediate goods industries associated with the Japanese-brand automakers’ dealer network.
 - An additional 275,000 U.S. spin-off jobs are supported by direct and intermediate dealership employment.
 - All told, **more than 760,000 U.S. jobs are generated by the Japanese-brand automobile companies’ dealer network, a 14.6% increase from 2013 to 2014.**
- In total, the **Japanese-brand automobile companies’ U.S. facilities and dealer networks contribute to an estimated 1.52 million private sector U.S. jobs – an increase of over 157,000 jobs relative to the 2013 estimates (or, alternatively, an 11.5% increase relative to last year’s estimate).** The Japanese-brand automobile companies remain among the largest job creators in the United States.
 - **Total annual compensation via the jobs created by Japanese-brand automobile companies in the United States exceeds \$100 billion, a 23.9% increase relative to last year’s estimate.**
 - Personal income taxes from these jobs are estimated to exceed \$16 billion.

I. Introduction

This study updates previous reports on the economic contribution of the Japanese-brand automotive industry to the U.S. economy. Earlier studies estimated the employment and economic impact using 2011, 2012 and 2013 data; this report revises those estimates using updated 2014 data.

The analysis shows the continued growth and significance of the Japanese-brand automotive industry. This report affirms the findings of the previous studies – namely, that the Japanese-brand automotive companies are an important source of U.S. jobs and job growth. In 2014 an estimated 1.52 million American jobs were rooted either directly or indirectly in the Japanese-brand automotive companies' U.S. operations. These jobs are estimated to contribute to over \$105 billion in labor compensation in 2014.

II. Value of the Japanese-Brand Automotive Industry to the U.S. Economy

The economic performance of the automotive industry, as well as manufacturing more broadly, is important for the continued development and growth of both the national economy and also regional economies. Manufacturing and automotive industry trends have long been important indicators of the state of the economy, with periods of growth in automotive manufacturing closely linked to periods of growth in the U.S. economy as a whole. Given the size of the Japanese-brand automobile producers, their performance and growth are important indicators for the overall U.S. economy.

Using modeling techniques described in prior work, estimates are derived from the economic contributions associated with the Japanese-brand automotive industry in

the United States.¹ The estimates include both direct employment and payroll, intermediate jobs at parts suppliers and other upstream firms, and spin-off jobs and compensation that result from the industry's direct and intermediate activity. The results are presented in three parts: the contributions of Japanese-brand automotive manufacturing, those associated with Japanese-brand new vehicle retail activities, and a combination of the two to represent the total impact of the Japanese-brand automotive industry in the United States.

A) Vehicle Manufacturer Activities

Summary estimates of the employment and income contributions of Japanese-brand automotive manufacturing to the private sector of the U.S. economy for 2014 are shown in Table 1.² Both blue-collar and white-collar workers employed by the manufacturing firms are included in the direct effect. The direct employees of automakers include researchers, engineers, managers and administrative support, as well as workers on the assembly lines. According to data collected by the Japan Automobile Manufacturers Association, 91,122 workers were employed in Japanese-brand U.S. automotive manufacturing and related operations (Table 1).^{3,4} This figure represents a 10% increase in direct employment relative to last year's report.

Beyond those direct employees working in assembly, body, engine, and parts plants, R&D centers and headquarters, there are many more workers in intermediate and spin-off jobs that are supported through automotive production activities. The

¹ Thomas J. Prusa, "The Contribution of the Japanese-Brand Automotive Industry to the United States Economy," May 6, 2013; Kim Hill, Debra Maranger Menk, Joshua Cregger, and Michael Schultz, "Contribution of the Automotive Industry to the Economies of All Fifty States and the United States," Center for Automotive Research, January 2015.

² Employment represents the total number of private sector jobs, including the self-employed. Compensation in the private sector consists of wage and salary disbursements, fringe benefits, and net incomes of owners of unincorporated businesses.

³ Automakers contribution employment data to this study included Hino, Honda, Isuzu, Mazda, Mitsubishi, Nissan, Subaru, and Toyota.

⁴ As of December 31, 2014.

intermediate employment category captures the jobs necessary to satisfy demands for the materials and services needed to design, produce, distribute, and sell motor vehicles and is sometimes referred to as the “automotive supplier network.”

Intermediate employment (suppliers of goods and services) from these automotive manufacturing activities is estimated to be 242,000 jobs, primarily in the industries necessary to produce automobiles – parts manufacturing, primary metal manufacturing, fabricated metal products manufacturing, and plastics and rubber products manufacturing.⁵ The sum of direct and intermediate jobs equals 333,122 private sector jobs.

Table 1 also reports the total spin-off jobs effect, also known as the expenditure-induced effect (spending from the people who work in the direct and intermediate jobs). The estimate of the expenditure-induced effect is 427,000 jobs which, when added to the 333,122 direct plus intermediate jobs, equals 760,122 total jobs. Over the last year, therefore, I find nearly 60,000 new American jobs derived from the ongoing growth in Japanese-brand automotive manufacturing in the U.S., an 8.6% increase since last year’s report.

⁵ Estimates of intermediate and spin-off employment are rounded to the nearest thousand; income and tax receipt numbers are also rounded. Sub-totals may not sum to total due to rounding.

Table 1: Private Sector Contributions of Japanese-Brand Automobile Manufacturing in the United States, 2014

		Year-Over-Year	
		Change	Pct Change
Employment			
Total (Direct + Intermediate)	333,122	+26,306	+8.6%
<i>Direct</i>	91,122	+8,306	+10.0%
<i>Intermediate</i>	242,000	+18,000	+8.0%
Spin-off	427,000	+34,000	+8.7%
Grand Total (Direct + Intermediate + Spin-off)	760,122	+60,306	+8.6%
Compensation (\$ billions nominal)			
Compensation	\$52.1	+\$6.2	+13.5%
Less: transfer payments & social insurance contributions	(\$6.7)	(\$1.1)	+19.6%
Less: personal income taxes	(\$7.2)	(\$0.7)	+10.8%
Equals private disposable personal income	\$38.3	+4.6	+13.6%

Compensation in the private sector associated with the total jobs (direct plus intermediate plus spin-off) amounts to \$52.1 billion. This estimate of compensation is prior to deductions for personal income taxes and contributions to social insurance programs and does not subtract transfer payments. Transfer payments and social insurance contributions amount to \$6.7 billion and personal income tax revenues amount to over \$7.2 billion. Disposable personal income, or personal income after taxes and subtraction of transfers and contributions, is estimated to be \$38.3 billion, a 13.6% increase since last year's report.⁶

⁶ The growth in compensation exceeds the growth in employment due to changes in wages, salary, and benefits (Hill, Maranger Menk, Cregger, Schultz, 2015).

B) Automobile Dealerships

Table 2 reports the estimated employment contributions by new Japanese-brand vehicle dealer operations for 2014. Employment estimates are broken out by direct employment (people employed directly by dealerships); intermediate employment (people employed by those who provide goods and services, excepting inventory, to dealerships); and spin-off employment (expenditure-induced employment resulting from spending by direct and intermediate employees).

Japanese-brand automotive dealerships directly employed (for new vehicle sales) 366,590 workers. As can be seen in Table 2 there are 119,000 intermediate jobs that support direct employment in the industry (suppliers of goods and services, not including motor vehicle inventory). Thus, the total employment (direct and intermediate) generated by Japanese-brand automotive dealerships is 485,590 workers.

The spin-off employment associated with spending by the people who work in the direct and intermediate jobs adds another 275,000 jobs, bringing the total jobs associated with Japanese-brand new motor vehicle retail operations in the United States (direct plus intermediate plus spin-off) to more than 760,000 jobs. This figure is 14.6% larger than the estimated employment effect last year.

Table 2: Private Sector Contributions of Japanese-Brand New Vehicle Dealers (Retail) in the United States, 2014

		<u>Year-Over-Year</u>	
		<u>Change</u>	<u>Pct Change</u>
Employment			
Total (Direct + Intermediate)	485,590	+62,022	+14.6%
<i>Direct</i>	366,590	+47,022	+14.7%
<i>Intermediate</i>	119,000	+15,000	+14.4%
Spin-off	275,000	+35,000	+14.6%
Grand Total (Direct + Intermediate + Spin-off)	760,590	+97,022	+14.6%
Compensation (\$ billions nominal)			
Compensation	\$53.5	+\$14.2	+36.1%
Less: transfer payments & social insurance contributions	(\$7.3)	(\$3.1)	+73.8%
Less: personal income taxes	(\$8.9)	(\$3.1)	+53.4%
Equals private disposable personal income	\$37.2	+\$8.0	+27.4%

The bottom panel of Table 2 reports the estimates for compensation in the private sector associated with total jobs (direct plus intermediate plus spin-off), which amounts to more than \$53 billion. The estimate of compensation is prior to deductions for personal income taxes and contributions to social insurance programs, and does not include transfer payments. As shown, a reduction in transfer payments and social insurance contributions of \$7.3 billion is associated with new Japanese-brand vehicle dealer activity, and personal income tax revenues are increased by \$8.9 billion. The implication for disposable personal income, or personal income after taxes and subtraction of transfers and contributions, is an increase of \$37.2 billion in the domestic economy, a remarkable 27.4% increase since last year's report.

C) Total Contribution

Combining the estimates for Japanese-brand automotive production with the estimates for Japanese-brand vehicle dealer operations yields the “bottom line” for the Japanese-brand automotive industry as a whole. These results for the total U.S. private sector contributions from Japanese-brand automotive industry activities are shown in Table 3.

The Japanese-brand automobile manufacturers directly employ more than 457,000 employees – over 91,000 in the production and distribution of their U.S.-built automobiles and over 366,000 in their new dealer vehicle networks. In turn, these 457,000 direct jobs support another 361,000 intermediate jobs (such as auto parts, raw and fabricated steel, etc.). All told, over 818,000 direct and intermediate jobs are rooted in the Japanese-brand automobile companies’ U.S. production and sales.

Table 3: Private Sector Contributions of Japanese-Brand Automobile Activity, 2014

	<u>Production</u>	<u>New Vehicle Dealers</u>	<u>Total</u>
Employment			
Total (Direct + Intermediate)	333,122	485,590	818,712
<i>Direct</i>	91,122	366,590	457,712
<i>Intermediate</i>	242,000	119,000	361,000
Spin-off	427,000	275,000	702,000
Grand Total (Direct + Intermediate + Spin-off)	760,122	760,590	1,520,712
Compensation (\$ billions nominal)			
Compensation	\$52.1	\$53.5	\$105.6
Less: transfer payments & social insurance contributions	(\$6.7)	(\$7.3)	(\$14.0)
Less: personal income taxes	(\$7.2)	(\$8.9)	(\$16.1)
Equals private disposable personal income	\$38.3	\$37.2	\$75.5

Table 3 also reports total spin-off jobs effect, which includes the expenditure-induced effect (spending from the people who work in the direct and intermediate jobs). The estimate of the expenditure-induced effect is 702,000 jobs. By combining this figure with the direct plus intermediate jobs, this study estimates the Japanese-brand automobile companies have a total employment effect of 1,520,712 jobs. This figure represents a growth of about 157,000 jobs in 2014.

Compensation in the private sector associated with total jobs (direct plus intermediate plus spin-off) amounts to over \$105 billion. As mentioned earlier, the estimate of compensation is prior to deductions for personal income taxes and contributions to social insurance programs, and does not include transfer payments. As shown in the bottom panel of Table 3, a reduction in transfer payments of

\$14 billion is associated with automotive manufacturing activity, and personal income tax revenues are increased by over \$16 billion. On net, disposable personal income, or personal income after taxes and including transfers, is increased by more than \$75 billion in the domestic economy.

III. Concluding Comments

This study highlights the continued economic importance of the Japanese-brand automakers' U.S.-based production. Consistent with the findings of our previous studies, we again find that Japanese-brand automakers' economic contributions grew in 2014: today more than 1.52 million U.S. workers' employment is tied to the Japanese-brand automakers. What is particularly notable about 2014 is the robust growth in the estimated total jobs stemming from the Japanese-brand automakers' operations, reflecting the companies' ongoing commitment to their U.S. operations (columns labeled 2013-14 in Table 4).

In every respect the last year has been a very strong year for the Japanese-brand automobile companies. Their direct employment is up sharply, both at their production facilities and also for their dealer networks. In turn, intermediate and spin-off jobs have also grown. In the last year, for example, total employment tied to the Japanese-brand automakers increased by more than 157,000 jobs. And, not surprisingly, the job growth has translated into billions of dollars of worker compensation and income taxes. In the last year compensation has increased by nearly 24%.

Table 4: Growth in Overall Contributions of Japanese-Brand Automobile Activity

	2013-14		2011-2014	
	<u>Change</u>	<u>Pct Change</u>	<u>Change</u>	<u>Pct Change</u>
Employment				
Total (Direct + Intermed.)	+88,328	12.1%	+146,435	21.8%
<i>Direct</i>	+55,328	13.8%	+84,423	22.6%
<i>Intermediate</i>	+33,000	10.1%	+62,012	20.7%
Spin-off	+69,000	10.9%	+140,608	25.0%
Grand Total	+157,328	11.5%	+287,044	23.3%
Compensation (\$ billions nominal)				
Compensation	+\$20.4	23.9%	+\$28.9	37.7%
Less: transfer payments & social insurance contributions	(\$4.2)	42.9%	(\$5.2)	59.1%
Less: personal income taxes	(\$3.8)	30.9%	(\$5.0)	44.7%
Equals private disposable personal income	+\$12.6	20.0%	+\$18.7	32.9%

Moreover, the growth experienced in the last year is not a one-time event. Rather, if one looks back on trends since 2011 (the data used in the first study of the Japanese-brand automakers), it becomes clear that there has been significant long run growth in the many contributions of the Japanese-brand automakers.⁷ To see this, examine the last two columns of Table 4 where the changes (and percentage change) in each measure since 2011 are given. All job measures (direct, indirect, spin-off, total) have increased by more than 20% since 2011. Compensation and net private disposable income have grown by more than 30%. Transfer payments and personal income taxes have grown by more than 40%. All of these metrics far

⁷ Thomas J. Prusa, "The Contribution of the Japanese-Brand Automotive Industry to the United States Economy," May 6, . This original study used data from the 2011 calendar year.

exceed the growth of the corresponding metric for the overall U.S. economy. This confirms that the Japanese automakers are not just a vital part of the development of the “new” U.S. automobile industry but are demonstrably leading the U.S. economy forward.