IHS ECONOMICS AND COUNTRY RISK

Economic Impact of Advertising in the United States

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Economic Impact Analysis

Ad Coalition Model Update | 2015

Leslie Levesque
Senior Consultant

Bob Flanagan
Director

Mark Lauritano
Vice President

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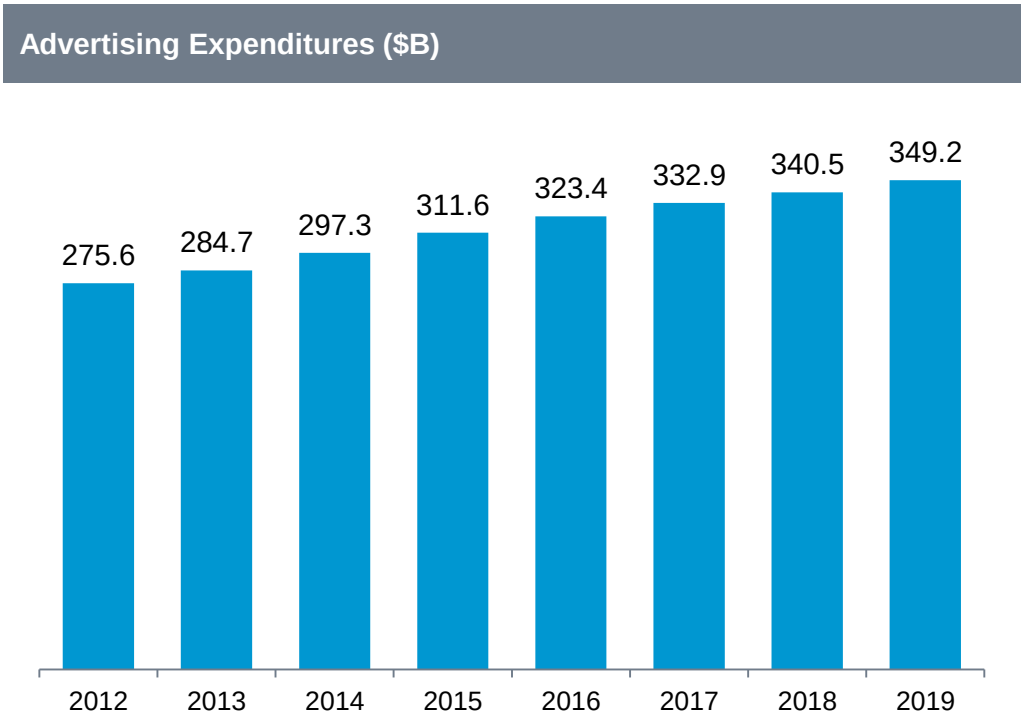
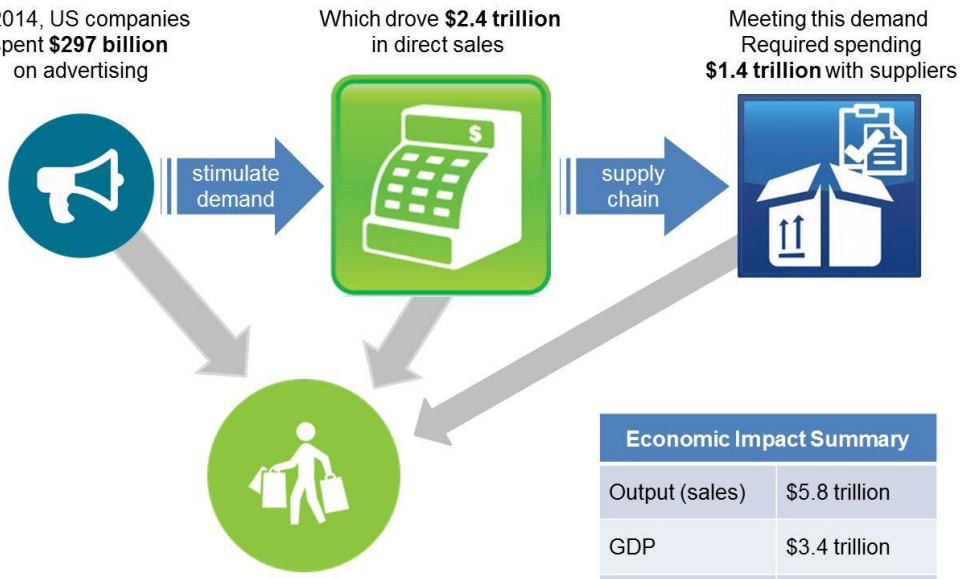
1 Introduction

Billions of dollars are spent on advertising in the United States each year. From billboards to internet ads, these expenditures are intended to stimulate demand, inform customers and differentiate products and services in the market place. In 2014 alone, an estimated $297 billion was spent on advertising across all industries and media types in the United States. Under current economic conditions, IHS forecasts ad spending rates will demonstrate an average annual growth rate of 3.3% from 2014 through 2019, rising to $349 billion. This report examines the vital role that advertising plays in the US economy.



In 2014, the US economy posted $36.7 trillion in sales activity. Of that, IHS estimates $2.4 trillion in direct sales were stimulated as a result of the $297 billion that companies spent on advertising for their products and services. Thus, approximately 6.5% of US sales activity is ***directly*** stimulated by advertising. However, as depicted in the graphic below, fulfilling the direct sales initiates a "multiplier effect" throughout the economy as dollars flow through supply chains, driving an additional $1.4 trillion in ***indirect*** sales. The economic stimulation does not end there; companies and their suppliers hire and pay employees, who, in turn, spend some of their income in the economy on consumer goods and services. These ***induced*** consumer effects amounted to $1.7 trillion in 2014. Thus, the initial $297 billion in ad spending drove an additional $5.5 trillion in sales. This amounts to each dollar of ad spending in 2014 leveraging almost $19 in sales activity. The combined $5.8 trillion (ad spend + stimulated sales activity) means that 16% of the $36.7 in total sales generated in the US economy were attributable to advertising expenditures in 2014.

Advertising Expenditures stimulate additional sales activity, 2014



Economic Impact Summary	
Output (sales)	$5.8 trillion
GDP	$3.4 trillion
Employment	20.0 million
Labor Income	$1.9 trillion

As discussed in this report, the stimulated sales activity triggers additional economic benefits. Workers must be hired and retained in order to deliver goods and services. Companies reap additional profits and make larger contributions to US Gross Domestic Product (GDP). Plus, companies and workers pay state, local and federal taxes. For example, IHS estimates that, in 2014, advertising fueled the following contributions to the US economy:

- Advertising supported $5.8 trillion (or 16%) of the $36.7 trillion in US output and 20 million (or 14%) of the 142 million US jobs;
- Every dollar of ad spending supported, on average, about $19 of economic output (sales);
- The total impact of advertising represented 19% of US GDP;
- For every million dollars spent on advertising, 67 American jobs were supported across a broad range of industries, throughout the economy;
- Every direct advertising job supported another 34 jobs across industries;
- Labor income supported by advertising represented 17% of all personal and proprietor income in the US;
- The average salary for jobs ultimately supported by advertising was almost $96K or 20% above the national average.

The models used in this study estimate and forecast the direct, indirect and induced economic impacts in the US economy due to spending on advertising by major industry sectors throughout the economy. The results obtained from the models:

- take a comprehensive, consistent and detailed view of the economic environment and advertising's role in the economy by using IHS's proprietary US Macroeconomic Model, Business Market Insight Model, and Regional Economic Model;
- utilize an integrated approach that combines the expertise of IHS's industry and regional forecasting experts with IHS's time-tested economic forecasting models and custom analysis regarding the uses and impacts of advertising by industry and geographic area in the economy;
- use the relationships between and among the industries that use advertising and their major markets and suppliers to track the ripples of activity throughout the economy not merely the sales directly attributable to the advertising activities;
- quantify the total economic impact throughout the US economy due to advertising, not merely the isolated changes expected within the various media categories themselves; and
- identify both the sales attributed to and the jobs supported by all forms of advertising at all levels of economic activity.

The modelling approach used to conduct this study, which was first developed by Dr. Lawrence R. Klein (recipient of the 1980 Nobel Prize in Economics), has been adapted to account for the changes in the structure of the US economy. It is designed to calibrate the total economic impact of advertising on three tiers: direct, indirect and induced. The first tier of analysis is the **direct impact**, which is further broken down into two sub-tiers: (1) the dollars spent on supporting the development and implementation of advertising activities to stimulate demand in each industry and (2) the dollars accruing to industries that utilize advertising to stimulate demand for their products and services.

The second tier of analysis identifies the **indirect impact** which contains two sub-tiers: (1) the supplier economic impact and (2) the inter-industry economic impact. The supplier impact quantifies the activity supported by first-generation suppliers to the industries that use advertising. The inter-industry economic impact includes the activity supported throughout the extended supply chain.

The third and final tier of the analysis involves the **induced impact** that is initiated when employees of the direct and indirect companies spend portions of their wages (as consumers) to make purchases (generate sales) of goods and services.

In addition, we measure the total economic impact along five dimensions: employment, sales or output, value added contribution to GDP, labor income and government revenues.

Employment: In many industries the employment supported typically occurs in two ways. First, capital investment cycles often lead to capacity-expansion projects such as bringing a new manufacturing plant on line. While many construction and manufacturing jobs can be supported thereby triggering growth in indirect and induced jobs, these tend to dissipate as the expansion project comes to an end. Production, on the other hand, supports long-term jobs. These are typically jobs within core industries and their associated supply chains as well as jobs induced by the employee's consumer spending activities. As advertising seeks to stimulate demand, the bulk of jobs ultimately attributable to advertising expenditures tend to be in the production phase.

Output: This is also known as sales. It is the sum of the value of all products and services produced in the economy in a given time frame.

Value-added: Value-added is the difference between the non-labor production cost of products or services and the sales price (i.e., total value-added is revenue less outside purchases of material and services). The frequently cited gross domestic product (or GDP) is simply the sum of value-added across all products and services produced within an economy. For the purposes of this report, value added is equivalent to contribution to GDP. GDP is generally considered the broadest measure of economic activity.

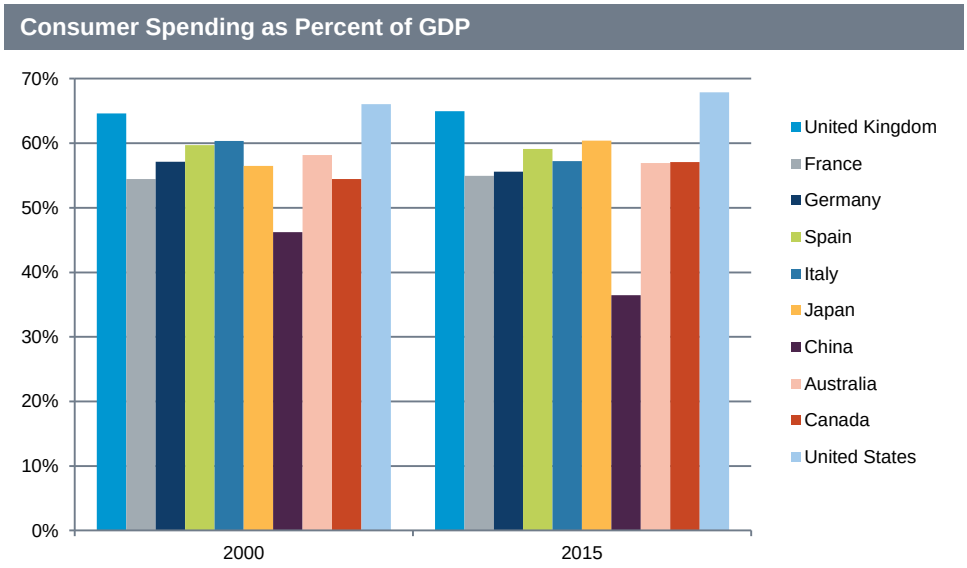
Labor income: A subcomponent of value-added is labor income, which captures the compensation (wages and benefits) paid to workers. A common measure of the relative contribution of an industry to the overall economy is labor income per worker. The higher the ratio, the greater is each worker's quality and contribution to growth.

Government revenues: Increased economic activity will expand government revenues by expanding taxable income and vice versa, decreased economic activity lowers taxable income and will lower government revenues (ceteris paribus).

Based on our understanding of the US economy and findings from this study, we conclude that advertising plays a significant role in stimulating US economic activity and supporting jobs in all sectors of the economy. Furthermore, advertising activity will continue to make a substantial contribution to the nation's economic activity through the forecast horizon, which extends to 2019.

2 Economic Impact of Advertising on the US Economy

The US economy is heavily affected by the health of the consumer sector, which represents about 68% of the economy. Based on this measure, the United States has the highest dependence on personal consumption relative to other large advanced economies (see graph below). Further, while the consumer sector's share of GDP is shrinking in many of these countries, it is still growing in the US economy. This is true despite experiencing a sizable hit during the recession.



The slow and uneven recovery of the US economy from the 2007-2009 financial crisis and recession took a particular toll on the US consumer. While the economy is now picking up steam, wage increases continue to be stagnant. However, through low oil prices, interest rates that are still historically low and rising stock and housing prices, the US consumer sector is gaining some wind in its sail. This has allowed household net worth to rise 26% above its 2007-prerecession peak which is boosting confidence despite a labor force participation rate that continues to be below the pre-recession rate. With more money in their pockets and higher accumulation of wealth, consumers are moving into a better financial position – and businesses must continue to aggressively compete for a share of their wallets.

2.1 The Impact of Advertising on Demand

Advertising, among other factors, generates business activity throughout the economy. A key set of factors used in the advertising model involves the relationship between advertising expenditures and business activity in major industry sectors. In a market-driven economy such as the United States, demand for products is a function of a variety of factors, including:

- Buying Power
- Life Stage
- Situational Needs
- Price
- Replacement of Obsolete Items
- Technology
- Seasonality
- Advertising

Advertising provides useful information to consumers in households and businesses – an important role in a market economy. Advertising's role is to inform and educate consumers about the choices available to them in the marketplace. Depending on the situation, advertising's purpose may include:

- Influencing market share within an industry or product category;
- Changing the distribution of spending among substitute products;
- Creating awareness of and demand for new products, technologies, and applications;
- Promoting brand image;
- Stimulating purchase activity.

The key reason why advertising is recognized to be a positive factor in the economy is that it provides information about the attributes and prices of products and services. The benefits to the economy due to advertising include the following:

- First, it is a more cost-effective and timely mechanism for distributing information about low prices and beneficial changes in technology and product design than are individual searches for that information;
- Second, through the wide dissemination of product price information, it encourages lower prices, and less variation in prices, as suppliers strive to attract customers;
- Third, it may speed the implementation of new technology;
- Fourth, it may encourage greater economies of scale in the production process by allowing individual firms to attract a wider array of customers.

This study analyzes the impact of total advertising expenditures in 17 user industries, tracks the linkages among all suppliers to the industries that leverage advertising to sell and promote their products and services, and disaggregates the results for all states and congressional districts in the United States. Thus, the information presented in the study provides a comprehensive view of advertising's contribution to US national and regional economic activity.

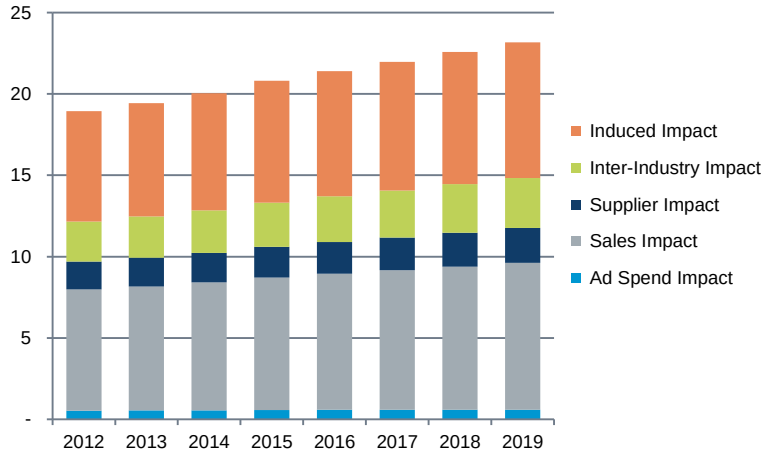
The impact of advertising spending is assessed by quantifying the level of sales, employment, value-added, taxes, and labor income that are attributable to spending on advertising. Advertising increases sales, which then boosts production and helps create and maintain jobs across every industry, state and congressional district. IHS assessed the economic impact of advertising by first estimating the effect of advertising on sales. Using historical data for advertising expenditures collected from the IRS Statistics of Income database for each industry, an equation was estimated to identify how sensitive sales are to ad spending in each industry. As expected, some industries are more dependent on advertising to generate sales than others. These output (sales) estimates became inputs to our models for estimating the supply-chain and induced impacts in employment, sales, value added and labor income. The table below displays the top-level results of this portion of the study. More details can be found in Appendix A.

Employment (Workers)						
	2014	2015	2016	2017	2018	2019
Ad Spend Impact	558,256	576,709	592,108	595,903	593,947	598,092
Sales Impact	7,851,498	8,139,640	8,356,257	8,564,935	8,794,863	9,013,025
Supplier Impact	1,816,248	1,885,029	1,950,117	2,016,755	2,080,380	2,143,498
Inter-Industry Impact	2,621,558	2,720,351	2,806,861	2,893,768	2,981,332	3,067,052
Induced Impact	7,193,660	7,478,583	7,693,475	7,904,841	8,128,933	8,341,599
Overall Ad Impact	**20,041,220**	**20,800,313**	**21,398,819**	**21,976,202**	**22,579,456**	**23,163,265**
Total Employment	142,027,309	144,643,597	146,729,363	148,273,534	149,255,355	150,436,980
Ad Share of Employment	14.1%	14.4%	14.6%	14.8%	15.1%	15.4%
Sales (Output) ($M)						
	2014	2015	2016	2017	2018	2019
Ad Spend Impact	297,327	311,641	323,357	332,905	340,500	349,196
Sales Impact	2,410,786	2,546,173	2,666,543	2,788,928	2,918,387	3,048,100
Supplier Impact	597,793	631,891	666,844	703,620	739,882	777,333
Inter-Industry Impact	761,545	806,975	850,921	896,629	943,860	992,243
Induced Impact	1,762,489	1,871,039	1,965,704	2,062,833	2,166,816	2,271,412
Overall Ad Impact	**5,829,939**	**6,167,719**	**6,473,369**	**6,784,916**	**7,109,445**	**7,438,283**
Total Output	36,722,661	37,874,531	39,838,554	41,927,453	44,020,172	46,205,000
Ad Share of Total Output	15.9%	16.3%	16.2%	16.2%	16.2%	16.1%
Value Added (Contribution to GDP) ($M)						
	2014	2015	2016	2017	2018	2019
Ad Spend Impact	157,917	165,329	171,541	176,653	180,710	185,362
Sales Impact	1,470,572	1,555,313	1,625,741	1,696,399	1,774,197	1,851,106
Supplier Impact	284,019	300,572	316,892	333,981	351,335	369,142
Inter-Industry Impact	463,379	491,429	518,191	545,915	574,925	604,590
Induced Impact	1,025,053	1,089,102	1,145,153	1,202,720	1,264,364	1,326,451
Overall Ad Impact	**3,400,939**	**3,601,745**	**3,777,518**	**3,955,668**	**4,145,531**	**4,336,651**
Total Value Added	18,206,350	18,874,691	19,827,942	20,856,981	21,853,424	22,899,254
Ad Share of Total Value Added	18.7%	19.1%	19.1%	19.0%	19.0%	18.9%
Labor Income ($M)						
	2014	2015	2016	2017	2018	2019
Ad Spend Impact	92,574	96,927	100,560	103,547	105,929	108,657
Sales Impact	828,074	877,417	917,224	957,328	1,001,395	1,044,872
Supplier Impact	159,018	168,465	177,802	187,588	197,502	207,706
Inter-Industry Impact	260,144	276,299	291,776	307,895	324,701	341,941
Induced Impact	583,716	620,712	653,203	686,609	722,396	758,490
Overall Ad Impact	**1,923,526**	**2,039,819**	**2,140,565**	**2,242,967**	**2,351,923**	**2,461,665**
Total Labor Income	11,609,830	12,050,641	12,647,270	13,289,514	13,936,984	14,618,640
Ad Share of Total Labor Income	16.6%	16.9%	16.9%	16.9%	16.9%	16.8%

2.2 Employment

There were an estimated 144 million people employed in the US during 2014 and about 0.4% of them (558,000) were directly employed in an occupation related to advertising and marketing across all industries. These workers focused on developing and executing the advertising messages that reach end users. If effective, advertising stimulates additional economic activity throughout the supply chain, resulting in businesses retaining existing or hiring additional workers to fill new orders. IHS estimates that the sales that occurred as a result of ad spend supported about 20 million workers in 2014 – including all levels of employment through the entire supply chain, from manufacturer to wholesaler to retailer – bringing the overall advertising impact on employment to average 14% of the working population. That is to say, every direct job in an advertising-defined occupation (i.e. those employed at advertising firms) supported 34 other jobs across a broad range of industries throughout the economy. In addition, every million dollars spent on advertising supported 67 American jobs.

Impact on Employment (Millions of Workers)

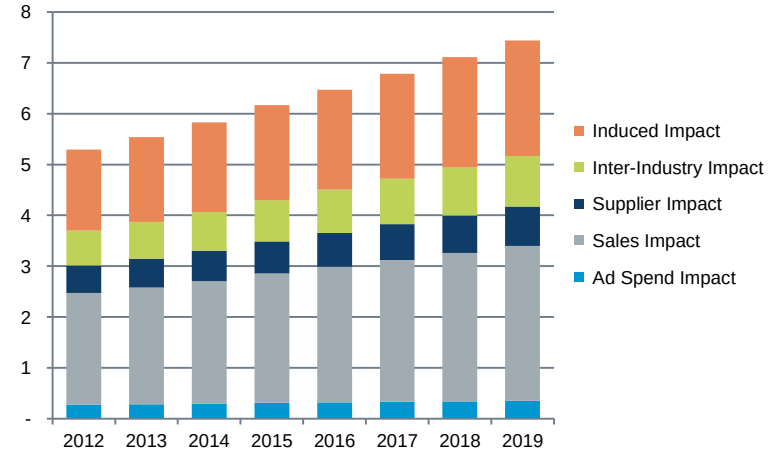


As one might expect, many of those supported jobs occur in the retail trade industry as this industry has a large advertising bill relative to the others. But the impact extends down the value chain to industries that generally supply goods and services to businesses. For instance, there are virtually no direct advertising jobs in the agriculture and mining industry (about .01% of total advertising occupations). However, this sector supplies many industries that heavily advertise. The advertising-driven sales in those industries lead to "pull through" sales for the agriculture and mining sector. The result: agriculture and mining accounts for about 7% of the tier-1 supplier jobs – the fifth largest impact amongst the 17 categories in this report. The manufacturing and business services industries are others that realize more jobs supported at this level. Detailed industry-level employment data are included in Appendix A.

2.3 Sales

Businesses spend billions of dollars on advertising. In 2014 alone, an estimated $297 billion was spent on advertising across all industries and media types. Direct sales due to advertising were $2.4 trillion, in 2014. This means that, on average, companies enjoy $8 of sales for every dollar they spend on advertising.

Impact on Sales ($ trillions)



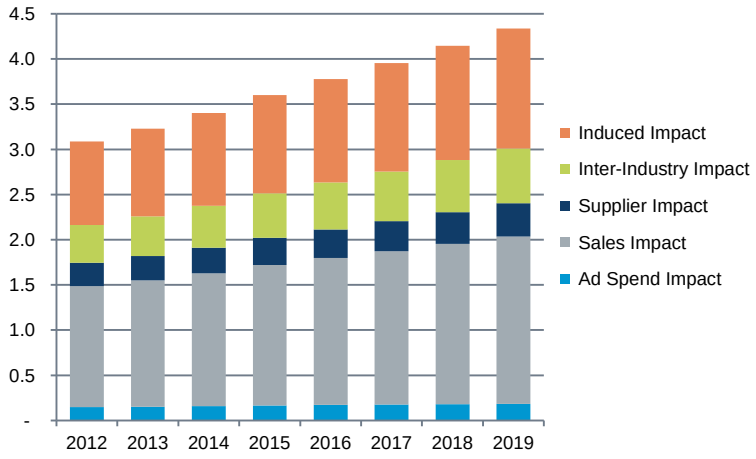
The sales activity generated from the direct sales are "multiplied" throughout the economy as ripples of supplier, inter-industry and induced sales activity more than double the value of the direct sales impact. The

supplier impact in 2014 was $629 billion and the inter-industry impact was $778 billion, for a combined indirect impact of $1.4 trillion. The corresponding induced impact was $1.7 trillion. All told, advertising expenditures plus the associated sales (output) supported by advertising accounted for $5.8 trillion of the $36.7 trillion of total output in the US economy during 2014. By 2019 this number will reach $7.4 trillion of the $46.2 trillion expected in total US output. This represents approximately 16% of sales in both years.

2.4 Value Added

Value added is an important measure in the analysis of economic impact. It provides a more accurate indicator of advertising's contribution to the broader economy as it removes the double-counting that can occur when analyzing sales activity (e.g., when component products are sold and resold at various stages of the supply chain). In general, value added is sales activity (output) less the associated non-labor input costs. The sum of all value added across businesses in an economy is gross domestic product (GDP). IHS estimates that advertising activity represented $3.4 trillion (or 19%) of the $18.2 trillion in US GDP in 2014. The contribution was almost evenly distributed amongst the direct levels (48% of total value added) and indirect/induced levels (52% of total value added).

Impact on Value Added ($ trillions)

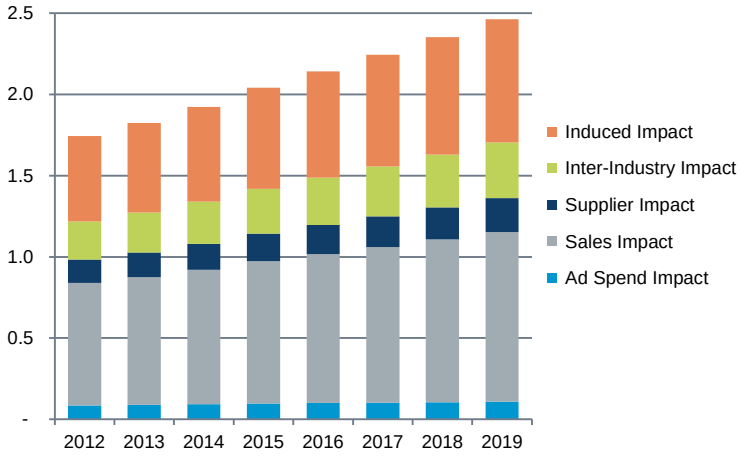


2.5 Labor Income

Labor income is a measure of overall employee compensation and proprietor income across all jobs and industries in the economy. Advertising supported $1.9 trillion in these salaries and wages in 2014, representing 17% of total labor income in the United States.

An approximation of the wage implication can be derived by finding the ratio between labor income and number of employees. In 2014, the average salary associated with jobs supported by advertising was $95,978 or 20% higher than the national average. Thus, the sales generated by advertising are for goods and services that require, on average, higher-skilled workers.

Impact on Labor Income ($ trillions)



APPENDIX

A. Additional Detailed Data

B. Theory and Methodology

Appendix A: Additional Detailed Data

Total Economic Impact by Industry

Employment (Workers) Total Impact	2012	2013	2014	2015	2016	2017	2018	2019
Agriculture, Mining	442,867	454,993	467,509	480,898	496,759	515,999	530,767	544,776
Construction	253,486	260,072	267,855	277,515	286,937	296,919	305,466	313,378
Utilities	159,150	163,193	167,915	173,960	178,847	183,637	188,534	193,274
Wholesale Trade	374,197	385,719	400,777	415,179	428,709	442,278	457,067	471,148
Retail Trade	2,149,655	2,230,773	2,324,112	2,453,168	2,505,435	2,565,269	2,630,896	2,680,009
Transportation	608,057	621,814	643,302	669,843	686,119	702,380	720,394	738,315
Food and Beverage Manufacturing	300,683	308,438	316,370	323,719	332,133	340,873	351,078	360,213
Machinery, Equipment and Computer Manufacturing	649,247	680,543	738,885	787,844	835,501	889,801	941,281	993,405
Transportation Equipment Manufacturing	299,914	315,583	327,976	341,869	363,034	382,007	395,362	411,653
Other Manufacturing	990,449	1,015,118	1,047,832	1,086,037	1,123,085	1,164,957	1,198,407	1,230,254
Information	937,127	968,795	971,943	1,001,253	1,026,269	1,046,512	1,067,179	1,093,838
Finance, Insurance, Real Estate	2,271,853	2,318,809	2,386,694	2,463,999	2,531,252	2,591,031	2,657,663	2,721,713
Business and Other Services	4,127,729	4,204,816	4,344,151	4,507,825	4,646,150	4,762,444	4,885,632	5,011,222
Education Services	616,292	629,844	640,810	656,751	668,465	679,806	696,702	713,018
Healthcare Services	1,954,340	1,994,674	2,049,881	2,121,572	2,172,726	2,221,179	2,280,245	2,335,939
Leisure and Hospitality	2,360,955	2,412,837	2,473,802	2,550,751	2,616,074	2,676,784	2,744,445	2,809,468
Government & Nonprofit	446,970	457,508	471,407	488,129	501,324	514,326	528,337	541,641
Total	**18,942,972**	**19,423,532**	**20,041,220**	**20,800,313**	**21,398,819**	**21,976,202**	**22,579,456**	**23,163,265**

Sales (Output) ($M) Total Impact	2012	2013	2014	2015	2016	2017	2018	2019
Agriculture, Mining	109,662	114,787	120,239	126,105	132,805	140,647	147,528	154,439
Construction	54,790	56,913	59,379	62,276	65,110	68,080	70,767	73,391
Utilities	78,025	81,602	85,612	90,440	94,823	99,289	103,948	108,668
Wholesale Trade	346,131	360,214	376,398	393,030	409,047	425,184	442,431	459,413
Retail Trade	666,793	701,957	742,480	794,699	824,086	856,265	890,755	920,885
Transportation	150,734	156,971	165,351	175,317	182,889	190,661	199,122	207,834
Food and Beverage Manufacturing	184,915	191,618	199,145	206,722	214,800	223,090	232,267	241,091
Machinery, Equipment and Computer Manufacturing	221,740	229,121	245,230	258,452	271,189	285,930	299,817	314,099
Transportation Equipment Manufacturing	176,920	188,376	199,187	211,422	227,868	243,274	255,525	270,025
Other Manufacturing	526,602	549,788	578,350	610,893	643,451	679,384	711,522	743,888
Information	360,051	375,879	387,639	407,390	424,439	440,773	460,588	482,145
Finance, Insurance, Real Estate	1,121,177	1,171,076	1,232,516	1,301,738	1,368,161	1,432,737	1,503,150	1,574,815
Business and Other Services	753,711	789,209	836,758	891,141	943,420	994,753	1,049,605	1,106,902
Education Services	48,847	50,902	53,081	55,750	58,085	60,477	63,439	66,455
Healthcare Services	228,893	240,512	254,509	271,283	286,124	301,212	318,368	335,825
Leisure and Hospitality	208,331	218,314	229,365	242,455	254,902	267,311	280,792	294,571
Government & Nonprofit	58,520	61,343	64,700	68,606	72,170	75,847	79,820	83,838
Total	**5,295,841**	**5,538,581**	**5,829,939**	**6,167,719**	**6,473,369**	**6,784,916**	**7,109,445**	**7,438,283**

Value Added (Contribution to GDP) ($M) Total Impact								
	2012	2013	2014	2015	2016	2017	2018	2019
Agriculture, Mining	53,821	56,348	59,031	61,899	65,191	69,046	72,421	75,810
Construction	23,689	24,596	25,662	26,910	28,122	29,359	30,471	31,558
Utilities	46,038	48,146	50,510	53,357	55,943	58,571	61,312	64,088
Wholesale Trade	231,263	240,535	251,343	262,449	273,144	283,881	295,356	306,652
Retail Trade	492,508	518,492	548,504	587,237	608,999	632,929	658,616	681,040
Transportation	83,903	87,387	92,056	97,610	101,829	106,161	110,880	115,739
Food and Beverage Manufacturing	41,051	42,506	44,186	45,885	47,684	49,556	51,619	53,611
Machinery, Equipment and Computer Manufacturing	79,432	82,004	87,733	92,454	97,012	102,254	107,186	112,260
Transportation Equipment Manufacturing	31,578	33,340	35,273	37,494	40,316	42,914	44,955	47,381
Other Manufacturing	148,627	155,051	163,085	172,234	181,358	191,441	200,455	209,545
Information	197,541	206,084	212,542	223,382	232,772	241,811	252,746	264,641
Finance, Insurance, Real Estate	787,913	823,037	866,170	914,790	961,451	1,006,813	1,056,298	1,106,658
Business and Other Services	534,166	559,449	593,223	631,845	668,966	705,417	744,390	785,095
Education Services	31,833	33,112	34,535	36,275	37,796	39,368	41,312	43,294
Healthcare Services	150,300	157,921	167,115	178,131	187,880	197,790	209,063	220,532
Leisure and Hospitality	122,685	128,551	135,064	142,776	150,111	157,427	165,374	173,497
Government & Nonprofit	31,574	33,099	34,909	37,017	38,942	40,929	43,077	45,250
Total	**3,087,922**	**3,229,659**	**3,400,939**	**3,601,745**	**3,777,518**	**3,955,668**	**4,145,531**	**4,336,651**

Labor Income ($M) Total Impact								
	2012	2013	2014	2015	2016	2017	2018	2019
Agriculture, Mining	29,468	30,851	32,321	33,891	35,693	37,804	39,652	41,508
Construction	20,896	21,697	22,637	23,738	24,807	25,898	26,879	27,837
Utilities	14,693	15,366	16,120	17,029	17,854	18,693	19,568	20,454
Wholesale Trade	132,773	138,096	144,301	150,677	156,818	162,982	169,570	176,055
Retail Trade	311,443	327,874	346,852	371,346	385,108	400,240	416,483	430,663
Transportation	63,913	66,567	70,124	74,354	77,568	80,868	84,463	88,164
Food and Beverage Manufacturing	18,508	19,164	19,922	20,688	21,499	22,343	23,273	24,171
Machinery, Equipment and Computer Manufacturing	41,013	42,341	45,299	47,736	50,090	52,797	55,343	57,963
Transportation Equipment Manufacturing	27,751	29,299	30,998	32,950	35,430	37,713	39,506	41,639
Other Manufacturing	71,666	74,763	78,637	83,048	87,448	92,310	96,656	101,039
Information	88,918	92,764	95,670	100,550	104,777	108,845	113,767	119,121
Finance, Insurance, Real Estate	211,039	220,447	232,000	245,022	257,520	269,670	282,925	296,413
Business and Other Services	436,804	457,478	485,097	516,679	547,034	576,841	608,711	641,996
Education Services	27,558	28,665	29,897	31,403	32,720	34,081	35,764	37,479
Healthcare Services	134,494	141,314	149,541	159,399	168,122	176,990	187,077	197,341
Leisure and Hospitality	82,170	86,098	90,460	95,626	100,539	105,438	110,761	116,202
Government & Nonprofit	30,436	31,906	33,651	35,683	37,539	39,455	41,525	43,619
Total	**1,743,542**	**1,824,692**	**1,923,526**	**2,039,819**	**2,140,565**	**2,242,967**	**2,351,923**	**2,461,665**

Ad Employment Impact as Share of Employment (Jobs) - 2014					
State	Ad Employment	Sales Related Employment	Jobs per Million Dollars of Ad Spend	Total State Employment	Share of Employment
Alaska	1,013	47,391	89	341,858	14.2%
Alabama	4,096	210,402	58	1,978,189	10.8%
Arkansas	2,455	120,935	58	1,253,900	9.8%
Arizona	7,578	335,447	74	2,610,887	13.1%
California	104,257	2,574,074	66	15,906,024	16.8%
Colorado	13,766	358,093	72	2,501,847	14.9%
Connecticut	7,381	280,952	70	1,679,387	17.2%
District of Columbia	5,125	144,454	128	751,369	19.9%
Delaware	1,540	64,010	73	442,397	14.8%
Florida	26,987	1,049,020	80	7,918,112	13.6%
Georgia	19,607	520,665	63	4,176,522	12.9%
Hawaii	1,585	80,860	98	640,552	12.9%
Iowa	3,142	173,303	54	1,662,463	10.6%
Idaho	1,441	72,352	63	689,700	10.7%
Illinois	22,595	863,818	64	5,910,368	15.0%
Indiana	5,861	347,813	54	3,051,648	11.6%
Kansas	4,639	158,402	56	1,458,676	11.2%
Kentucky	3,556	204,969	57	1,944,705	10.7%
Louisiana	4,529	277,831	59	2,010,595	14.0%
Massachusetts	20,912	613,484	76	3,430,515	18.5%
Maryland	11,556	382,111	82	2,634,571	14.9%
Maine	1,243	67,338	73	622,902	11.0%
Michigan	12,391	553,939	57	4,214,700	13.4%
Minnesota	9,043	368,987	64	2,902,948	13.0%
Missouri	8,781	329,693	65	2,884,005	11.7%
Mississippi	1,886	113,530	62	1,164,447	9.9%
Montana	893	50,498	78	487,952	10.5%
North Carolina	12,191	492,403	62	4,208,039	12.0%
North Dakota	1,005	57,245	74	499,412	11.7%
Nebraska	2,442	109,557	63	1,050,962	10.7%
New Hampshire	2,280	88,180	67	654,484	13.8%
New Jersey	19,541	611,468	67	3,966,697	15.9%
New Mexico	2,384	96,075	85	847,012	11.6%
Nevada	3,284	195,697	104	1,224,031	16.3%
New York	51,213	1,645,624	79	9,092,445	18.7%
Ohio	14,472	653,032	61	5,384,388	12.4%
Oklahoma	3,544	194,351	73	1,757,413	11.3%
Oregon	5,563	220,537	67	1,796,630	12.6%
Pennsylvania	18,950	774,348	70	5,868,437	13.5%
Rhode Island	1,638	62,365	77	480,497	13.3%
South Carolina	4,638	210,858	61	1,964,784	11.0%
South Dakota	747	43,676	68	456,045	9.7%
Tennessee	7,365	340,643	61	2,880,939	12.1%
Texas	41,761	1,698,431	66	11,884,409	14.6%
Utah	4,681	161,073	65	1,353,294	12.2%
Virginia	19,667	529,198	76	3,834,722	14.3%
Vermont	651	36,260	71	319,273	11.6%
Washington	23,468	462,089	58	3,161,201	15.4%
Wisconsin	7,043	321,680	57	2,967,460	11.1%
West Virginia	1,357	75,611	77	794,318	9.7%
Wyoming	516	38,191	80	309,178	12.5%
Total	**558,256**	**19,482,964**	**67**	**142,027,309**	**14.1%**

Ad Employment Impact as Share of Employment (Jobs) - 2019					
State	Ad Employment	Sales Related Employment	Jobs per Million Dollars of Ad Spend	Total State Employment	Share of Employment
Alaska	1,036	52,345	89	358,996	14.9%
Alabama	4,272	243,555	56	2,081,761	11.9%
Arkansas	2,706	139,195	57	1,322,386	10.7%
Arizona	8,341	402,934	72	2,861,026	14.4%
California	112,422	2,988,321	64	16,987,835	18.3%
Colorado	14,954	423,152	70	2,735,213	16.0%
Connecticut	7,701	319,514	68	1,728,657	18.9%
District of Columbia	5,671	165,606	122	777,892	22.0%
Delaware	1,660	73,584	72	469,821	16.0%
Florida	29,487	1,229,641	79	8,592,010	14.7%
Georgia	21,278	607,736	62	4,479,922	14.0%
Hawaii	1,646	90,558	97	676,474	13.6%
Iowa	3,265	202,742	54	1,737,753	11.9%
Idaho	1,503	81,628	62	732,203	11.4%
Illinois	22,928	977,141	63	6,160,824	16.2%
Indiana	6,233	402,216	54	3,200,321	12.8%
Kansas	5,115	183,126	55	1,532,878	12.3%
Kentucky	3,681	236,440	56	2,050,293	11.7%
Louisiana	4,753	317,092	59	2,114,571	15.2%
Massachusetts	22,339	704,644	75	3,582,810	20.3%
Maryland	12,447	439,512	81	2,783,678	16.2%
Maine	1,293	75,465	73	635,860	12.1%
Michigan	12,734	622,039	57	4,354,733	14.6%
Minnesota	9,508	424,302	63	3,043,197	14.3%
Missouri	9,281	376,596	64	3,013,110	12.8%
Mississippi	1,964	129,627	61	1,223,120	10.8%
Montana	980	58,270	79	521,273	11.4%
North Carolina	13,238	575,196	62	4,525,092	13.0%
North Dakota	1,085	67,684	74	532,484	12.9%
Nebraska	2,610	125,679	61	1,100,194	11.7%
New Hampshire	2,496	103,040	66	684,326	15.4%
New Jersey	20,413	695,234	65	4,133,216	17.3%
New Mexico	2,659	111,158	85	897,285	12.7%
Nevada	3,727	233,086	102	1,367,469	17.3%
New York	53,179	1,876,727	77	9,324,973	20.7%
Ohio	14,927	738,062	60	5,563,754	13.5%
Oklahoma	3,736	228,389	73	1,853,504	12.5%
Oregon	6,203	256,087	66	1,921,212	13.7%
Pennsylvania	19,807	882,887	68	6,098,836	14.8%
Rhode Island	1,778	70,811	75	494,469	14.7%
South Carolina	4,957	248,184	60	2,100,821	12.0%
South Dakota	813	52,144	67	486,941	10.9%
Tennessee	7,950	398,026	59	3,061,205	13.3%
Texas	46,105	2,044,396	66	13,030,573	16.0%
Utah	5,362	196,306	65	1,506,954	13.4%
Virginia	21,649	612,258	75	4,069,888	15.6%
Vermont	689	40,762	70	325,447	12.7%
Washington	26,115	541,538	56	3,337,117	17.0%
Wisconsin	7,432	373,357	56	3,111,180	12.2%
West Virginia	1,393	83,725	78	826,915	10.3%
Wyoming	567	43,457	80	324,508	13.6%
Total	**598,092**	**22,565,174**	**66**	**150,436,980**	**15.4%**

Ad Spend Impact as Share of Output ($M) - 2014					
State	Ad Spend Output	Sales Related Output	Sales Leverge (Total Sales/Ad Spend)	Total State Output	Share of Output
Alaska	544	11,876	21.8	94,157	13.2%
Alabama	3,694	64,150	17.4	443,679	15.3%
Arkansas	2,113	35,389	16.7	252,041	14.9%
Arizona	4,635	90,848	19.6	610,827	15.6%
California	40,807	726,856	17.8	4,692,502	16.4%
Colorado	5,183	97,693	18.8	658,929	15.6%
Connecticut	4,095	85,024	20.8	510,095	17.5%
District of Columbia	1,173	29,253	24.9	244,173	12.5%
Delaware	894	18,302	20.5	112,798	17.0%
Florida	13,434	267,775	19.9	1,800,857	15.6%
Georgia	8,568	152,833	17.8	1,034,460	15.6%
Hawaii	841	17,109	20.4	128,025	14.0%
Iowa	3,244	53,429	16.5	351,126	16.1%
Idaho	1,163	19,928	17.1	142,295	14.8%
Illinois	13,925	254,865	18.3	1,670,511	16.1%
Indiana	6,492	107,543	16.6	714,984	15.9%
Kansas	2,912	49,102	16.9	330,612	15.7%
Kentucky	3,682	62,736	17.0	424,687	15.6%
Louisiana	4,784	83,858	17.5	585,345	15.1%
Massachusetts	8,343	164,556	19.7	1,011,777	17.1%
Maryland	4,779	96,746	20.2	693,057	14.6%
Maine	935	17,244	18.4	121,840	14.9%
Michigan	9,961	169,808	17.0	1,106,108	16.3%
Minnesota	5,922	108,943	18.4	718,791	16.0%
Missouri	5,202	92,753	17.8	628,662	15.6%
Mississippi	1,869	32,403	17.3	229,772	14.9%
Montana	656	13,011	19.8	97,826	14.0%
North Carolina	8,129	141,176	17.4	955,105	15.6%
North Dakota	790	16,261	20.6	128,031	13.3%
Nebraska	1,767	31,344	17.7	218,524	15.2%
New Hampshire	1,353	24,567	18.2	161,803	16.0%
New Jersey	9,414	174,919	18.6	1,185,694	15.5%
New Mexico	1,154	23,505	20.4	175,436	14.1%
Nevada	1,917	37,916	19.8	261,264	15.2%
New York	21,403	494,196	23.1	2,792,519	18.5%
Ohio	10,879	189,702	17.4	1,280,606	15.7%
Oklahoma	2,718	54,807	20.2	401,746	14.3%
Oregon	3,373	60,526	17.9	416,747	15.3%
Pennsylvania	11,401	210,791	18.5	1,430,712	15.5%
Rhode Island	829	16,378	19.7	107,598	16.0%
South Carolina	3,512	61,364	17.5	416,473	15.6%
South Dakota	655	12,092	18.5	86,476	14.7%
Tennessee	5,738	98,657	17.2	666,289	15.7%
Texas	26,500	505,033	19.1	3,536,854	15.0%
Utah	2,547	45,361	17.8	308,691	15.5%
Virginia	7,231	136,736	18.9	938,533	15.3%
Vermont	522	9,185	17.6	63,847	15.2%
Washington	8,393	138,328	16.5	908,251	16.2%
Wisconsin	5,766	95,348	16.5	635,407	15.9%
West Virginia	998	19,808	19.8	152,950	13.6%
Wyoming	486	10,575	21.8	83,170	13.3%
Total	**297,327**	**5,532,612**	**18.6**	**36,722,661**	**15.9%**

Ad Spend Impact as Share of Output ($M) - 2019					
State	Ad Spend Output	Sales Related Output	Sales Leverge (Total Sales/Ad Spend)	Total State Output	Share of Output
Alaska	600	14,414	24.0	111,360	13.5%
Alabama	4,403	82,942	18.8	557,446	15.7%
Arkansas	2,506	44,905	17.9	314,127	15.1%
Arizona	5,688	120,722	21.2	805,086	15.7%
California	48,186	930,999	19.3	5,911,590	16.6%
Colorado	6,225	127,378	20.5	848,990	15.7%
Connecticut	4,794	108,164	22.6	635,268	17.8%
District of Columbia	1,408	37,889	26.9	292,352	13.4%
Delaware	1,041	23,465	22.5	141,699	17.3%
Florida	15,992	347,967	21.8	2,324,980	15.7%
Georgia	10,197	197,451	19.4	1,316,988	15.8%
Hawaii	954	21,252	22.3	157,200	14.1%
Iowa	3,829	68,127	17.8	440,231	16.3%
Idaho	1,338	24,660	18.4	172,909	15.0%
Illinois	15,974	319,335	20.0	2,058,779	16.3%
Indiana	7,605	137,454	18.1	891,242	16.3%
Kansas	3,438	62,617	18.2	413,326	16.0%
Kentucky	4,278	79,841	18.7	527,375	16.0%
Louisiana	5,447	105,389	19.3	722,000	15.4%
Massachusetts	9,731	209,403	21.5	1,270,281	17.3%
Maryland	5,581	123,858	22.2	865,586	15.0%
Maine	1,057	21,367	20.2	148,029	15.1%
Michigan	11,211	209,865	18.7	1,340,264	16.5%
Minnesota	6,892	138,237	20.1	898,180	16.2%
Missouri	6,064	117,126	19.3	783,454	15.7%
Mississippi	2,144	40,576	18.9	282,260	15.1%
Montana	750	16,422	21.9	120,753	14.2%
North Carolina	9,534	181,483	19.0	1,208,531	15.8%
North Dakota	935	21,154	22.6	164,921	13.4%
Nebraska	2,092	39,652	19.0	271,945	15.4%
New Hampshire	1,600	31,587	19.7	205,229	16.2%
New Jersey	10,927	221,159	20.2	1,483,258	15.6%
New Mexico	1,343	30,099	22.4	218,617	14.4%
Nevada	2,332	50,535	21.7	341,634	15.5%
New York	24,905	629,189	25.3	3,460,110	18.9%
Ohio	12,467	236,995	19.0	1,568,178	15.9%
Oklahoma	3,170	70,701	22.3	503,720	14.7%
Oregon	3,970	76,846	19.4	521,021	15.5%
Pennsylvania	13,180	266,356	20.2	1,777,003	15.7%
Rhode Island	968	20,806	21.5	133,800	16.3%
South Carolina	4,213	80,125	19.0	530,245	15.9%
South Dakota	792	15,872	20.0	111,273	15.0%
Tennessee	6,847	127,957	18.7	847,582	15.9%
Texas	31,782	670,018	21.1	4,622,854	15.2%
Utah	3,125	60,596	19.4	407,756	15.6%
Virginia	8,508	176,285	20.7	1,176,647	15.7%
Vermont	595	11,383	19.1	77,365	15.5%
Washington	10,121	179,668	17.8	1,147,320	16.5%
Wisconsin	6,810	121,457	17.8	791,350	16.2%
West Virginia	1,097	24,138	22.0	182,181	13.9%
Wyoming	552	13,199	23.9	100,704	13.7%
Total	**349,196**	**7,089,087**	**20.3**	**46,205,000**	**16.1%**

Ad Spend Impact as Share of Value Added ($M) - 2014					
State	Ad Spend Value Added	Sales Related Value Added	Value Added Leverage (Total Sales VA / Ad Spend VA)	Total State Value Added	Share of Value Added
Alaska	285	6,913	24.2	59,626	12.1%
Alabama	1,826	33,843	18.5	210,458	16.9%
Arkansas	1,030	19,527	19.0	135,687	15.2%
Arizona	2,593	55,520	21.4	307,502	18.9%
California	21,628	427,637	19.8	2,428,321	18.5%
Colorado	2,867	59,442	20.7	323,399	19.3%
Connecticut	2,268	51,875	22.9	272,943	19.8%
District of Columbia	735	19,828	27.0	121,319	16.9%
Delaware	486	11,451	23.5	67,504	17.7%
Florida	7,825	171,494	21.9	885,979	20.2%
Georgia	4,626	91,091	19.7	498,105	19.2%
Hawaii	482	10,793	22.4	81,186	13.9%
Iowa	1,531	28,852	18.8	174,665	17.4%
Idaho	585	11,371	19.4	66,986	17.8%
Illinois	7,277	148,315	20.4	782,265	19.9%
Indiana	3,080	53,097	17.2	344,384	16.3%
Kansas	1,439	26,430	18.4	153,997	18.1%
Kentucky	1,765	31,725	18.0	199,344	16.8%
Louisiana	2,267	42,567	18.8	262,309	17.1%
Massachusetts	4,621	102,002	22.1	491,133	21.7%
Maryland	2,741	61,574	22.5	373,855	17.2%
Maine	508	10,367	20.4	59,470	18.3%
Michigan	4,866	84,358	17.3	475,215	18.8%
Minnesota	3,093	63,943	20.7	338,547	19.8%
Missouri	2,735	53,967	19.7	300,715	18.9%
Mississippi	919	17,127	18.6	112,645	16.0%
Montana	358	7,706	21.6	46,362	17.4%
North Carolina	4,171	81,736	19.6	517,799	16.6%
North Dakota	437	9,545	21.9	61,188	16.3%
Nebraska	887	18,114	20.4	114,042	16.7%
New Hampshire	748	14,867	19.9	74,265	21.0%
New Jersey	5,200	107,210	20.6	590,704	19.0%
New Mexico	645	14,409	22.3	99,083	15.2%
Nevada	1,112	23,912	21.5	145,267	17.2%
New York	12,576	323,089	25.7	1,430,220	23.5%
Ohio	5,506	103,701	18.8	610,084	17.9%
Oklahoma	1,415	30,742	21.7	192,300	16.7%
Oregon	1,749	34,871	19.9	249,235	14.7%
Pennsylvania	6,036	123,798	20.5	700,955	18.5%
Rhode Island	461	10,077	21.9	58,220	18.1%
South Carolina	1,795	33,676	18.8	202,754	17.5%
South Dakota	349	7,160	20.5	47,744	15.7%
Tennessee	2,896	54,054	18.7	314,694	18.1%
Texas	13,882	285,298	20.6	1,659,600	18.0%
Utah	1,354	26,677	19.7	154,649	18.1%
Virginia	4,026	85,124	21.1	496,352	18.0%
Vermont	271	5,360	19.8	32,188	17.5%
Washington	4,399	78,300	17.8	446,543	18.5%
Wisconsin	2,787	51,483	18.5	306,910	17.7%
West Virginia	528	11,225	21.3	80,879	14.5%
Wyoming	253	5,780	22.9	46,756	12.9%
Total	**157,917**	**3,243,023**	**20.5**	**18,206,350**	**18.7%**

Ad Spend Impact as Share of Value Added ($M) - 2019					
State	Ad Spend Value Added	Sales Related Value Added	Value Added Leverage (Total Sales VA / Ad Spend VA)	Total State Value Added	Share of Value Added
Alaska	317	8,502	26.8	72,696	12.1%
Alabama	2,159	43,077	20.0	260,602	17.4%
Arkansas	1,213	24,659	20.3	171,091	15.1%
Arizona	3,187	73,758	23.1	403,215	19.1%
California	25,539	548,182	21.5	3,109,012	18.5%
Colorado	3,424	77,067	22.5	418,809	19.2%
Connecticut	2,636	65,443	24.8	336,244	20.2%
District of Columbia	882	25,717	29.2	147,799	18.0%
Delaware	570	14,802	26.0	83,628	18.4%
Florida	9,318	222,720	23.9	1,145,342	20.3%
Georgia	5,494	117,434	21.4	634,585	19.4%
Hawaii	549	13,470	24.5	97,112	14.4%
Iowa	1,793	36,605	20.4	217,025	17.7%
Idaho	670	14,104	21.0	85,074	17.4%
Illinois	8,322	185,585	22.3	962,306	20.2%
Indiana	3,594	67,298	18.7	427,486	16.6%
Kansas	1,697	33,506	19.7	189,770	18.6%
Kentucky	2,048	40,080	19.6	249,770	16.9%
Louisiana	2,591	53,601	20.7	322,974	17.4%
Massachusetts	5,392	130,002	24.1	608,700	22.2%
Maryland	3,204	78,932	24.6	466,802	17.6%
Maine	574	12,839	22.4	72,060	18.6%
Michigan	5,471	103,834	19.0	574,374	19.0%
Minnesota	3,591	81,097	22.6	425,556	19.9%
Missouri	3,177	67,817	21.3	371,410	19.1%
Mississippi	1,053	21,405	20.3	138,762	16.2%
Montana	413	9,842	23.8	57,076	18.0%
North Carolina	4,912	105,463	21.5	666,305	16.6%
North Dakota	515	12,383	24.0	77,923	16.6%
Nebraska	1,042	22,866	21.9	142,525	16.8%
New Hampshire	883	19,055	21.6	93,154	21.4%
New Jersey	6,031	135,492	22.5	728,782	19.4%
New Mexico	753	18,535	24.6	123,313	15.6%
Nevada	1,348	31,806	23.6	189,789	17.5%
New York	14,660	412,530	28.1	1,742,338	24.5%
Ohio	6,263	128,268	20.5	745,278	18.1%
Oklahoma	1,652	39,660	24.0	238,577	17.3%
Oregon	2,055	44,288	21.6	329,664	14.1%
Pennsylvania	6,967	156,158	22.4	856,893	19.0%
Rhode Island	537	12,761	23.8	70,850	18.8%
South Carolina	2,136	43,298	20.3	258,346	17.6%
South Dakota	418	9,338	22.4	60,046	16.2%
Tennessee	3,439	69,391	20.2	396,295	18.4%
Texas	16,717	379,395	22.7	2,163,403	18.3%
Utah	1,667	35,781	21.5	203,030	18.4%
Virginia	4,757	109,892	23.1	622,784	18.4%
Vermont	308	6,640	21.6	39,222	17.7%
Washington	5,288	100,782	19.1	563,604	18.8%
Wisconsin	3,260	65,149	20.0	381,753	17.9%
West Virginia	583	13,711	23.5	99,269	14.4%
Wyoming	290	7,273	25.1	56,830	13.3%
Total	**185,362**	**4,151,289**	**22.4**	**22,899,254**	**18.9%**

Ad Spend Impact as Share of Labor Income ($M) - 2014					
State	Ad Spend Labor Income	Sales Related Labor Income	Labor Income Leverage (Total Sales LI / Ad Spend LI	Total State Labor Income	Share of Labor Income
Alaska	172	4,181	24.3	30,955	14.1%
Alabama	1,114	19,660	17.6	142,956	14.5%
Arkansas	603	11,493	19.1	87,672	13.8%
Arizona	1,544	31,337	20.3	198,447	16.6%
California	12,499	242,672	19.4	1,531,309	16.7%
Colorado	1,686	34,031	20.2	207,640	17.2%
Connecticut	1,286	26,737	20.8	179,023	15.7%
District of Columbia	503	13,076	26.0	41,114	33.0%
Delaware	277	6,092	22.0	34,074	18.7%
Florida	4,639	97,279	21.0	649,606	15.7%
Georgia	2,676	51,528	19.3	308,362	17.6%
Hawaii	296	6,474	21.9	51,173	13.2%
Iowa	857	15,688	18.3	115,041	14.4%
Idaho	346	6,774	19.6	50,141	14.2%
Illinois	4,215	82,516	19.6	484,805	17.9%
Indiana	1,881	31,327	16.7	203,320	16.3%
Kansas	846	15,087	17.8	106,664	14.9%
Kentucky	1,089	18,707	17.2	128,715	15.4%
Louisiana	1,301	24,542	18.9	158,418	16.3%
Massachusetts	2,713	57,501	21.2	311,456	19.3%
Maryland	1,679	36,662	21.8	256,572	14.9%
Maine	308	6,190	20.1	43,657	14.9%
Michigan	3,152	51,638	16.4	311,224	17.6%
Minnesota	1,764	35,086	19.9	207,940	17.7%
Missouri	1,633	31,282	19.2	198,693	16.6%
Mississippi	557	10,161	18.2	81,732	13.1%
Montana	214	4,564	21.3	33,127	14.4%
North Carolina	2,423	46,477	19.2	311,406	15.7%
North Dakota	259	5,504	21.2	32,448	17.8%
Nebraska	518	10,569	20.4	73,169	15.2%
New Hampshire	434	8,370	19.3	55,451	15.9%
New Jersey	3,025	60,629	20.0	397,760	16.0%
New Mexico	403	8,943	22.2	60,506	15.4%
Nevada	691	14,425	20.9	88,183	17.1%
New York	6,712	154,720	23.1	877,423	18.4%
Ohio	3,333	61,183	18.4	385,226	16.7%
Oklahoma	833	17,663	21.2	139,515	13.3%
Oregon	1,031	20,350	19.7	127,519	16.8%
Pennsylvania	3,588	72,387	20.2	480,300	15.8%
Rhode Island	269	5,629	21.0	40,138	14.7%
South Carolina	1,079	19,517	18.1	138,612	14.9%
South Dakota	204	4,071	20.0	33,776	12.7%
Tennessee	1,748	31,812	18.2	217,940	15.4%
Texas	8,071	160,597	19.9	1,016,693	16.6%
Utah	803	15,539	19.3	87,604	18.7%
Virginia	2,498	52,186	20.9	319,925	17.1%
Vermont	162	3,189	19.7	23,225	14.4%
Washington	2,575	45,457	17.7	271,503	17.7%
Wisconsin	1,596	29,303	18.4	199,320	15.5%
West Virginia	320	6,832	21.3	52,656	13.6%
Wyoming	148	3,312	22.4	25,696	13.5%
Total	**92,574**	**1,830,952**	**19.8**	**11,609,830**	**16.6%**

Ad Spend Impact as Share of Labor Income ($M) - 2019					
State	Ad Spend Labor Income	Sales Related Labor Income	Labor Income Leverage (Total Sales LI / Ad Spend LI	Total State Labor Income	Share of Labor Income
Alaska	192	5,186	27.0	38,948	13.8%
Alabama	1,320	25,110	19.0	177,005	14.9%
Arkansas	709	14,604	20.6	108,787	14.1%
Arizona	1,900	41,878	22.0	260,070	16.8%
California	14,770	313,104	21.2	1,952,474	16.8%
Colorado	2,017	44,565	22.1	268,256	17.4%
Connecticut	1,493	33,746	22.6	220,033	16.0%
District of Columbia	609	17,141	28.2	51,850	34.2%
Delaware	324	7,863	24.3	42,889	19.1%
Florida	5,537	127,221	23.0	842,922	15.7%
Georgia	3,168	66,493	21.0	391,912	17.8%
Hawaii	338	8,117	24.0	63,186	13.4%
Iowa	1,000	19,910	19.9	141,901	14.7%
Idaho	397	8,417	21.2	62,140	14.2%
Illinois	4,801	102,961	21.4	595,563	18.1%
Indiana	2,196	39,823	18.1	252,486	16.6%
Kansas	1,003	19,342	19.3	130,727	15.6%
Kentucky	1,269	23,776	18.7	158,600	15.8%
Louisiana	1,486	30,987	20.9	195,192	16.6%
Massachusetts	3,172	73,803	23.3	390,536	19.7%
Maryland	1,964	47,161	24.0	322,954	15.2%
Maine	348	7,706	22.1	53,081	15.2%
Michigan	3,530	63,837	18.1	381,127	17.7%
Minnesota	2,043	44,486	21.8	261,708	17.8%
Missouri	1,898	39,588	20.9	244,572	17.0%
Mississippi	641	12,792	20.0	100,627	13.3%
Montana	249	5,865	23.6	41,343	14.8%
North Carolina	2,853	60,103	21.1	397,075	15.9%
North Dakota	305	7,147	23.4	41,753	17.8%
Nebraska	608	13,415	22.1	90,175	15.6%
New Hampshire	513	10,766	21.0	68,881	16.4%
New Jersey	3,514	77,059	21.9	497,110	16.2%
New Mexico	473	11,571	24.5	75,795	15.9%
Nevada	838	19,221	22.9	115,830	17.3%
New York	7,803	197,438	25.3	1,067,556	19.2%
Ohio	3,788	76,056	20.1	473,347	16.9%
Oklahoma	972	22,808	23.5	175,914	13.5%
Oregon	1,217	26,170	21.5	163,034	16.8%
Pennsylvania	4,140	91,531	22.1	594,898	16.1%
Rhode Island	312	7,124	22.8	49,208	15.1%
South Carolina	1,291	25,225	19.5	176,793	15.0%
South Dakota	244	5,339	21.9	42,232	13.2%
Tennessee	2,080	41,023	19.7	275,827	15.6%
Texas	9,717	214,165	22.0	1,320,805	17.0%
Utah	993	21,025	21.2	116,835	18.8%
Virginia	2,957	67,729	22.9	404,692	17.5%
Vermont	184	3,967	21.6	28,370	14.6%
Washington	3,100	58,975	19.0	347,554	17.9%
Wisconsin	1,860	37,107	19.9	247,941	15.7%
West Virginia	355	8,384	23.6	64,317	13.6%
Wyoming	170	4,178	24.6	31,810	13.7%
Total	**108,657**	**2,353,008**	**21.7**	**14,618,640**	**16.8%**

Appendix B: Theory and Methodology

IRS Statistics of Income data by industry

This study aimed to assess the direct, indirect (supplier and inter-industry) and induced economic impacts of advertising expenditures on the US economy. Companies in every industry use some form of advertising to establish and reinforce brand awareness, promote their products and services, and, ultimately, stimulate revenue. Higher sales trigger additional economic activity throughout a company's supply chain, its suppliers' supply chain, and so on. This leads to enhanced levels of job creation and retention, which facilitates the final layer of economic impacts: the sales generated from consumers making purchases with earned income from these operations.

To quantify the economic impact of advertising expenditures on the US economy, this study:

- Estimates the total level of advertising spending in the United States and creates a 5-year forecast.
- Estimates sales, employment, value added and labor income impacts based on econometric models that quantify the relationship between ad spending and resulting sales.
- Uses input-output methodologies to compute the ripple effect of economic activity that happens as a result of the sales from ad spending.
- Simultaneously allocates advertising to every state, congressional district and 17 NAICS-based industry aggregates using proprietary macroeconomic, regional and industry models.

The Economic Drivers of Advertising Expenditures

At the foundation, this study built upon a model originally developed by Dr. Klein designed to answer the question: Holding all other factors equal, what percent change in advertising spending would result from a given percent change in the cost of advertising? This model has important policy implications concerning a potential increase in the cost of advertising that would result from reducing or eliminating the federal tax deductibility of ad spending.

Using the IRS tax statistics database, IHS was able to collect industry-level advertising expenditure information that was reported on each corporation income tax form. A reformation of the model specification was needed as a result of revised historical data and a change in the source data of the dependent variable. The structure of the economy was much different when the model was first developed and subsequently the regressor data had a different statistical form. Thus, the old model did not provide an optimal fit of the data.

The model uses ordinary least squares regression analysis to explain the quarterly percent change in real advertising spending as a linear function of three broad macroeconomic factors: household consumption, the rate of unemployment, and the price of advertising relative to the price of other goods and services. The specification of the equation allows us to control for those factors that determine advertising spending, yet still isolate the effect of the driver that is of interest for this study – the relative price of advertising.

- Real consumer spending per household indicates the overall strength of the consumer market. This factor provides a broad measure of the potential sales opportunities that can be expected in the marketplace.
- The health of labor market – as represented by the unemployment rate – provides a useful measure of changes to personal income potential and additional sales.
- Firms that advertise take into account the cost of advertising relative to other goods and services that could be purchased.

Regression Analysis for Total Advertising Expenditures

Dependent Variable: Log(Real Advertising Expenditures)
Method: Least Squares
Sample (adjusted): 2000Q1 2014Q4

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	5.71 *	0.54	10.56	0.00
Log(Relative Cost of Advertising)	-0.76 *	0.18	-4.18	0.00
Unemployment Rate	-0.03 *	0.00	-8.25	0.00
Log(Real Consumer Spending per Household)	0.53 *	0.12	4.32	0.00
R-squared	0.95			
Adjusted R-squared	0.94			
Durbin-Watson stat	1.65			

* Indicates significance at 5%

The results of the regression model are presented in the table above. The most important discovery of this linear regression model is that increases in the cost of advertising give companies a disincentive to spend.

To interpret the usefulness of any regression model, we use several diagnostic statistics. First, the adjusted R-squared statistic measures goodness of fit, and ranges from zero to one. The model's R-squared value of 0.95 means that 95 percent of the variation in real advertising spending is explained by the three regressors. For a time-series model, this R-squared value is quite high. Second, the Durbin-Watson statistic near 2.0 tells us that the model has been corrected for autocorrelation, an effect that can artificially shrink the coefficients' standard errors, making a driver appear to be significant when it is really not.

The growth rates and levels of advertising spending are given in real terms. This is a standard practice in time-series modeling, since it takes out the influence of inflation in the model's variables, allowing for estimation of the true economic relationships among them. However, in the other sections of the report, all spending and output figures are in nominal terms.

The signs of the coefficients are all correct, and their magnitudes reasonable. The model's specification (log-log) allows us to interpret the coefficients as elasticities, or changes in percent terms. For example, the 0.53 coefficient on real consumer spending per household means that a one percent increase in real consumer spending per household results in a 0.53% increase in real advertising spending. The coefficient of -0.76 on relative cost of advertising indicates that a one-percent increase in the price of advertising results in a 0.76% decrease in real ad spending.

The t- and p-statistics are two ways of measuring the probability that the observed statistical relationships are actually true. A t-statistic is simply the ratio of the coefficient to its standard error, and, as a rule of thumb, a value of 1.96 or greater means that the coefficient is significant. A p-value measures the probability that the observed coefficient is equal to its true value. A p- value of less than 0.05 is a universally accepted threshold in economics and the social sciences.

Input-Output Analysis and IMPLAN

The economic impacts in this report were quantified through input-output (I-O) modeling and social accounting matrices (SAM). I-O tables provide detailed statistics on economic processes and relationships between industries. The SAM is an extension of the I-O table and incorporates institutional and structural details that capture all transfers and real transitions between industries and institutions in an economy. This information enables the user to assess the impact of specified events on economic activity. In this report, the “event” is advertising activity.

The analysis starts with an accounting model that shows the relationship between producing sectors, final demand and income by industry. Each industry purchases goods and services that are used to produce commodities, which are, in turn, inputs for other industries or purchased by final users. The model accounts for the income originating from each industry as a result of its production. The income is in the form of compensation, taxes on production and imports (less subsidies), and gross operating surplus (profits). The US I-O accounts are derived mainly from the national income and product accounts (NIPA) and the capital flow tables.

IHS sourced a model from IMPLAN Group LLC as the initial foundation from which to quantify the economic impact of advertising. The IMPLAN model closely follows the accounting conventions used in the US I-O accounts and is flexible enough to evaluate changes via the value of output or employment from the source industry. Using data from the World Industry Services, World Economic Services and other IHS-proprietary data assets, the modeling environment was customized and refined.

The total economic impacts can be calculated either as direct and indirect effects or as direct, indirect, and induced effects. Direct effects are production changes associated with the immediate or final-demand changes. Indirect effects are production changes in backward-linked industries caused by the changing input needs of directly affected industries (for example, additional purchases to produce additional output). Induced effects are the changes in regional household spending patterns caused by changes in household income generated from the direct and indirect effects.

The notion of a multiplier rests upon the difference between the initial effect of a change in final demand and the total effects of that change. Two types of multipliers are used to compute the level of impacts:

Type I multipliers

A Type I multiplier is the direct effect produced by a change in final demand plus the indirect effect, divided by the direct effect. Increased demands are assumed to lead to increased employment and population, with the average income level remaining constant. The Leontief inverse (Type I multipliers matrix) is derived by inverting the direct coefficients matrix. The result is a matrix of total requirement coefficients, the amount each industry must produce for the purchasing industry to deliver one dollar's worth of output to final demand.

Type SAM multipliers

Type SAM multipliers incorporate “induced” effects resulting from the household expenditures from new labor income. The linear relationship between labor income and household expenditure can be customized in the IMPLAN software. The default relationship is PCE and total household expenditure. Each dollar of workplace- based income is spent based on the SAM relationship generated by IMPLAN.