Economic Contributions of the US Movie Theater Industry

Prepared for the National Association of Theatre Owners (NATO)

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Contents

Executive Summary

Ernst & Young ("EY") was commissioned by the National Association of Movie Theatres (NATO) to estimate the size and economic contributions of the US motion picture exhibition industry excluding drive-in theaters, hereafter called the movie theater industry, in the United States. This study examines the direct, indirect and induced economic impacts of the movie theater industry through its operations as well as the consumption contributions generated by the moviegoers. This consumption captures spending on activities that are not directly related to movies but are associated with the overall movie experience, hereafter called movie-night spending. The study reports results for the 50 US states plus Washington, DC and the national total for 2019.

Key findings:

- The US movie theater industry generated **$10.2 billion box office sales** in the United States in 2019 and generated an estimated **$18.3 billion in direct gross economic output (revenue).** Movie theaters employed approximately **150,200 workers** in the United States and paid approximately $2.6 billion in direct labor income in 2019.
- Total **movie-night spending** was about **$5 billion** through dining and retail activities on the day of theater visits. This estimate is based on observing elevated spending by movie-goers within 2.5 hours and 10 miles of their movie theater visit as compared with their typical spending pattern during other comparable periods when they did not patronize a movie theater.
- **The movie theater industry supported a total of 399,500 jobs in 2019**. This includes 150,200 direct movie theater employees, 175,200 supported through indirect and induced effects, and an additional 74,100 workers supported by movie-night spending.
- The movie theater industry contributed **total value added of $29.7 billion** in 2019 (including direct, indirect, and induced contributions from both movie theater operations and movie-night spending).
- The movie theater industry supported **gross economic output of $63.8 billion** in 2019 (including direct, indirect, and induced contributions from both movie theater operations and movie-night spending). This includes $18.3 billion of direct revenue from the operation of movie theaters, $36.1 billion in indirect and induced economic output, and an additional $9.3 billion output supported by movie-night spending.

Table ES-1. Economic contributions of the movie theater industry in the United States

Actual employment, millions of dollars

State	Direct contributions		Total contributions *(Direct + Indirect + Induced)*		Total theater industry contributions
	Theater operations	Movie-night spending	Theater operations	Movie-night spending	
Jobs	150,200	44,900	325,400	74,100	**399,500**
Labor Income	$2,602	$1,393	$13,785	$3,198	**$16,983**
Value Added	$4,663	$2,039	$24,609	$5,137	**$29,746**
Output	$18,348	$3,486	$54,496	$9,320	**$63,816**

Source: EY analysis using the IMPLAN input-output model.
Note: Total movie theater industry contributions include direct, indirect, and induced contributions from movie theater operations and movie-night spending. Figures may not appear to sum due to rounding.

- Movie theater operations and movie-night spending generated more than **$4.9 billion nationwide in federal, state, and local taxes** in 2019. The total tax contributions from movie theater operations and movie-night spending in 2019 are shown in Table ES-2 below, by level of governments and by tax type.

Table ES-2. Tax contributions of the movie theater industry in the United States

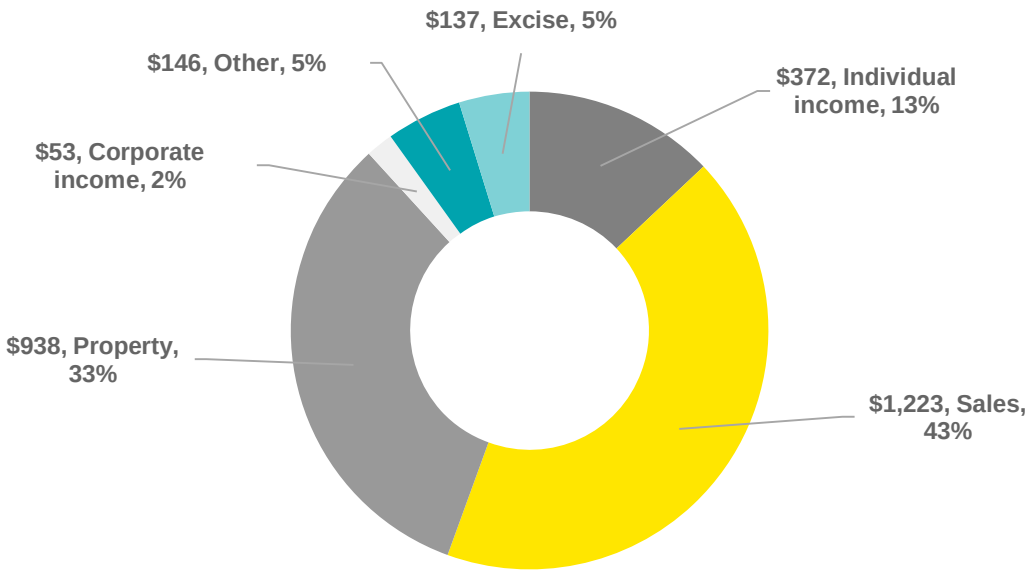
Millions of dollars

State	Direct contributions		Total contributions *(Direct + Indirect + Induced)*		Total theater industry tax contributions
	Federal	State & Local	Federal	State & Local	
Ind. income tax	$418	$84	$1,778	$372	$2,150
Sales tax	--	$922	--	$1,223	$1,223
Property tax	--	$542	--	$938	$938
Corp. income tax	$60	$12	$254	$53	$307
Excise tax	--	$33	--	$137	$137
Other taxes	--	$34	--	$146	$146
US Total	**$478**	**$1,626**	**$2,032**	**$2,869**	**$4,901**

Source: EY analysis, IRS Income Statistics, BEA, Census, and IMPLAN.
Note: Figures may not appear to sum due to rounding.

- **The movie theater industry contributed an estimate of nearly $2.9 billion in state and local tax revenue in 2019**. Of the $2.9 billion, an estimated 43% of the total ($1.2 billion) is due to sales tax on movie tickets and retail and dining activities associated with the movie-night spending, while 33% ($938 million) is from property tax as a result of movie theater operations and movie-night spending, and 25% ($709 million) is from other taxes that movie theater businesses and movie theater industry employees contribute, such as income, excise, and license taxes. See Figure ES-1 below.

Figure ES-1. State and local tax contributions of $2.9 billion by the movie theater industry, 2019 ($millions)



Source: EY analysis of IRS Income Statistics, BEA, Census Governmental Finances, and the IMPLAN input-output model.
Note: Figures may not appear to sum due to rounding.

Economic contributions in this report include:

There are several economic measures presented in this report. These include:

- **Employment**: Full-time and part-time jobs across the United States
- **Labor income**: Salaries, wages, and benefits, including 401k contributions
- **Value added**: Labor income plus indirect business taxes, consumption of fixed capital (depreciation), and mixed income
- **Gross economic output**: Sum of value-added and intermediate input (supplier) purchases. This is usually equivalent to an industry's revenue and is considered the broadest measure of economic activity.
- **Federal, State and local taxes**: Income, property, sales, excise, license and other taxes

The movie theater industry contributes to the US economy by employing workers, paying salaries and benefits, purchasing goods and services from local businesses, and paying federal, state and local taxes. The analysis includes three types of economic contributions:

- **Direct economic contributions** are expressed in terms of employment, labor income, value-added, output, and state and local taxes resulting from movie theater operations. Direct effects include jobs at movie theater facilities and wages paid to movie theater workers. The direct effects also include a first-round contribution from the movie-night spending.
- **Indirect economic contributions** are estimated in terms of employment, labor income, value added, and output resulting from intermediate purchases from local suppliers, including real estate, utility service, and insurance companies. The indirect effects also include a second-round

contribution from the local suppliers who support the businesses contributing to the movie-night spending.

- **Induced economic contributions** consist of employment, labor income, value added, and output resulting from spending by the movie theater workforce, employees of other businesses supporting the movie-night spending, and their suppliers' employees (including movie theaters and other businesses).

1. Study purpose

Ernst & Young ("EY") was commissioned by the National Association of Movie Theatres (NATO) to estimate the size and economic contributions of the motion picture theater–except drive-in (hereafter called, movie theater) industry in the United States. This study examines the direct, indirect and induced economic impacts of the movie theater industry through its operations and the consumption contributions generated by the moviegoers through spending on activities that are not directly related to movies but could be associated with the overall movie experience (hereafter called, movie-night spending). The study reports results for the 50 US states (plus Washington, DC) and the US total for 2019.

2. Data and methodology

EY analyzed and quantified the impact of movie theater operations and consumption contributions related to movie nights on the US economy and by each state (including DC) using an economic input-output modeling approach. EY used the IMPLAN economic model to evaluate the economic impact of the industry by estimating the direct, indirect, and induced economic contributions of the industry.

Data sources

The analysis uses data from the following sources:

- Box office and movie-goer activity data provided by Comscore and PlaceIQ;
- State- and national-level input-output matrices (basis for IMPLAN economic models);
- Annual financial reports of several of the nation's largest theater chains
- The Numbers' Domestic Movie Theatrical Market Summary; and
- Economic Census, Bureau of Labor Statistics, Bureau of Economic Analysis, and JobsEQ.
- Tax data from IRS Income Statistics and Census Governmental Finances

Estimating movie theater operations

EY estimated the economic contributions of the movie theater industry using a combination of the sources listed above. To quantify the direct economic output contribution, EY relied on box office data from The Numbers' Domestic Movie Theatrical Market Summary, and then, based on the operating profiles of several of the nation's largest movie theater chains, estimated the total direct economic output to include other components of the movie theater industry, such as concession sales. EY leveraged industry-level data to quantify the employment and labor income contributions of the industry. Indirect and induced economic contributions were estimated based on the IMPLAN input-output models of the 50 states plus the District of Columbia, as well as the overall United States. These models assume constant relationships and identify the location of suppliers based on average industry relationships and economic data.

Estimating movie-night spending

EY quantified additional contributions generated by the moviegoers through spending on activities that are not directly related to movies but could be associated with the overall movie experience (i.e., expenditures outside the premises of movie theaters). For this analysis, EY identified these activities that could be bundled together with the "movie-night" experience and quantified the amount of movie-night spending in these categories using the data on theater goers' non-movie spending on movie nights compared to non-movie outings.

EY analyzed spending related to dining (casual restaurants, coffee, fast casual and quick service restaurants) and retail. EY used PlaceIQ data on the share of moviegoers who visit these categories of establishments within 2.5 hours and 10 miles of the movie theater visit. To estimate the share of people whose movie theater visit caused a visit to another establishment, EY subtracted the share who visited

some type of dining or retail on a different but similar day and time. Using these baseline shares of moviegoers, EY then calculated the total movie-goer related spending at these establishments using average meal and retail purchase prices.[1]

Estimating economic contributions

There are three types of economic contributions included in this study:

- **Direct economic contributions** are expressed in terms of employment, labor income, value-added, output, and state and local taxes resulting from movie theater operations. Direct effects include jobs at movie theater facilities and wages paid to movie theater workers. The direct effects also include a first-round contribution from the movie-night spending.
- **Indirect economic contributions** are estimated in terms of employment, labor income, value added, and output resulting from intermediate purchases from local suppliers, including real estate, utility service, and insurance companies. The indirect effects also include a second-round contribution from the local suppliers who support the businesses contributing to the movie-night spending.
- **Induced economic contributions** consist of employment, labor income, value added, and output resulting from spending by the movie theater workforce, employees of other businesses supporting the movie-night spending, and their suppliers' employees (including movie theaters and other businesses).

There are several economic measures presented in this report. These include:

- **Employment**: Full-time and part-time jobs across the United States
- **Labor income**: Salaries, wages, and benefits, including 401k contributions
- **Value added**: Labor income plus indirect business taxes, consumption of fixed capital (depreciation), and mixed income
- **Gross economic output**: Sum of value-added and intermediate input (supplier) purchases. This is usually equivalent to an industry's revenue and is considered the broadest measure of economic activity
- **Federal, State and local taxes**: Income, property, sales, excise, license and other taxes

Estimating tax contribution

Movie theater operations and movie-night spending generate substantial tax revenues for federal, state, and local governments. These taxes are paid either directly by the theater owners, employees, and consumers, or indirectly by other business owners and their employees due to the economic activities in the movie theater industry. The fiscal impact includes taxes generated as a result of movie theater operations and movie-night spending. Major taxes for the movie theater industry include individual income taxes, corporate income taxes, sales taxes, property taxes, excise taxes, and other taxes.

[1] EY assumes that the average price in 2019 is $22.59 for casual restaurant meals, $10.09 for fast casual meals, $5 for quick service restaurant meals, and $3.22 for coffee shop purchases. Data was gathered from USDA, Square, and QSR Magazine. Average retail prices ranged from $9.02 for convenience store purchases to $248.42 for furniture stores. Prices were then weighted by frequency of visits surrounding movie visits, the retail conversion factor, and state-by-state differences in per capita personal consumption expenditures. Data sources include Comscore, VendHQ, and the Bureau of Economic Analysis, among others.

3. Movie theater operations economic impact

The movie theater industry generated $10.2 billion box office sales in the United States in 2019 and grossed about $18.3 billion in direct revenue. The industry employed approximately 150,200 workers in the United States and directly supported an estimated $2.6 billion in labor income in 2019.

California and Texas accounted for more than one-fourth of the industry's national employment with more than 41,400 direct workers between the two states. Additionally, these two states, on average, paid workers above the national average compensation, resulting in a combined direct labor income contribution of nearly $879 million, equal to 34% of the US total.

Every US state and the District of Columbia supported at least $10 million in direct box office revenue in 2019.

Table 1. Movie theater operations - employment, box office sales, and total revenue by state

State	Total theater jobs	Labor income ($million)	Box office ($million)	Total theater revenue ($million)	Labor income per employee	Box office per employee
Alabama	1,400	$18	$95	$171	$13,114	$68,366
Alaska	400	$6	$25	$44	$15,549	$62,871
Arizona	5,300	$125	$290	$522	$23,488	$54,337
Arkansas	1,100	$12	$62	$112	$11,458	$58,090
California	21,400	$442	$1,776	$3,197	$20,687	$83,184
Colorado	3,300	$58	$210	$379	$17,592	$64,048
Connecticut	1,400	$24	$99	$178	$17,478	$72,118
Delaware	400	$6	$31	$55	$16,440	$80,329
Dist. of Columbia	200	$6	$25	$45	$26,285	$104,904
Florida	8,000	$138	$707	$1,273	$17,114	$87,941
Georgia	4,200	$65	$306	$551	$15,328	$72,575
Hawaii	900	$15	$67	$120	$17,088	$73,469
Idaho	800	$11	$50	$91	$12,716	$60,607
Illinois	5,600	$89	$371	$668	$15,782	$66,121
Indiana	2,800	$36	$159	$286	$12,683	$56,742
Iowa	1,700	$17	$79	$142	$9,991	$45,146
Kansas	1,500	$21	$84	$151	$13,800	$54,144
Kentucky	1,500	$21	$96	$173	$13,292	$62,360
Louisiana	1,600	$26	$103	$186	$15,818	$63,342
Maine	700	$10	$28	$50	$14,060	$39,729
Maryland	2,400	$41	$197	$354	$17,104	$82,555
Massachusetts	2,900	$57	$219	$395	$19,606	$76,016
Michigan	4,400	$64	$250	$451	$14,483	$57,077
Minnesota	2,600	$33	$149	$268	$12,566	$57,504
Mississippi	800	$10	$54	$98	$11,984	$66,963
Missouri	2,300	$30	$158	$285	$13,034	$67,725
Montana	500	$6	$24	$43	$11,644	$44,019
Nebraska	800	$8	$48	$86	$9,332	$57,213
Nevada	1,600	$24	$126	$226	$14,601	$76,779
New Hampshire	600	$9	$30	$54	$15,405	$49,784
New Jersey	3,200	$66	$283	$510	$20,293	$87,209
New Mexico	1,200	$18	$69	$125	$14,872	$58,841
New York	7,200	$156	$649	$1,168	$21,535	$89,848
North Carolina	3,600	$49	$255	$458	$13,639	$70,172
North Dakota	400	$5	$17	$30	$12,789	$43,419
Ohio	4,400	$60	$256	$460	$13,731	$58,336
Oklahoma	1,800	$18	$104	$187	$9,839	$57,570
Oregon	1,900	$32	$125	$225	$16,894	$66,898
Pennsylvania	4,200	$63	$275	$495	$14,955	$65,496
Rhode Island	400	$7	$21	$38	$15,572	$49,670
South Carolina	1,300	$19	$107	$193	$14,748	$81,769
South Dakota	500	$5	$18	$32	$10,914	$38,667
Tennessee	2,600	$37	$180	$324	$13,839	$67,997
Texas	20,100	$437	$1,044	$1,880	$21,765	$52,045
Utah	2,900	$34	$149	$268	$11,959	$52,294
Vermont	200	$3	$11	$19	$14,563	$49,037
Virginia	3,800	$61	$270	$486	$16,098	$71,026
Washington	3,400	$65	$265	$477	$18,746	$76,885
West Virginia	500	$7	$28	$50	$14,561	$60,354
Wisconsin	2,800	$32	$133	$240	$11,176	$47,172
Wyoming	400	$4	$15	$27	$10,986	$37,385
US Total	**150,200**	**$2,602**	**$10,193**	**$18,348**	**$17,319**	**$67,840**

Source: EY analysis using the IMPLAN input-output model. Note: Figures may not appear to sum due to rounding.

Table 2 summarizes the direct, indirect, and induced economic contributions of movie theater operations in 2019.

- In addition to the 150,200 workers directly employed by movie theater operations, the industry supported approximately 98,900 jobs and 76,300 jobs through indirect and induced effects, respectively, resulting in **a total employment contribution of 325,400 US jobs in 2019**.
- This implies a **total employment multiplier of 2.2, meaning for every 10 jobs supported directly by movie theater operations, the industry supports an additional 12 jobs in the United States** from suppliers (indirect) and purchases by their workforce and supplier employees (induced) at restaurants, grocery stores and retail outlets, among others.
- Movie theater operations supported an estimated $54.5 billion in gross economic output through direct, indirect, and induced effects. Of this, approximately $24.6 billion in total value added, including an estimated $13.8 billion in total labor income earned by US workers.

Table 2. Economic impact summary from theater operations in the United States, 2019
Actual employment, millions of dollars

Impact	Jobs	Labor Income	Value Added	Output
Direct	150,200	$2,602	$4,663	$18,348
Indirect	98,900	$6,760	$12,096	$22,149
Induced	76,300	$4,423	$7,850	$14,000
Total	**325,400**	**$13,785**	**$24,609**	**$54,496**

Source: EY analysis using the IMPLAN input-output model.
Note: Figures may not appear to sum due to rounding.

Table 3. Economic impact from movie theater operations by state

Actual employment, millions of dollars

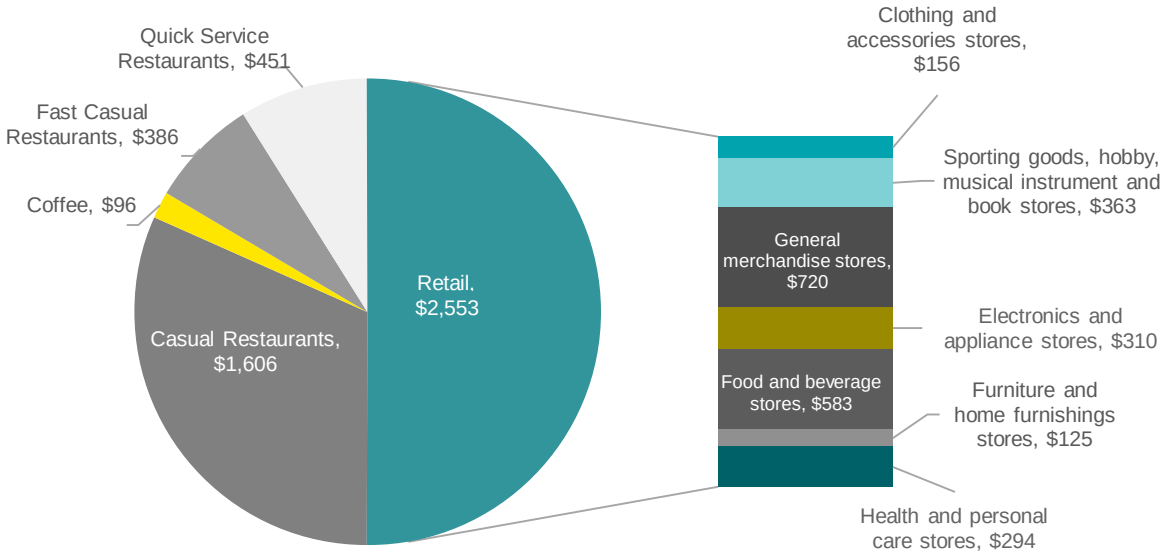
	Direct contributions				Total contributions			
State	Jobs	Labor income	Value Added	Output	Jobs	Labor income	Value Added	Output
Alabama	1,400	$18	$33	$171	2,800	$94	$165	$430
Alaska	400	$6	$11	$44	700	$24	$43	$105
Arizona	5,300	$125	$225	$522	10,100	$392	$693	$1,426
Arkansas	1,100	$12	$22	$112	2,000	$62	$111	$288
California	21,400	$442	$792	$3,197	55,900	$3,001	$5,415	$11,032
Colorado	3,300	$58	$104	$379	6,600	$260	$463	$1,049
Connecticut	1,400	$24	$43	$178	2,900	$134	$246	$523
Delaware	400	$6	$11	$55	800	$30	$54	$134
D. of Columbia	200	$6	$11	$45	600	$32	$54	$120
Florida	8,000	$138	$247	$1,273	21,400	$900	$1,626	$3,864
Georgia	4,200	$65	$116	$551	10,600	$444	$812	$1,833
Hawaii	900	$15	$28	$120	2,100	$86	$159	$363
Idaho	800	$11	$19	$91	1,600	$50	$89	$234
Illinois	5,600	$89	$159	$668	12,300	$524	$934	$2,060
Indiana	2,800	$36	$64	$286	5,200	$175	$313	$761
Iowa	1,700	$17	$31	$142	2,900	$78	$142	$356
Kansas	1,500	$21	$38	$151	2,800	$92	$161	$389
Kentucky	1,500	$21	$37	$173	2,900	$98	$170	$435
Louisiana	1,600	$26	$46	$186	3,300	$122	$235	$532
Maine	700	$10	$18	$50	1,200	$33	$60	$132
Maryland	2,400	$41	$73	$354	5,400	$241	$421	$978
Massachusetts	2,900	$57	$101	$395	6,400	$297	$523	$1,149
Michigan	4,400	$64	$114	$451	8,500	$300	$527	$1,242
Minnesota	2,600	$33	$58	$268	5,000	$180	$313	$750
Mississippi	800	$10	$17	$98	1,600	$49	$89	$243
Missouri	2,300	$30	$55	$285	4,700	$173	$306	$758
Montana	500	$6	$11	$43	1,000	$26	$47	$115
Nebraska	800	$8	$14	$86	1,600	$50	$88	$232
Nevada	1,600	$24	$43	$226	4,000	$162	$301	$712
New Hampshire	600	$9	$17	$54	1,100	$38	$66	$144
New Jersey	3,200	$66	$118	$510	7,800	$385	$663	$1,478
New Mexico	1,200	$18	$31	$125	2,300	$78	$151	$348
New York	7,200	$156	$279	$1,168	18,700	$1,057	$1,898	$3,855
North Carolina	3,600	$49	$89	$458	7,600	$281	$502	$1,242
North Dakota	400	$5	$9	$30	600	$17	$30	$72
Ohio	4,400	$60	$108	$460	8,400	$295	$527	$1,249
Oklahoma	1,800	$18	$32	$187	3,400	$106	$187	$494
Oregon	1,900	$32	$56	$225	4,200	$166	$294	$675
Pennsylvania	4,200	$63	$112	$495	8,600	$362	$636	$1,425
Rhode Island	400	$7	$12	$38	800	$26	$47	$103
South Carolina	1,300	$19	$35	$193	3,100	$117	$206	$524
South Dakota	500	$5	$9	$32	700	$18	$33	$79
Tennessee	2,600	$37	$66	$324	6,000	$249	$431	$1,007
Texas	20,100	$437	$783	$1,880	36,900	$1,420	$2,492	$5,127
Utah	2,900	$34	$61	$268	5,800	$196	$352	$843
Vermont	200	$3	$6	$19	400	$12	$22	$51
Virginia	3,800	$61	$110	$486	8,100	$331	$581	$1,353
Washington	3,400	$65	$116	$477	7,500	$329	$593	$1,361
West Virginia	500	$7	$12	$50	800	$27	$47	$118
Wisconsin	2,800	$32	$57	$240	4,900	$148	$263	$636
Wyoming	400	$4	$8	$27	600	$16	$28	$67
US Total	**150,200**	**$2,602**	**$4,663**	**$18,348**	**325,400**	**$13,785**	**$24,609**	**$54,496**

Source: EY analysis using the IMPLAN input-output model. Note: Figures may not appear to sum due to rounding.

4. Movie-night spending economic impact

Overall, EY estimates that nationwide dining and retail spending associated with movie visits is $5 billion (approximately equally split between dining and retail), as shown in Figure 1 below. Spending is equally split between dining and retail. The largest category of spending is for casual restaurants at $1.6 billion, followed by $720 million in spending at general merchandise stores.

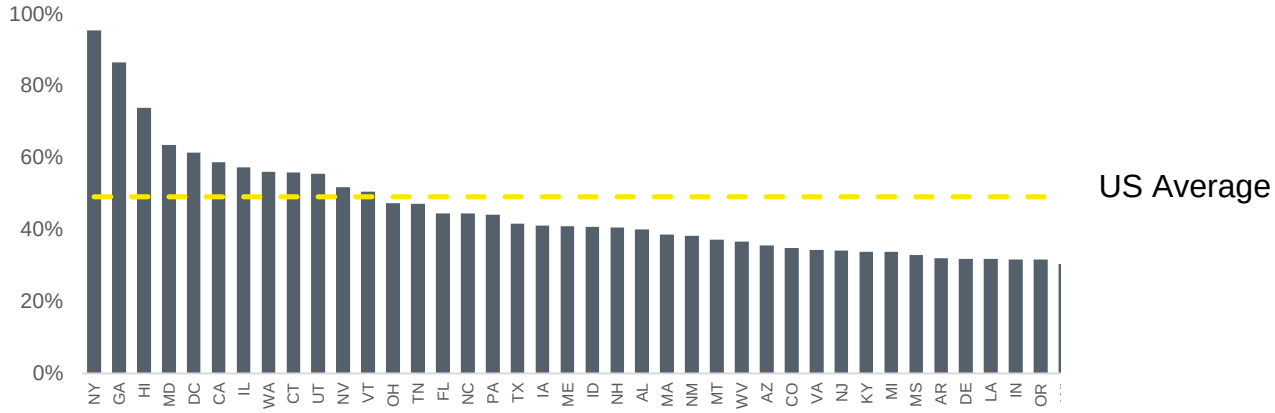
Figure 1. Movie-night spending by type, US total, in millions of dollars



Source: EY analysis.
Note: Figures may not appear to sum due to rounding.

Figure 2 shows that across the US, movie-night spending makes up 49% of box office sales on average, though this share varies significantly, from a high of 96% of box office sales in New York, to a low of 18% in North Dakota. This difference is largely driven by regional price variations in food and consumer goods.

Figure 2. Dining and movie spending as a share of box office sales



Source: EY analysis using Comscore data.

Table 4 summarizes the direct, indirect and induced effects from movie-night spending. Movie-night spending contributed to the employment of approximately 74,100 workers in the United States. This includes 44,900 direct jobs and 29,200 indirect and induced jobs. Movie-night spending supported 483 jobs in the median state. Workers were paid approximately $3.2 billion in labor income in 2019.

Movie-night spending contributed a total of $5.1 billion, including $2.0 million in direct effects and $3.1 billion in indirect and induced effects. It also resulted in gross economic output of $9.3 billion. This includes $3.5 billion in direct effects, and $5.8 billion in indirect and induced effects. The magnitude of economic impacts varies across states. For a complete breakdown, see Table 5.

Table 4. Economic impact summary from movie-night spending

Actual employment, millions of dollars

Impact	Jobs	Labor Income	Value Added	Output
Direct	44,900	$1,393	$2,039	$3,486
Indirect	11,700	$789	$1,295	$2,619
Induced	17,500	$1,016	$1,803	$3,215
Total	**74,100**	**$3,198**	**$5,137**	**$9,320**

Source: EY analysis using the IMPLAN input-output model.
Note: Figures may not appear to sum due to rounding.

Table 5. Economic impact summary from movie-night spending by state

Actual employment, millions of dollars

State	Direct contributions				Total contributions (Direct + Indirect + Induced)			
	Jobs	Labor income	Value Added	Output	Jobs	Labor income	Value Added	Output
Alabama	400	$10	$14	$27	600	$19	$30	$62
Alaska	0	$1	$2	$3	100	$3	$4	$8
Arizona	1,000	$30	$44	$75	1,700	$68	$111	$209
Arkansas	200	$5	$7	$13	300	$10	$16	$31
California	8,500	$310	$456	$724	14,200	$721	$1,170	$2,007
Colorado	600	$19	$28	$48	1,100	$45	$73	$137
Connecticut	500	$18	$25	$40	800	$37	$59	$100
Delaware	100	$3	$4	$7	100	$6	$9	$16
D. of Columbia	100	$4	$6	$9	100	$7	$10	$16
Florida	2,700	$80	$118	$203	4,900	$191	$313	$594
Georgia	3,100	$76	$113	$211	5,100	$187	$309	$592
Hawaii	300	$13	$20	$30	500	$25	$41	$70
Idaho	200	$6	$8	$16	400	$11	$19	$38
Illinois	1,900	$57	$87	$147	3,200	$141	$229	$410
Indiana	600	$13	$20	$37	900	$30	$47	$91
Iowa	300	$7	$10	$18	400	$14	$22	$43
Kansas	200	$5	$8	$15	300	$11	$18	$35
Kentucky	300	$9	$13	$24	500	$18	$28	$56
Louisiana	300	$8	$12	$22	500	$16	$27	$52
Maine	100	$3	$4	$6	100	$6	$9	$17
Maryland	1,300	$36	$58	$105	2,000	$82	$138	$252
Massachusetts	600	$23	$31	$53	1,100	$54	$82	$143
Michigan	900	$22	$31	$58	1,400	$54	$82	$160
Minnesota	400	$11	$17	$30	700	$29	$45	$86
Mississippi	200	$4	$7	$14	300	$8	$14	$30
Missouri	500	$13	$18	$33	800	$29	$45	$88
Montana	100	$2	$2	$5	100	$4	$6	$12
Nebraska	100	$3	$4	$8	200	$6	$10	$20
Nevada	500	$14	$26	$44	800	$31	$57	$103
New Hampshire	100	$3	$3	$6	100	$6	$8	$15
New Jersey	700	$26	$35	$58	1,200	$59	$89	$155
New Mexico	200	$7	$10	$18	400	$12	$20	$38
New York	5,300	$195	$291	$458	8,300	$426	$686	$1,131
North Carolina	1,000	$27	$39	$73	1,700	$63	$101	$199
North Dakota	0	$1	$1	$2	0	$1	$2	$5
Ohio	1,100	$30	$44	$81	1,900	$72	$117	$224
Oklahoma	300	$7	$10	$19	400	$15	$23	$47
Oregon	300	$11	$15	$26	600	$25	$38	$70
Pennsylvania	1,200	$33	$47	$88	2,000	$84	$128	$240
Rhode Island	100	$2	$3	$4	100	$4	$6	$10
South Carolina	300	$8	$11	$20	500	$16	$25	$49
South Dakota	0	$1	$1	$2	100	$2	$3	$6
Tennessee	700	$21	$31	$53	1,200	$49	$75	$140
Texas	4,100	$119	$163	$300	7,100	$288	$442	$862
Utah	1,000	$26	$37	$70	1,700	$59	$96	$192
Vermont	0	$1	$1	$3	100	$2	$3	$6
Virginia	800	$23	$33	$60	1,300	$50	$82	$152
Washington	1,000	$36	$55	$86	1,600	$77	$128	$219
West Virginia	100	$3	$4	$7	200	$5	$8	$15
Wisconsin	300	$9	$12	$24	600	$21	$32	$63
Wyoming	0	$1	$1	$2	0	$1	$2	$4
US Total	**44,900**	**$1,393**	**$2,039**	**$3,486**	**74,100**	**$3,198**	**$5,137**	**$9,320**

Source: EY analysis using the IMPLAN input-output model. Note: Figures may not appear to sum due to rounding.

5. Total industry impact – Movie theater operations and movie-night spending

Considering the effects of both movie theater operations and movie-night spending, the movie industry supported a total of nearly 400,000 direct, indirect, and induced jobs in the United States in 2019. The majority (81%) of the employment contribution is from movie theater operations, and direct employment accounted for nearly half (49%) of all jobs supported.

Movie theater operations and movie-night spending together supported nearly $17.0 billion in total labor income. This contribution is equal to an average compensation of $42,500 per job supported.

Including direct, indirect, and induced effects, the industry contributed more than $63.8 billion in total gross economic output in 2019. This total includes more than $29.7 billion in US GDP.

Table 6. Economic contributions of the movie theater industry in the United States
Actual employment, millions of dollars

State	Direct contributions		Total contributions *(Direct + Indirect + induced)*		Total theater industry contributions
	Theater operations	Movie-night spending	Theater operations	Movie-night spending	
Jobs	150,200	44,900	325,400	74,100	**399,500**
Labor Income	$2,602	$1,393	$13,785	$3,198	**$16,983**
Value Added	$4,663	$2,039	$24,609	$5,137	**$29,746**
Output	$18,348	$3,486	$54,496	$9,320	**$63,816**

Source: EY analysis using the IMPLAN input-output model.
Note: Total movie theater industry contributions include direct, indirect, and induced contributions from movie theater operations and movie-night spending. Figures may not appear to sum due to rounding.

Table 7 below illustrates the direct economic contributions in each state for movie theater operations and movie-night spending, and Table 8 illustrates the total impacts, including indirect and induced effects.

Table 7. Total direct impact from movie theater operations and movie-night spending

Actual employment, millions of dollars

State	Movie theater operations				Movie-night spending			
	Jobs	Labor income	Value Added	Output	Jobs	Labor income	Value Added	Output
Alabama	1,400	$18	$33	$171	400	$10	$14	$27
Alaska	400	$6	$11	$44	0	$1	$2	$3
Arizona	5,300	$125	$225	$522	1,000	$30	$44	$75
Arkansas	1,100	$12	$22	$112	200	$5	$7	$13
California	21,400	$442	$792	$3,197	8,500	$310	$456	$724
Colorado	3,300	$58	$104	$379	600	$19	$28	$48
Connecticut	1,400	$24	$43	$178	500	$18	$25	$40
Delaware	400	$6	$11	$55	100	$3	$4	$7
D. of Columbia	200	$6	$11	$45	100	$4	$6	$9
Florida	8,000	$138	$247	$1,273	2,700	$80	$118	$203
Georgia	4,200	$65	$116	$551	3,100	$76	$113	$211
Hawaii	900	$15	$28	$120	300	$13	$20	$30
Idaho	800	$11	$19	$91	200	$6	$8	$16
Illinois	5,600	$89	$159	$668	1,900	$57	$87	$147
Indiana	2,800	$36	$64	$286	600	$13	$20	$37
Iowa	1,700	$17	$31	$142	300	$7	$10	$18
Kansas	1,500	$21	$38	$151	200	$5	$8	$15
Kentucky	1,500	$21	$37	$173	300	$9	$13	$24
Louisiana	1,600	$26	$46	$186	300	$8	$12	$22
Maine	700	$10	$18	$50	100	$3	$4	$6
Maryland	2,400	$41	$73	$354	1,300	$36	$58	$105
Massachusetts	2,900	$57	$101	$395	600	$23	$31	$53
Michigan	4,400	$64	$114	$451	900	$22	$31	$58
Minnesota	2,600	$33	$58	$268	400	$11	$17	$30
Mississippi	800	$10	$17	$98	200	$4	$7	$14
Missouri	2,300	$30	$55	$285	500	$13	$18	$33
Montana	500	$6	$11	$43	100	$2	$2	$5
Nebraska	800	$8	$14	$86	100	$3	$4	$8
Nevada	1,600	$24	$43	$226	500	$14	$26	$44
New Hampshire	600	$9	$17	$54	100	$3	$3	$6
New Jersey	3,200	$66	$118	$510	700	$26	$35	$58
New Mexico	1,200	$18	$31	$125	200	$7	$10	$18
New York	7,200	$156	$279	$1,168	5,300	$195	$291	$458
North Carolina	3,600	$49	$89	$458	1,000	$27	$39	$73
North Dakota	400	$5	$9	$30	0	$1	$1	$2
Ohio	4,400	$60	$108	$460	1,100	$30	$44	$81
Oklahoma	1,800	$18	$32	$187	300	$7	$10	$19
Oregon	1,900	$32	$56	$225	300	$11	$15	$26
Pennsylvania	4,200	$63	$112	$495	1,200	$33	$47	$88
Rhode Island	400	$7	$12	$38	100	$2	$3	$4
South Carolina	1,300	$19	$35	$193	300	$8	$11	$20
South Dakota	500	$5	$9	$32	0	$1	$1	$2
Tennessee	2,600	$37	$66	$324	700	$21	$31	$53
Texas	20,100	$437	$783	$1,880	4,100	$119	$163	$300
Utah	2,900	$34	$61	$268	1,000	$26	$37	$70
Vermont	200	$3	$6	$19	0	$1	$1	$3
Virginia	3,800	$61	$110	$486	800	$23	$33	$60
Washington	3,400	$65	$116	$477	1,000	$36	$55	$86
West Virginia	500	$7	$12	$50	100	$3	$4	$7
Wisconsin	2,800	$32	$57	$240	300	$9	$12	$24
Wyoming	400	$4	$8	$27	0	$1	$1	$2
US Total	**150,200**	**$2,602**	**$4,663**	**$18,348**	**44,900**	**$1,393**	**$2,039**	**$3,486**

Source: EY analysis using the IMPLAN input-output model. Note: Figures may not appear to sum due to rounding.

Table 8. Total economic impact from movie theater operations and movie-night spending

Actual employment, millions of dollars; Table includes direct, indirect, and induced

	Movie theater operations				Movie-night spending			
State	Jobs	Labor income	Value Added	Output	Jobs	Labor income	Value Added	Output
Alabama	2,800	$94	$165	$430	600	$19	$30	$62
Alaska	700	$24	$43	$105	100	$3	$4	$8
Arizona	10,100	$392	$693	$1,426	1,700	$68	$111	$209
Arkansas	2,000	$62	$111	$288	300	$10	$16	$31
California	55,900	$3,001	$5,415	$11,032	14,200	$721	$1,170	$2,007
Colorado	6,600	$260	$463	$1,049	1,100	$45	$73	$137
Connecticut	2,900	$134	$246	$523	800	$37	$59	$100
Delaware	800	$30	$54	$134	100	$6	$9	$16
D. of Columbia	600	$32	$54	$120	100	$7	$10	$16
Florida	21,400	$900	$1,626	$3,864	4,900	$191	$313	$594
Georgia	10,600	$444	$812	$1,833	5,100	$187	$309	$592
Hawaii	2,100	$86	$159	$363	500	$25	$41	$70
Idaho	1,600	$50	$89	$234	400	$11	$19	$38
Illinois	12,300	$524	$934	$2,060	3,200	$141	$229	$410
Indiana	5,200	$175	$313	$761	900	$30	$47	$91
Iowa	2,900	$78	$142	$356	400	$14	$22	$43
Kansas	2,800	$92	$161	$389	300	$11	$18	$35
Kentucky	2,900	$98	$170	$435	500	$18	$28	$56
Louisiana	3,300	$122	$235	$532	500	$16	$27	$52
Maine	1,200	$33	$60	$132	100	$6	$9	$17
Maryland	5,400	$241	$421	$978	2,000	$82	$138	$252
Massachusetts	6,400	$297	$523	$1,149	1,100	$54	$82	$143
Michigan	8,500	$300	$527	$1,242	1,400	$54	$82	$160
Minnesota	5,000	$180	$313	$750	700	$29	$45	$86
Mississippi	1,600	$49	$89	$243	300	$8	$14	$30
Missouri	4,700	$173	$306	$758	800	$29	$45	$88
Montana	1,000	$26	$47	$115	100	$4	$6	$12
Nebraska	1,600	$50	$88	$232	200	$6	$10	$20
Nevada	4,000	$162	$301	$712	800	$31	$57	$103
New Hampshire	1,100	$38	$66	$144	100	$6	$8	$15
New Jersey	7,800	$385	$663	$1,478	1,200	$59	$89	$155
New Mexico	2,300	$78	$151	$348	400	$12	$20	$38
New York	18,700	$1,057	$1,898	$3,855	8,300	$426	$686	$1,131
North Carolina	7,600	$281	$502	$1,242	1,700	$63	$101	$199
North Dakota	600	$17	$30	$72	0	$1	$2	$5
Ohio	8,400	$295	$527	$1,249	1,900	$72	$117	$224
Oklahoma	3,400	$106	$187	$494	400	$15	$23	$47
Oregon	4,200	$166	$294	$675	600	$25	$38	$70
Pennsylvania	8,600	$362	$636	$1,425	2,000	$84	$128	$240
Rhode Island	800	$26	$47	$103	100	$4	$6	$10
South Carolina	3,100	$117	$206	$524	500	$16	$25	$49
South Dakota	700	$18	$33	$79	100	$2	$3	$6
Tennessee	6,000	$249	$431	$1,007	1,200	$49	$75	$140
Texas	36,900	$1,420	$2,492	$5,127	7,100	$288	$442	$862
Utah	5,800	$196	$352	$843	1,700	$59	$96	$192
Vermont	400	$12	$22	$51	100	$2	$3	$6
Virginia	8,100	$331	$581	$1,353	1,300	$50	$82	$152
Washington	7,500	$329	$593	$1,361	1,600	$77	$128	$219
West Virginia	800	$27	$47	$118	200	$5	$8	$15
Wisconsin	4,900	$148	$263	$636	600	$21	$32	$63
Wyoming	600	$16	$28	$67	0	$1	$2	$4
US Total	**325,400**	**$13,785**	**$24,609**	**$54,496**	**74,100**	**$3,198**	**$5,137**	**$9,320**

Source: EY analysis using the IMPLAN input-output model. Note: Figures may not appear to sum due to rounding.

Table 9. Total movie theater industry impact on the US economy and by state

Actual employment, millions of dollars; Table includes movie theater operations and movie-night spending

State	Direct contributions				Total contributions (Direct + Indirect + induced)			
	Jobs	Labor income	Value Added	Output	Jobs	Labor income	Value Added	Output
Alabama	1,800	$28	$46	$198	3,400	$113	$195	$492
Alaska	400	$8	$13	$48	800	$27	$47	$113
Arizona	6,300	$155	$269	$597	11,800	$460	$804	$1,635
Arkansas	1,300	$17	$29	$126	2,300	$71	$127	$319
California	29,800	$752	$1,247	$3,921	70,100	$3,721	$6,585	$13,040
Colorado	3,900	$77	$132	$427	7,700	$305	$537	$1,186
Connecticut	1,900	$42	$68	$218	3,700	$172	$305	$622
Delaware	500	$9	$15	$62	900	$35	$63	$150
D. of Columbia	300	$11	$17	$54	700	$39	$64	$135
Florida	10,800	$218	$365	$1,476	26,300	$1,091	$1,938	$4,458
Georgia	7,300	$140	$229	$762	15,700	$632	$1,121	$2,426
Hawaii	1,200	$29	$47	$150	2,700	$111	$200	$433
Idaho	1,100	$16	$27	$107	2,000	$62	$108	$272
Illinois	7,500	$145	$245	$815	15,400	$664	$1,163	$2,470
Indiana	3,400	$49	$83	$323	6,100	$205	$360	$853
Iowa	2,000	$24	$41	$160	3,300	$92	$164	$399
Kansas	1,800	$27	$46	$165	3,100	$103	$178	$424
Kentucky	1,900	$29	$49	$197	3,400	$116	$199	$491
Louisiana	1,900	$34	$58	$208	3,800	$138	$262	$585
Maine	800	$12	$21	$56	1,300	$39	$69	$149
Maryland	3,700	$77	$131	$459	7,400	$323	$559	$1,229
Massachusetts	3,500	$80	$133	$447	7,500	$351	$605	$1,292
Michigan	5,200	$86	$145	$508	9,900	$354	$610	$1,402
Minnesota	3,000	$44	$75	$298	5,700	$209	$358	$836
Mississippi	1,000	$14	$24	$111	1,900	$57	$103	$272
Missouri	2,800	$43	$73	$319	5,500	$201	$351	$846
Montana	600	$8	$14	$48	1,100	$30	$52	$127
Nebraska	900	$11	$18	$94	1,800	$56	$98	$252
Nevada	2,100	$38	$69	$270	4,800	$193	$358	$815
New Hampshire	700	$12	$20	$59	1,200	$44	$74	$159
New Jersey	4,000	$92	$153	$568	9,000	$444	$751	$1,633
New Mexico	1,400	$24	$41	$142	2,700	$91	$171	$386
New York	12,500	$350	$570	$1,626	27,000	$1,483	$2,585	$4,986
North Carolina	4,700	$77	$127	$531	9,300	$345	$603	$1,441
North Dakota	400	$6	$10	$32	600	$19	$32	$76
Ohio	5,500	$90	$152	$541	10,300	$367	$645	$1,473
Oklahoma	2,100	$25	$42	$206	3,800	$120	$211	$541
Oregon	2,200	$43	$71	$250	4,800	$191	$332	$745
Pennsylvania	5,400	$96	$159	$582	10,600	$446	$764	$1,665
Rhode Island	500	$8	$14	$42	800	$30	$52	$114
South Carolina	1,600	$27	$46	$213	3,600	$132	$231	$572
South Dakota	500	$6	$10	$34	800	$20	$35	$84
Tennessee	3,400	$58	$96	$377	7,200	$298	$506	$1,147
Texas	24,200	$556	$946	$2,180	43,900	$1,708	$2,935	$5,989
Utah	3,900	$60	$98	$338	7,500	$255	$447	$1,035
Vermont	300	$4	$7	$22	500	$14	$25	$57
Virginia	4,600	$84	$143	$546	9,300	$381	$664	$1,505
Washington	4,400	$101	$171	$563	9,100	$405	$720	$1,580
West Virginia	600	$9	$16	$58	1,000	$31	$55	$133
Wisconsin	3,200	$40	$69	$264	5,400	$169	$295	$699
Wyoming	400	$5	$9	$29	700	$17	$30	$71
US Total	**195,200**	**$3,995**	**$6,702**	**$21,833**	**399,500**	**$16,983**	**$29,746**	**$63,816**

Source: EY analysis using the IMPLAN input-output model. Note: Figures may not appear to sum due to rounding.

6. US movie theater industry's federal, state, and local tax contributions

The movie theater industry contributes federal, state, and local tax revenues. This study includes estimates of individual income taxes paid by employees, corporate income taxes paid by corporations or businesses, property taxes on paid movie theaters, sales taxes imposed on the revenue of movie theater services and consumer spending, and excise and other taxes paid by movie theater industry operators and employees.

The total tax contributions from movie theater operations and movie-night spending in 2019 are shown in Table 10 below, by level of governments and by tax type. It is estimated that movie theater operations and movie-night spending generated more than $4.9 billion nationwide in federal, state, and local taxes in 2019. This includes an estimated nearly $2.2 billion in individual income tax, $307 million in corporation income tax, $1.2 billion in sales tax, $938 million in property tax, $146 million in excise tax, and $137 million in other types of taxes. The tax analysis accounts for the fact that income taxes and sales taxes are exempted in certain state and local areas.

Table 10. Tax contributions of the movie theater industry in the United States by tax type, 2019
Millions of dollars; Includes tax impact from movie theater operations and movie-night spending

	Direct contributions		Total contributions *(Direct + Indirect + induced)*		Total theater industry tax contributions
Tax type	Federal	State & Local	Federal	State & Local	
Ind. income tax	$418	$84	$1,778	$372	$2,150
Sales tax	--	$922	--	$1,223	$1,223
Property tax	--	$542	--	$938	$938
Corp. income tax	$60	$12	$254	$53	$307
Excise tax	--	$33	--	$137	$137
Other taxes	--	$34	--	$146	$146
US Total	**$478**	**$1,626**	**$2,032**	**$2,869**	**$4,901**

Source: EY analysis, IRS Income Statistics, BEA, Census, and IMPLAN. Note: Figures may not appear to sum due to rounding.

The movie theater industry generated a total of more than $4.9 billion in federal, state, and local taxes. Federal taxes accounted for more than $2.0 billion (41% of total tax) and state and local taxes were nearly $2.9 billion (59% of total tax). The direct tax contribution of movie theater industry is $2.1 billion in federal, state, and local taxes. Federal taxes accounted for $478 million (23% of total direct tax) and state and local taxes were more than $1.6 billion (77% of total direct tax). Individual income taxes had the greatest tax contribution, with employees paying taxes to federal, state, and local governments. Direct, indirect, and induced income taxes totaled nearly $2.2 billion, contributing to 44% of the total tax. For movie theaters in each US state, EY estimated their tax contributions to federal, state, and local taxes.

Table 11 below shows tax contribution details that vary by state.

Table 11. Tax contributions of the movie theater industry by state, 2019

Millions of dollars

State	Direct contributions		Total contributions *(Direct + Indirect + induced)*		Total theater industry tax contributions
	Federal	State & Local	Federal	State & Local	
Alabama	$3	$17	$14	$24	$37
Alaska	$1	$1	$3	$3	$6
Arizona	$19	$53	$55	$79	$134
Arkansas	$2	$11	$9	$16	$24
California	$90	$175	$445	$467	$912
Colorado	$9	$37	$36	$56	$93
Connecticut	$5	$22	$21	$35	$56
Delaware	$1	$2	$4	$4	$9
D. of Columbia	$1	$5	$5	$13	$17
Florida	$26	$107	$131	$169	$300
Georgia	$17	$61	$76	$99	$175
Hawaii	$3	$8	$13	$19	$32
Idaho	$2	$7	$7	$11	$18
Illinois	$17	$95	$79	$149	$229
Indiana	$6	$15	$25	$29	$54
Iowa	$3	$15	$11	$21	$32
Kansas	$3	$16	$12	$23	$35
Kentucky	$4	$12	$14	$21	$35
Louisiana	$4	$19	$17	$29	$45
Maine	$1	$3	$5	$6	$10
Maryland	$9	$38	$39	$63	$102
Massachusetts	$10	$19	$42	$45	$87
Michigan	$10	$34	$42	$56	$98
Minnesota	$5	$27	$25	$45	$70
Mississippi	$2	$9	$7	$13	$20
Missouri	$5	$29	$24	$41	$65
Montana	$1	$1	$4	$3	$7
Nebraska	$1	$7	$7	$12	$18
Nevada	$5	$10	$23	$23	$46
New Hampshire	$1	$2	$5	$5	$10
New Jersey	$11	$48	$53	$86	$139
New Mexico	$3	$11	$11	$18	$29
New York	$42	$192	$177	$351	$528
North Carolina	$9	$36	$41	$58	$99
North Dakota	$1	$2	$2	$4	$6
Ohio	$11	$45	$44	$70	$114
Oklahoma	$3	$16	$14	$24	$39
Oregon	$5	$10	$23	$24	$47
Pennsylvania	$11	$26	$53	$58	$111
Rhode Island	$1	$3	$4	$5	$8
South Carolina	$3	$16	$16	$25	$41
South Dakota	$1	$2	$2	$3	$6
Tennessee	$7	$39	$36	$57	$92
Texas	$67	$194	$204	$292	$496
Utah	$7	$22	$30	$38	$69
Vermont	$1	$2	$2	$3	$5
Virginia	$10	$31	$46	$58	$104
Washington	$12	$47	$48	$75	$123
West Virginia	$1	$4	$4	$6	$10
Wisconsin	$5	$20	$20	$33	$53
Wyoming	$1	$1	$2	$2	$4
US Total	**$478**	**$1,626**	**$2,032**	**$2,869**	**$4,901**

Source: EY analysis, IRS Income Statistics, BEA, Census, and IMPLAN. Note: Figures may not appear to sum due to rounding.

California generated $912 million in total federal, state, and local taxes and is the largest tax contributor in the movie theater industry. Besides California, New York, Texas, Florida, and Illinois are among the top five tax contributors in the movie theater industry. The total tax contributions of the top five states are all above $200 million.

7. Caveats and limitations

The estimates of the economic contribution of the movie theater industry presented in this report are based on an input-output model of the US economy and the data and assumptions described elsewhere in the report. Readers should be aware of the following limitations of the modeling approach and limitations specific to this analysis.

- **The results show a snapshot of economic contributions in 2019.** The input-output modeling approach used in this analysis shows the 2019 economic contribution of the industry based on its relationships with other industries and households in the US economy. The analysis is at a single point in time (2019). The results do not reflect or attempt to estimate an expansion, contraction, or any other changes, or related impacts, of the sector, including COVID-19.
- **Estimates are limited by available public information.** The analysis relies on information reported by Comscore and PlaceIQ as well as federal government agencies (primarily the US Bureau of Economic Analysis, US Bureau of Labor Statistics, US Census Bureau, and Internal Revenue Services), and other publicly available sources (i.e., 10-K document and IMPLAN). The analysis did not attempt to verify or validate this information using sources other than those described in the report.
- **Modeling the economic contribution of the movie theater industry relies on government industry classifications.** This report relates the activities of the motion picture theater–except drive-in as defined by the North American Industry Classification System (NAICS) to most effectively estimate the economic contribution of the industry. Workers in the movie theater industry are assumed to receive the average wages and benefits of workers in their respective industry and to require the level of operating input purchases characteristic of the industries into which they have been categorized. This analysis relies on estimates of the domestically purchased inputs from the IMPLAN economic model, which are estimated using aggregate trade flow data and may vary by industry.
- **State-level results are high-level estimates.** Whenever the state-level data were not available by the state via publicly available sources, an allocation approach based on box office share or national average has been implemented. As a result, state-level results are high-level estimates.
- **Taxes paid by, and related to, the movie theater operations and movie-night spending are based on historical averages.** In general, estimates of federal, state, and local taxes paid are based on the historical relationship between federal, state, and local tax collections (by tax type) to economic activity. The local sales tax estimates use the average local sales tax rate in a state and are not weighted by the movie theater revenue and spending in each location. The sales tax estimates are also subject to changes if any state or local government imposes a new sales tax rate.
- **Economic output reported in this report includes double counting.** Input-output modeling can include double-counting in its indirect and induced estimates, especially while estimating gross economic output. The gross economic output should not be interpreted as Gross Domestic Product or value-added.

Appendix I- Tax Impact Methodology

Estimates of the federal, state, and local taxes resulting indirectly from increased economic activity are based on EY's fiscal models for the movie theater industry. The fiscal models use data from the 10-K financial statements, the US Census Bureau's Governmental Finances, the US Bureau of Economic Analysis (BEA), sales tax rate information by state, and labor income from the IMPLAN model. The resulting increase in tax collections is reported by tax type for each state. The nationwide estimates are then calculated as the aggregates of all states' tax collections.

Individual Income taxes

Direct individual income taxes are paid by the employees of the movie theater industry. Indirect and induced individual income taxes are paid by employees of movie theater suppliers, retailers, service firms, and other relevant businesses. The direct, indirect, and induced individual income taxes incurred by both industry operations and consumer expenditure are estimated using ratios of the most recent individual income tax collections to personal income on the federal, state, and local levels.

Corporate Income taxes

Direct corporate income taxes are paid by the movie theater industry. Indirect and induced corporate income taxes are paid by the movie theater suppliers, retailers, service firms, and other relevant businesses. The direct, indirect, and induced corporate income taxes incurred by both industry operations and consumer expenditure are estimated using ratios of the most recent corporate income tax collections to personal income on the federal, state, and local levels.

Sales taxes

Sales taxes are available on the state and local levels. Below are the estimation details for sales taxes by economic activity and by impact type.

- Direct sales taxes for movie industry operations are levied on the box office revenue. For each state that imposes sales tax on movie tickets, the sales tax is calculated by multiplying the state and local general sales tax rate with the total ticket revenue generated within the state.[2]
- Indirect and induced sales taxes for movie industry operations are calculated by multiplying indirect and induced labor income for movie industry operations with ratios of the most recent sales tax collections to personal income on the state and local level.
- Direct sales taxes for movie-night spending are levied on food, beverage, and retail spending. For each state that imposes sales tax on food and beverages, the sales tax is calculated by multiplying the state and local sales tax rate for prepared food with the total food and beverage spending. For each state that imposes sales tax on retail, the sales tax is calculated by multiplying the state and local general sales tax rate with the total retail spending.
- Indirect and induced sales taxes for movie-night spending are calculated by multiplying indirect and induced labor income for movie-night spending with ratios of the most recent sales tax collections to personal income on the state and local level.

Property taxes

Property taxes are collected at the state and local levels. All property taxes are estimated based on the ratios of the most recent property tax collections to personal income on the state and local level, except for the direct property tax incurred by movie industry operation. To estimate the direct property tax for movie industry operations, the following process was used:

- In 2019, the 10-K financial reports of several of the nation's largest movie theater chains, representing about 52% of the industry, reported a total property value of approximately $11.7 billion. The total property value for all movie theaters in the US is calculated as $11.7 billion property

[2] The local general sales tax rate is the average of all sales tax rates imposed by local governments within the state.

value divided by 52%. The analysis allocates the national total property value for all movie theaters to all US states by applying the state to US total ratio for box office revenue.

- To estimate the state and local property taxes for each state, the property value for each state was then multiplied by an effective tax rate for each state. The effective tax rate for each state uses a major city's effective commercial property tax rate reported by the Lincoln Institute of Land Policy's *50-State Property Tax Comparison Study*'s on $25 million land and building properties.[3]
- The analysis further splits the state and local property taxes into state property tax and local property tax for each state. For each state, the state property tax is estimated by multiplying the ratio of state property tax collection to the aggregate state and local property tax collection. The same methodology applies to the local property tax.

Excise and other taxes

Excise and other taxes include income, license, and excise taxes related to movie theater businesses and movie theater industry employees. The fiscal impact of excise and other taxes are available at the state and local levels. The excise and other taxes are estimated by multiplying a ratio of tax revenue to personal income for each tax by the estimated labor income in each state.

[3] See Lincoln Institute of Land Policy and Minnesota Center for Fiscal Excellence*, 50-State Property Tax Comparison Study for Taxes Paid in 2018*: https://www.lincolninst.edu/publications/other/50-state-property-tax-comparison-study-3.