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ECONOMIC IMPACT

2017 SUNDANCE FILM FESTIVAL

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KEY DATA POINTS

At least 71,600 people attended the Sundance Film Festival between January 19 and January 29, 2017. Approximately 52% of attendees came from out of state. These out-of-state visitors spent an estimated $124 million in Utah during the festival. Sundance Institute also directly contributed to the Utah economy via the costs of planning and producing the 2017 festival. In total, the Sundance Film Festival contributed the following to Utah's economy in 2017:

- $151.5 million in Utah gross domestic product
- 2,778 jobs for Utah residents
- $79 million in Utah wages
- $14 million in state and local tax revenue

BACKGROUND

The Sundance Film Festival is the flagship annual event of the non-profit Sundance Institute. The 2017 festival ran for 11 days between January 19th–29th, 2017 and drew at least 71,600 attendees to film screenings, panel discussions, and other interactive storytelling events in Park City, Salt Lake City, and at the Sundance Resort. Just over half of the attendees came from out of state. These out-of-state visitors contributed to Utah's economy by participating in festival activities and purchasing lodging, meals, and entertainment during their stay. Sundance Institute also contributed directly to the local economy via direct spending on planning and producing festival events.

This report estimates the total economic impact of the 2017 Sundance Film Festival using observational and self-reported survey data about festival attendees, their attendance patterns, and their spending habits; and using Sundance Institute direct spending data. The report was sponsored by Sundance Institute.

There are additional sources of economic activity not accounted for in this report. We omit impacts due to spending by official festival sponsors, unaffiliated businesses that operated around the event, airport taxes for attendees that traveled through Salt Lake International Airport, and secondary spending for visitors that return to the state post-festival since these data sources were not made available to either Sundance Institute or to our research team.

METHODOLOGY

The estimates in this report rely on three categories of data: 1) Blyncsy radio signal sensors installed in each festival venue that collected passive data about devices moving in and around festival events, 2) self-reported spending data collected through random samples via intercept surveys during the festival and online surveys immediately after the festival, and 3) accounting records from Sundance Institute about direct spending to produce

the festival. Using these data sources, we produced estimates for attendance and average spending for both in-state and out-of-state attendees.

METHODOLOGICAL INNOVATIONS

In a departure from prior years' studies, we have adjusted the methodology to take advantage of new technology in data collection.

Prior studies have relied almost wholly on intercept sampling at the festival to estimate attendance and spending. Intercept studies are incredibly useful, but in the context of a busy festival getting a true random sample is challenging. Interviewers can be prone to oversample attendees that are approachable, perhaps those who better match the interviewers own age, socioeconomic status, or other characteristics. We used a variant of a Systematic Random Sample—randomly sampling the locations and times as well as a random start and fixed interval of interviewing to assure interviewers did not subconsciously bias the sample. Additionally, we conducted a separate random sample survey of ticketholders via online invitation immediately after the festival concluded. The results of that survey closely match the intercept survey, giving us the same demographic results across two separate survey modes.

In past years, attendance was estimated using a combination of the number of filled seats at film venues and an adjusted self-report of films attended per survey respondent. The self-reports were adjusted because film attendance by attendees is demonstrably over reported in the surveys. For example, the average survey respondent reports attending ten films, which is not consistent with objective ticket redemption data. Additionally, the attendance estimate methodology has not been consistent over time. Instead of relying on self-reported attendance, technological advances allow us to take advantage of sensor technology that tracks devices that have Wi-Fi or Bluetooth radios inside of the festival venues. This allows us to directly and anonymously observe mobile devices as they enter the festival, move from venue to venue, and leave. The resulting attendance estimate is both higher and more accurate than previous years.

ATTENDANCE ESTIMATES

For our attendance estimates, we rely on data provided by Blyncsy, a Utah startup company that specializes in sensors that anonymously track individuals throughout an environment via their cell phones. For this analysis, each device is assigned a unique ID and the Blyncsy data reports where and when that device is seen at various festival venues. We counted as festival attendees devices that either attended two or more events or that stayed the entire time at one ticketed event (generally a film screening). To identify visitors, we screen out devices that were seen before or after the festival. Using these parameters, we estimate 71,638 unique attendees over the course of the festival. This is a conservative attendance estimate. If we count every unique device that appeared at a festival venue over the course of the event, we would have well over 100,000 devices. We also assume that all or nearly all attendees carry a cell phone or other mobile device with them during the festival. Festival attendees without mobile devices do not count toward this attendance estimate.

SURVEY METHODS

Our research team conducted three surveys to determine spending among festival attendees: 1) random intercept interviews during the festival at festival screenings and other official festival venues, 2) an online survey among ticket-buyers immediately after the festival, and 3) an online survey immediately after the festival among festival attendees that were not available in the screening lines, which generally consists of industry professionals, VIPs, and other contributors to the festival.

Intercept interviewers from Y² Analytics were on site throughout the festival. The interviewers were assigned to events in Park City, Salt Lake City, and at the Sundance Resort using a random assignment algorithm weighted to expected attendance. We used Systematic Random Sampling techniques to select survey respondents. At film screenings, interviewers were given a random starting place and a fixed interval (for example, start on the 13th person in line and interview every 5th person) to approach festival-goers in line waiting to enter the film. Similarly, when assigned to non-film events like the Festival Base Camp, interviewers were given a random starting place and a fixed interval to approach attendees as they passed by. Surveys were self-administered on paper questionnaires, which allowed interviewers to maintain the random interval and interview multiple attendees simultaneously. In total, we interviewed 1,029 festival attendees in person.

Additionally, we fielded a similar instrument via an online survey among Sundance Institute database ticket buyers shortly after the festival. Ticket buyers were selected at random to participate and invited over email with one follow up reminder. Those who had already been sampled to take the intercept survey were screened out of this sample. In total, we interviewed 939 festival attendees online. The results of the online survey weighted to attendance proportions between Park City and Salt Lake City were statistically equivalent to the intercept survey.

Finally, we fielded the same online instrument among a database of festival pass-holders. These attendees included industry professionals, VIPs, and other festival contributors who are not generally available in the lines outside theaters. This is the first year this group has been included in economic impact estimates. In total, we interviewed 142 festival pass-holders.

ECONOMIC IMPACT

Spending during the Sundance Film Festival generates many positive economic benefits. Tourism-related industries are beneficiaries of spending that would not otherwise be part of the state's economy, and that spending entering the state induces additional spending as companies hire additional labor, increase their capacity, and purchase the goods that are necessary to accommodate the additional visitors.

The detailed surveys conducted of festival attendees provide data on how much attendees spend on a variety of services: lodging, meals, transportation, recreation, and other retail expenses. For each category of spending, we apply the latest available (2015) RIMS II economic multipliers produced by the U.S. Bureau of Economic Analysis. These multipliers capture how much additional spending is induced by the festival. The RIMS II model also estimates the effect of the festival on earnings in the state, and the number of jobs produced.

Sundance Institute spending that is necessary to sustain the festival also contributes to the economic impact and its contribution to the total economic impact is also included. Sundance Institute spent an estimated $17.5 million in planning and producing the 2017 festival, $10.8 million of which was spent in Utah.

The primary economic impact of spending coming from outside the state is referred to as *State Gross Domestic Product (State GDP)*. This is the *value-added* of all goods and services. It includes direct spending by visitors to the festival, indirect spending, which is the value of inputs that are produced by other local businesses, and induced expenditures, which result from the increased spending by Utah households. State GDP removes the value of intermediate inputs and, thereby, captures new spending that occurs because of the festival.

We also report a measure of *Total Output*. This measures the value of every dollar *associated* with spending on the festival. However, Total Output includes intermediate goods and, therefore, contains some double-counting. We include this as a reference value but note that the true economic impact is captured best by the State GDP estimate.

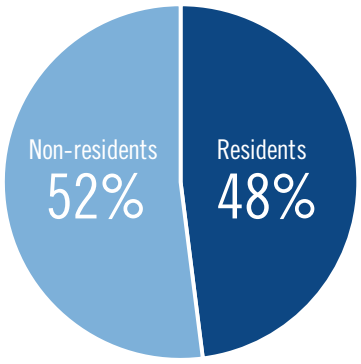
Finally, using data from a number of sources, we develop estimates of state and local taxes (sales taxes and income taxes) that result from the increase in spending and earnings in the state.

RESULTS

ATTENDEES: NUMBERS & CHARACTERISTICS

At least 71,638 attendees filled 204,652 seats at events over the course of the festival. An estimated 48% of attendees were Utah residents (about 34,400 individuals) while 52% came from out of state (about 37,200 individuals). About 26% of non-residents came from California, 15% from Illinois, 13% from Nevada, 10% from New York, 7% from Pennsylvania, 7% from Colorado, 2% from Texas, and 14% from other states. Approximately 2% of non-resident attendees traveled from outside the United States to attend the festival, representing at least 18 different countries.

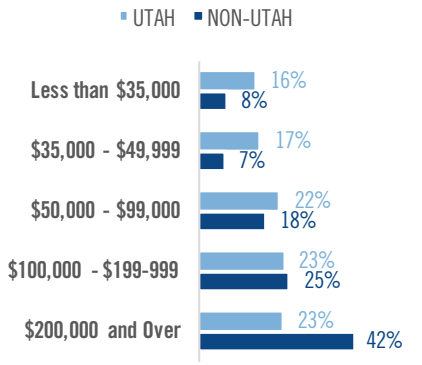
Figure 1: Proportion of non-resident attendees



95% of non-resident attendees reported attending multiple days of the festival, with three-quarters of non-residents staying between 2 and 5 days. Utah residents were much more likely to only attend one or two days of events. A majority of Utah resident attendees came from Salt Lake County (55%).

Out-of-state festival-goers tended to come from relatively high income households. A plurality of non-resident respondents reported a household income of $200,000 or more. Resident attendees also came from relatively high-income households in Utah; the modal category is $100,000 – $199,999 per year.

Figure 2: Attendee income



Though this is an industry event, most attendees are not entertainment industry professionals (76%). 10% of non-resident participants are students, about 1% are press, and 66% work in non-entertainment fields.

SPENDING

Table 1below provides estimates of aggregate spending by both residents and non-residents of Utah. Utahns spend over $25 million dollars to participate in the festival. This number is far exceeded, however, by the amount spent by non-residents. People coming to the state spend over $124 million during their stay here, not including purchases of tickets to the festival.

TABLE 1: AGGREGATE SPENDING

	UTAH	NON-UTAH	COMBINED
Lodging	$-	$53,916,175	$53,916,175
Car Rental	$180,608	$4,627,865	$4,808,473
Other Transportation	$1,576,898	$10,679,908	$12,256,805
Meals	$7,321,900	$23,852,106	$31,174,005
Recreation & Entertainment	$10,155,528	$24,262,172	$34,417,700
Other Spending	$1,472,175	$6,950,431	$8,422,607
Total	$20,707,109	$124,288,657	$144,995,766

Excludes Ticket Sales

Tables 2 & 3 summarize spending on a per-person basis. Spending across all categories was $3,286 for each out of state visitor or a total of $583 per day. Utahns, primarily because they seldom need lodging, spent less but still purchased $601 in goods and services during the festival, or $142 per day.

TABLE 2: AVERAGE TOTAL SPENDING BY CATEGORY

	UTAH	NON-UTAH
Lodging	$-	$1,449
Car Rental	$5	$124
Other Transportation	$46	$287
Meals	$213	$641
Recreation & Entertainment	$295	$598
Other Spending	$43	$187
Total	$601	$3,287

Excludes Ticket Sales

TABLE 3: AVERAGE DAILY SPENDING BY CATEGORY

	UTAH	NON-UTAH
Lodging	$-	$233
Car Rental	$1	$22
Other Transportation	$9	$52
Meals	$43	$111
Recreation & Entertainment	$78	$129
Other Spending	$11	$37
Total	$142	$583

Excludes Ticket Sales

ECONOMIC IMPACTS

The spending by non-residents and by Sundance Institute contribute economically to the state. Table 4 summarizes the economic impact of this spending. We estimate that the economic impact of the festival (State GDP) is over $151 million. Most of this is due to spending brought in by visitors to the state. The total amount of economic activity associated with the festival is $261 million, though we caution again that this value contains significant double-counting for some types of expenditures. Nonetheless, the festival has a sizeable impact on the state economy.

TABLE 4: ECONOMIC IMPACTS

	NON-RESIDENT	SUNDANCE INSTITUTE	COMBINED
Total Spending	$124,288,657	$10,795,980	$135,084,637
Economic Impact (State GDP)	$141,479,109	$10,024,420	$151,503,529
Total Output	$243,760,264	$16,969,019	$260,729,283
Earnings	$73,745,313	$5,324,699	$79,070,012
State and Local Taxes	$13,775,334	$226,558	$14,001,891
Jobs	2,628	150	2,778

The festival has other economic impacts. We estimate that the annual employment associated with the festival is 2,778 jobs and total earnings of those employees is over $79 million. Additionally, we estimate that the festival generates $14 million in state and local taxes. These are revenues that would not be available to the state without the festival.

APPENDICIES

APPENDIX A: ATTENDEE RESIDENCY STATUS

Utah	48.1%
Non-Utah	51.9%

APPENDIX B: ATTENDEE AGE

	TOTAL	UTAH	NON-UTAH
18-25	17.4%	18.4%	16.6%
26-35	27.5%	24.5%	30.2%
36-45	18.9%	20.0%	17.9%
46-55	15.9%	15.7%	16.0%
Over 55	20.3%	21.5%	19.3%

APPENDIX C: ATTENDEE GENDER

	TOTAL	UTAH	NON-UTAH
Male	38.1%	32.9%	42.8%
Female	61.9%	67.1%	57.2%

APPENDIX D: ATTENDEE EDUCATION

	TOTAL	UTAH	NON-UTAH
Less than High School	0.5%	0.9%	0.1%
High School Graduate	2.2%	1.2%	3.1%
Some College	18.1%	28.9%	8.1%
Bachelor's Degree	47.6%	43.0%	51.8%
Master's Degree	23.7%	18.0%	29.1%
Post-Grad	7.9%	8.0%	7.8%

APPENDIX E: ATTENDEE INCOME

	TOTAL	UTAH	NON-UTAH
Less than $35,000	11.6%	15.5%	8.0%
$35,000 - $49,999	11.8%	16.7%	7.3%
$50,000 - $99,000	20.0%	22.0%	18.1%
$100,000 - $199-999	23.9%	23.1%	24.6%
$200,000 and Over	32.8%	22.8%	42.0%

APPENDIX F: ATTENDEE OCCUPATION

	TOTAL	UTAH	NON-UTAH
Entertainment Industry	14.5%	4.6%	23.6%
Non-Entertainment Industry	44.1%	47.1%	41.3%
Press	0.9%	1.3%	0.5%
Student	10.8%	11.3%	10.4%
Other	29.7%	35.8%	24.2%

APPENDIX G: ATTENDEE INTENDED TO SKI OR SNOWBOARD DURING FESTIVAL

	TOTAL	UTAH	NON-UTAH
Yes	19.5%	24.8%	14.6%
No	80.5%	75.2%	85.4%

APPENDIX H: COUNTY OF RESIDENCE (UTAH)

	UTAH
Salt Lake	55.4%
Summit	16.6%
Utah	17.8%
Weber	2.4%
Wasatch	2.4%
Other	5.4%

APPENDIX I: STATE OF RESIDENCE (NON-UTAH)

	NON-UTAH
California	25.8%
Illinois	14.7%
Nevada	13.4%
New York	10.3%
Pennsylvania	7.4%
Colorado	7.2%
Texas	2.2%
Other	13.6%

APPENDIX J: COUNTRY OF RESIDENCE (NON-US)

	NON-US
Argentina	1.1%
Australia	14.8%
Brazil	2.2%
Canada	14.4%
China	2.0%
Denmark	1.1%
France	1.0%
Germany	3.3%
Ireland	1.0%
Israel	1.0%
Japan	1.0%
Luxembourg	1.0%
Mexico	39.1%
Poland	1.0%
South Africa	1.0%
Sweden	1.1%
Switzerland	1.1%
United Kingdom	12.7%

APPENDIX K: MOST ATTENDED VENUE

	TOTAL	UTAH	NON-UTAH
Park City	50.4%	23.8%	75.0%
Salt Lake City	45.4%	75.4%	17.7%
Sundance Resort	4.2%	0.8%	7.3%

APPENDIX L: EVER ATTENDED SUNDANCE FILM FESTIVAL BEFORE

	TOTAL	UTAH	NON-UTAH
Yes	66.6%	74.6%	59.2%
No	33.4%	25.4%	40.8%

APPENDIX M: PLANNING TO RETURN AND ATTEND FILM FESTIVAL NEXT YEAR

	TOTAL	UTAH	NON-UTAH
Yes, Definitely	51.4%	65.5%	38.3%
Yes, Probably	40.9%	32.6%	48.6%
No, Probably not	7.3%	1.9%	12.3%
No, Definitely not	0.5%	0.1%	0.8%

APPENDIX N: FESTIVAL DAYS ATTENDED

	TOTAL	UTAH	NON-UTAH
1	14.3%	27.6%	2.1%
2	23.3%	38.0%	9.7%
3	11.4%	2.5%	19.6%
4	9.5%	4.4%	14.2%
5	11.9%	5.3%	18.1%
6	7.0%	3.5%	10.2%
7	5.4%	3.7%	6.9%
8	2.9%	2.6%	3.1%
9	2.2%	2.0%	2.3%
10	7.6%	7.1%	8.1%
11	4.5%	3.2%	5.7%
Average	4.2	3.4	5.0

ABOUT THE AUTHORS

QUIN MONSON, Ph.D., Y² Analytics

Quin Monson is a recognized survey researcher and a founding Partner at Y² Analytics. He has extensive experience executing scientific surveys nationally and in dozens of states. He has particular expertise with sampling, weighting, and online modes. He has fielded numerous political, academic, and professional surveys via traditional phone techniques, novel internet modes, and increasingly rare in-person interviews. Quin received his Ph.D. from the Ohio State University where he focused on public opinion, elections, and survey research methods. He is a Senior Scholar of the Center for the Study of Elections and Democracy and an Associate Professor of Political Science at Brigham Young University.

SVEN WILSON, Ph.D., Notalys Chief Economist

Sven E. Wilson is an economist with over 25 years of experience doing empirical analysis in the areas of economics, public policy and demographics. He is a founding Partner of Notalys, a Utah-based economic and public policy consulting firm that has done numerous policy analyses in the state of Utah in recent years. He is a graduate of Brigham Young University and holds a Ph.D. in economics from the University of Chicago. He is professor of public policy at BYU, where he has taught policy research and data analysis, and he is a research economist at the National Bureau of Economic Research.

JAY GOODLIFFE, Ph.D., Notalys Chief Methodologist

Jay Goodliffe is a Partner and Chief Methodologist at Notalys. Dr. Goodliffe has taught and researched public policy in Utah and nationally for 20 years, with primary specialty in statistical methodology and applying advanced methods to practical problems. He received his bachelor's degree from MIT, and his master's degree and Ph.D. from the University of Rochester. His experience includes designing, administering, and analyzing complex survey data; assessing incentive and information systems in market and non-market environments; compiling and synthesizing disparate databases to identify patterns and relationships; and conducting cost-benefit analyses. He has published numerous articles in the areas of methodology, game theory, and social network theory. At BYU, Dr. Goodliffe teaches classes on statistical analysis, econometrics, multilevel models, game theory, and data visualization.