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May 2017

COLLEGE OF THE HOLY CROSS, DEPARTMENT OF ECONOMICS
FACULTY RESEARCH SERIES, PAPER NO. 17-01*



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Abstract

We use daily hotel occupancy, price, and revenue data to analyze the economic impact of the 2008 and 2012 Democratic and Republican National Conventions. We find that political conventions generate approximately 29,000 room nights of lodging, though this figure is offset by lower hotel occupancy during the week before and, to a lesser extent, after conventions. Conventions increase hotel revenue by approximately \$20 million on average, a figure which suggests that host cities' claims of economic impacts of \$150 million or more may be implausible.

JEL Classification Codes: O18, R53

Keywords: conventions, mega-event, tourism, hotel occupan

Forthcoming in *Papers in Regional Science*

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Introduction

Sponsors of major events often claim that they bring large economic benefits to the communities that host them by causing an influx of travelers. Many economists and regional scientists, on the other hand, are more skeptical, suggesting that visitors to mega-events displace regular tourists, disrupt normal local economic activity, and are subject to large leakages. This paper examines hotel occupancy, room rates, and hotel revenues during the 2008 and 2012 Democratic and Republican National Conventions for evidence of increased economic activity in the host cities.

The Republican and Democratic National Conventions take place every four years, roughly three months before the presidential elections in order to nominate the major parties' candidates for President. They attract a large number of delegates, media representatives, and security personnel, and it is claimed that they result in substantial economic benefits for the host cities. Table 1 shows recent political conventions along with some claims about their economic impact. With numbers routinely in excess of \$150 million and occasionally reaching as high as \$400 million, political conventions would seem to constitute a large windfall to host cities if such economic impact claims are correct. The economic impact numbers in Table 1 are typically generated by estimating the amount of direct spending done by convention visitors and local organizers in conjunction with the event and then applying multiplier effects from pre-packaged computer programs to obtain the resulting indirect economic impact from money recirculating in the local economy.

Economists and regional scientists have long been critical of the methodology used in these sort of economic impact reports for numerous reasons (Baade and Dye 1988; Matheson 2008). First, spending on things that would have occurred anyway is often included in economic

impact. As a case in point, in Tampa in 2012, over half of the reported \$214 million direct economic impact was a result of infrastructure improvements made by telecommunications and utility companies prior to the event (Danielson 2013). Since for-profit service companies cannot justify tens of millions of dollars of investment for a 4-day convention, it is clear that these were planned investments that were simply timed to coincide with the start of the convention rather than as a direct result of the convention itself.¹ Second, both the crowds and congestion as well as the intense security presence associated with political conventions can crowd out normal activity in the region since hotels, restaurants, and other businesses are not normally empty.² For example, during the 2004 Republican National Convention in New York City, attendance at Broadway shows fell over 20% compared to the same week a year earlier (Ehley 2012).

Finally, mega-events may be subject to large leakages, which occur when spending takes place in a given area but the money does not stay in the local economy. The increased leakages can occur for two reasons. First, higher visitor spending at national chains including restaurants, stores, and hotels may result in increased corporate profits that are simply repatriated to corporate headquarters and stockholders outside of the metropolitan area in which the sales take place. As noted by Matheson (2009), there is substantial reason to believe that mega-events result in windfalls to capital rather than labor and therefore result in higher than normal leakages.

Second, an event may attract temporary workers from outside the metropolitan area who make money during an event but leave town with their earnings once the event is over. Non-local temporary workers might bring needed skills and expertise, but their earnings likely have

¹ Another possibility is that some potential infrastructure upgrades would not be worth their cost without hosting a mega event such as a convention, but that the event puts the total benefit of the upgrades “over the top” to make them worthwhile.

² Heberlig et al. (2015) examine the effect of increased security since the 9-11 attacks on cities’ willingness to host political conventions. Coates and Humphreys (2003) find that the presence of professional sports teams does increase employment and earnings in the amusements and hospitality sector but that there are offsetting decreases in other sectors.

different multiplier effects from earnings by local workers. For example, it is common for host cities to bring in police officers from other cities and states to assist in providing security for national political conventions. In fact, roughly half of all security expenditures for these events is typically spent on non-local personnel. Not only do wages earned by temporary workers not recirculate in the local economy after the event is over, it is questionable whether this spending should even count as economic impact for the local host in the first place. If conventions do result in larger than normal leakages from host cities' economies, the use of standard multipliers during mega-events is highly questionable.³

Studies debunking the exaggerated claims of event promoters are common in the economics and regional science literature. Although articles such as Propheter (2012) and Rosentraub et al. (1994) focus on large sporting events, national political conventions are similar in terms of both the number of attendees and the media attention that large sporting events receive. As summarized by Coates and Humphreys (2008), these studies of sporting events routinely find actual economic impacts that are a small fraction of those claimed by event boosters. Most closely related to this paper, Baade, Baumann, and Matheson (2009) analyze annual data from 1970-2005 for the 50 largest metropolitan areas in U.S., including all cities that hosted a national political convention during that time period. They find that the presence of the Republican or the Democratic National Convention has no discernable impact on employment, personal income, or personal income per capita in the cities where the events were held. The primary criticism of that paper's methodology is the use of yearly data to identify an event that is less than one week in duration. To that end, this paper uses daily data to study hotel occupancy,

³ To give some sense of multipliers used in traditional economic impact studies, Connaughton (2012) uses multipliers ranging from 1.6 to 2.3 in an economic impact study of Charlotte, and Humphreys (1994) uses a multiplier of 2.148 in a study of the economic impact of a Super Bowl played in Atlanta. By contrast, Siegfried and Zimbalist (2000) argue that 1.25 is a reasonable multiplier for sporting events, though it is unclear how applicable that multiplier would be for political conventions.

price, and revenue, an important part of the economic impact of national political conventions. Using daily data should make it more likely that the impact of short duration events can be detected and allows for the estimation of any effects in the days leading up to or immediately following events. Heretofore, the use of daily data is relatively rare in the economic impact literature although Baumann, Matheson, and Muroi (2009) use daily airline passenger arrivals to examine the economic impact of several sports events held in Hawaii and Mills and Rosentraub (2014) use daily bridge crossing data to estimate the number of Canadian fans visiting Buffalo, New York to attend professional hockey games. Analyses of the effect of sports and political events on hotel occupancy and revenue are also uncommon, with the notable exception of Lavoie and Rodriguez's (2005) use of monthly hotel occupancy data to analyze the effect of various sports franchises on major Canadian cities. Lavoie and Rodriguez (2005) use a Box-Jenkins approach to control for monthly seasonality in cities' hotel occupancy rates and then regress the hotel occupancy rates on dummies for various events such as an NHL lockout and baseball strike. They include no other control variables such as the unemployment rate to control for macroeconomic conditions, and they provide no separate analysis of hotel prices and revenue.

Data and Empirical Framework

The Democratic Party held its 2008 convention in Denver from August 25-28 and its 2012 convention in Charlotte from September 4-6. The Republican Party held its 2008 convention in St. Paul from September 1-4 and its 2012 convention in Tampa from August 27-30. We analyze daily hotel data from the four host cities to assess an important component of the economic impact of hosting a national political convention. For the 2008 host cities, we use daily hotel data covering 2007-2009, and we use daily hotel data from 2011-2013 for the 2012

host cities. Because both the 2007-2009 and 2011-2013 periods contain leap years, there are 1,096 observations in all regression models. The hotel data cover the host cities' entire metropolitan areas, not just their central business districts; hence the analysis should capture convention-goers who might choose to stay some distance from the convention venue and any travelers who might have normally stayed in the central business district but were crowded out by the political conventions.⁴

For each city, we estimate models with three different dependent variables: the number of hotel rooms let, the average daily rate of the hotel rooms rented, and the hotels' total revenue. Estimating models with three different dependent variables provides different insights into the economic impact of political conventions. Estimates of the number of additional rooms occupied give the conventions' marginal impact in terms of overnight guests. Estimates of price effects associated with conventions speak to the point about leakages discussed earlier; large room price increases suggest greater leakages and smaller multiplier effects because the increased prices could flow to business owners or shareholders outside of the host city's metropolitan area. Since lodging expenses generally comprise the single largest portion of convention-goers' spending in host cities, and since expenditures by convention visitors make up the majority of the economic impact in most economic impact studies of conventions, estimating the marginal change in hotel revenues is a large step toward determining the total economic impact derived from hosting a national political convention.⁵ The hotel occupancy, price, and revenue data are obtained from

⁴ Our results may be understated if any convention goers or other would be visitors to the host cities choose hotels outside of the metropolitan areas. Host city occupancy rates do not exceed 95% in any city during the conventions so the need for visitors to seek lodging outside host cities metro areas should be small, but preferences for hotels in particular segments (e.g., budget vs. luxury) or in specific directions relative to the host cities central business districts might have made some visitors choose hotels outside of the metro areas over the rooms remaining available within a host city.

⁵ We acknowledge, of course, that hotel revenues do not include spending on items such as restaurants or entertainment, but they do constitute a large component of within-city spending by a typical convention attendee.

Smith Travel Research, Inc., a vendor of hotel industry data for the U.S. and many other countries. Descriptive statistics for the dependent variables are reported in Table 2.

The estimated models can be represented as:

$$DEP_{i,t} = \alpha + \gamma CONVENTION + \beta MACRO + \pi FIXEDEFFECTS + \varepsilon_{i,t},$$

where $DEP_{i,t}$ represents the three dependent variables (number of rooms, average room rate, or hotel revenue) used in the different estimations for city i at time t and β , γ , and π are vectors of coefficients to be estimated. The primary variables of interest in each regression are in the CONVENTION matrix, which contains a dummy variable taking a value of one for convention days and zero for other days and dummy variables (DAY1BEFORE, ..., DAY7BEFORE, DAY1AFTER, ..., DAY7AFTER) for the seven days leading up to a convention and the seven days following a convention. (For example, DAY1BEFORE is defined to have a value of one on the day before a political convention and 0 on other days.) These dummy variables make it possible to assess any changes in hotel occupancy leading up to political conventions or in the aftermath of political conventions. For example, some party leaders, security officials, or media members' duties might require them to arrive in advance of a convention. Likewise, some convention-goers might arrive a few days early or stay a few days late to explore host cities' attractions. Alternatively, the congestion and security concerns accompanying conventions might cause some travelers who might have come to a city in the week before or the week after a convention to cancel their trips or alter their timing. Any such effects would be detectable using the day before and day after variables.

The models also contain a matrix of variables, MACRO, to control for city-specific and national economic conditions. This matrix includes a city-specific time trend, and time-varying measures of the host city's unemployment rate, the host city's population, and the national

unemployment rate to control for overall macroeconomic conditions.⁶ It might be especially important to control for macroeconomic conditions in the Denver and St. Paul regressions because the 2007-2009 period includes a severe recession.

Lastly, to control for routine hotel occupancy patterns in each city, the matrix `FIXEDEFFECTS` includes year, month, and day-of-the-week fixed effects, and a dummy variable for six major holidays (New Year's Day, Memorial Day, July Fourth, Labor Day, Thanksgiving, and Christmas). Since the regression models for each city are estimated separately, our estimation strategy allows any seasonal patterns to vary across cities. One might, for example, imagine that January has different effects on hotel occupancy in St. Paul than in Tampa.

Results

The results of estimating the room, price, and revenue models for each city are reported in Tables 3-6. The parentheses beneath the coefficient estimates contain Newey-West standard errors to control for serial correlation and heteroskedasticity. For brevity, the time trends and the day of week, month of year, and holiday fixed effects are omitted from the tables. None of the time trends are large or statistically different from zero. In all cities, holidays are associated with a large (5,000 to 10,000) reduction in rooms let. In three cities (all but Tampa), hotel rentals are “hump-shaped” over the course of the year, with fewer rentals in winter months than in summer or early fall months. In Tampa, by contrast, February and March are peak season for hotel room

⁶ Because political conventions draw visitors from across the country, the national unemployment rate may be a more appropriate measure of macroeconomic conditions than the host city's unemployment rate would be. However, some cities may have economies that behave differently from the national economy so the local unemployment rate might contain additional information about demand for travel to a city. For the cities in this study, however, the host-city unemployment rates are highly correlated with the national unemployment rate (at least 0.8 in all cases and over 0.9 for most cases) and the estimated effects for the convention variables are similar if we estimate the model with only the national unemployment rate or only the host-city unemployment rate.

rentals. The day of week room rental patterns are similar for Charlotte, Denver, and St. Paul—a large reduction in rooms rented on Sunday nights with the maximum room rentals occurring on Tuesday and Wednesday nights. For Tampa, Sundays are also the lowest night for room rentals but Fridays and Saturdays have the highest number of rentals.

The coefficient estimates indicate that the number of additional rooms let ranges from about 5,000 (Denver) to 10,500 (Tampa) for each day of a convention. The average room rate roughly doubles during conventions, with increases ranging from \$90 (St. Paul) to \$115 (Charlotte). This result is consistent with concerns explained earlier about conventions having larger leakages than non-convention economic activity in the host cities. Nightly hotel revenue increases by a range of \$3.72 million (St. Paul) to \$4.44 million (Tampa); however, Charlotte has the largest percentage gain at 132%.

Turning to the dummy variables for the days before and after conventions, all four cities have large increases in rooms let on the day before the conventions. This is likely due to convention-goers arriving a day early. Moreover, the estimated coefficients for the days before conventions are considerably larger than the coefficients for the convention dummy variables themselves. This is likely an artifact of hotels traditionally having lower occupancy on Sundays (the day before the convention in three of the cities) and Labor Day (the day before the convention in the other city) than on Mondays. Hence, the marginal effect of conventions is larger on days before conventions than on the actual convention dates. Three of the four cities (all but Denver) also show large increases in hotel rooms rented two days before their conventions. Beyond the two days immediately before a convention, however, there is scant evidence that conventions attract additional visitors on the days before or after conventions. Indeed, all cities have statistically significant decreases in the number of rooms let on several of

the days following a convention. Likewise, three cities (all but Tampa) show reduced hotel room rentals for days three to seven before conventions. Without using daily data, traditional economic impact studies do not have the precision available to incorporate the “hangover” of reduced hotel demand in the days following conventions or the reduction in visitors during days three to seven before conventions. The statistically and substantively significant coefficients on the “Day After” variables indicate that this “hangover” effect is substantial, providing evidence in favor of the daily approach of this paper as opposed to previous methodologies unable to capture such an effect.

As for price and hotel revenue effects, all cities see statistically significant increases in the average room rate for all seven days leading up to conventions. Hotel revenues also increase in all cities for the three nights before conventions, with three cities (all but St. Paul) showing increases for additional nights before their conventions. The days following conventions show no clear patterns of room rate or hotel revenue changes, but all cities have at least one day or significantly decreased hotel revenue following hosting a convention.

Table 7 summarizes the cumulative effects of rooms rented and hotel revenues over various periods around conventions. Since there is no “right answer” as to how many days around conventions should be included in estimating their economic impact, we include calculations based on convention days only and on 1, 3, 5, and 7 day windows around conventions. Inspection of Table 7 reveals that the number of hotel rooms rented is much more sensitive than hotel revenues to the window chosen. For three cities (all but Tampa), the cumulative number of rooms let during convention days is considerably larger than the cumulative number rented during the seven-day window before and after the convention. By contrast, the cumulative revenue estimates are less sensitive to the window chosen, with revenue

during convention days being about 60% of the revenue during the seven day before and after window.

Table 7 also allows for a quick comparison of any differences in economic impact between the political parties even though there are only two conventions per party in the analysis. Looking at only the number of rooms rented during the conventions, the average number of rooms let during the Democratic conventions in Charlotte and Denver (about 20,400) is considerably less than the average number of rooms rented during the Republican conventions in St. Paul and Tampa (about 37,000). (Keep in mind that the Charlotte convention lasted only three nights; however, different convention lengths cannot explain the difference between Democrats and Republicans.) It is somewhat surprising that the number of rooms rented during Democratic conventions is fewer than the number rented during Republican conventions because Democratic conventions have substantially larger numbers of delegates than Republican conventions.⁷ On the other hand, the average revenue effects associated with the two Republican conventions (about \$16.3 million) are not that much larger than the average revenue gains for the two Democratic conventions (about \$14.3 million) and are likely primarily attributable to the Democrats' Charlotte convention lasting only three days.

Robustness Checks

City-by-City Placebo Tests

Our first robustness check is a placebo test using cities that vied to host conventions but were not selected. If our results are an artifact of the particular city characteristics that cause a

⁷ The 2008 and 2012 Democratic conventions had 4,419 and 5,556 delegates, respectively. The 2008 and 2012 Republican conventions had 2,380 and 2,286 delegates, respectively. The lack of a clear link between the number of delegates and the number of hotel rooms rented during conventions also speaks to the difficulty of estimating the economic impact of conventions. There are, of course, other attendees at conventions such as media and spouses or companions of delegates but the former should be largely invariant to the number of delegates (or the political party) and the latter should be roughly proportionate to the number of delegates regardless of party.

city to be considered for a political convention rather than the political conventions themselves, then we would expect to see a pattern of positive and significant coefficients on the “Convention” and “Day Before” variables in estimates using these unselected cities. If, on the other hand, the result of our primary specifications hold, then we should see either statistically insignificant or negative coefficients for these variables in estimated of the cities not selected.

We perform this test for three of the four host cities. Denver is not suitable for a placebo test because Minneapolis, which hosted the 2008 Republican convention less than a week after the Democrats were in Denver, was a finalist to host the DNC. The placebo cities for the 2008 Republican convention in St. Paul are Cleveland and Tampa. The placebo cities for the 2012 Democratic convention are Cleveland, St. Louis, and St. Paul. The placebo cities for the 2012 Republican convention are Phoenix and Salt Lake City.

The placebo estimation results are reported in Table 8. For brevity we report only the estimated coefficient on the convention days dummy variable; complete results are available upon request, and are all consistent with what we would expect to find in a placebo test confirming our results. In all cases there is no evidence that the results in Tables 3-6 are spurious because there are no positive room, average room rate, or revenue effects. The negative placebo effects are likely attributable to conventions typically occurring just before or just after Labor Day, a time of reduced leisure travel as summer vacations wind down and reduced business travel around the holiday.

Pooled Data

As a second robustness check, we perform another placebo test using pooled data for all four host cities for the years 2007-2013. If the results are an artifact of the particular days chosen

to host a convention, rather than a measure of the impact of the conventions themselves, then we would expect to see similar results in the placebo tests in the non-hosting convention cities during this time period as well. Using the merged data, we estimate a model similar to the city-specific models discussed above. Using the same three dependent variables (the number of rooms, the average daily room rate, and daily hotel revenue), the variable of interest is a dummy variable taking a value of one for city-day combinations on which a national political convention is being held. The covariates are the same as those included in the previous regressions except (1) the days before or after dummy variables are omitted, and (2) city fixed effects are now included. The model is estimated using OLS with standard errors clustered by city to control for serial correlation. The pooled results are reported in the top panel of Table 9 and are consistent with the city-by-city results. Conventions are estimated to increase the number of hotel rooms let by about 8,325 per night, increase prices by almost \$100 per night, and to increase hotel revenue by approximately \$4.16 million. (Coefficient estimates for variables other than the conventions dummy variable are omitted for brevity but are available upon request.)

For the placebo test, we use an identical framework except that the dummy variable taking a value of one on city-date pairs on which a convention is being held is replaced by a placebo convention dummy variable. The placebo convention dummy variable takes a value of one on city-date combinations on which a convention is being held in a different city. For example, the 2012 Democratic National Convention was held in Charlotte from September 4-6, 2012. The placebo convention dummy variable is defined to take a value of one on these dates for the cities of Denver, St. Paul, and Tampa. If the model is accurately reflecting the economic impacts of a political convention, then there should not be a positive impact of the “placebo” convention variable in cities where the convention is not being held. The placebo estimation

results are reported in the bottom panel of Table 9 (with all coefficient estimates other than the placebo convention dummy omitted for brevity). The placebo test results are consistent with our previous findings. The estimated coefficient on the placebo dummy is negative in the number of rooms, average daily room rates, and hotel revenue models. (As with the city-by-city placebo results, we attribute the negative coefficients to conventions occurring just before or after Labor Day, a time of reduced travel.) Hence, we are confident that our findings of positive convention effects are not artifacts of conventions being held on days that would otherwise experience strong demand for hotel room rentals.

Conclusion

Cities and states often tout mega events as vehicles for economic growth. This paper finds, as simple observation would suggest, that hosting national political conventions generates a large inflow of overnight visitors and increases hotel revenue. However, the cumulative effect of approximately 29,000 additional room nights of lodging services and \$20 million of hotel revenue imply that traditional economic impact estimates may be unrealistically large. Economic impacts exceeding \$150 million, as are often claimed, require large assumptions about the amount of convention-goers' spending on food, beverages, or other goods and services or big multiplier effects. Without a substantial multiplier effect, average convention-goers would need to spend at least seven times the amount that they spend on hotel rooms in the destination city (not including airfare), in order for even the smallest estimates of traditional economic impact to be accurate, or massive sums would need to be spent at local business or on local labor by convention organizers in staging the event. Even if multipliers were as large as 1.5, average convention-goers would need to spend at least four times the amount of hotel spending on other

expenses (food, local transportation, etc.) in the destination city. Given that lodging expenses tend to constitute the largest share of a convention-goer's spending, this assumption seems unrealistic. Moreover, it is also important to note that even the modest benefits found in our results could easily be swamped by the additional costs associated with hosting major political conventions. For all of these reasons, after carefully assessing one of the most crucial components of convention spending at a daily level, political conventions do not seem to have the large economic impact that is usually suggested by traditional economic impact studies.

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Table 1: Reported Economic Impact of Political Conventions

Year	Party	Location	Impact (\$ mil.)	Source
2004	Rep.	New York City	\$255	New York City Mayor's Office (2004)
2004	Dem.	Boston, MA	\$156.7	Beacon Hill Institute (2004)
2008	Rep.	St. Paul, MN	\$168.2	Minneapolis Saint Paul 2008 Host Committee (2009)
2008	Dem.	Denver, CO	\$266.1	2008 Democratic National Convention Impact Report City and County of Denver and Denver 2008 Convention Host Committee (2008)
2012	Rep.	Tampa Bay, FL	\$404.4	Kench (2012)
2012	Dem.	Charlotte, NC	\$163.6	Spanberg (2013)
2016	Rep.	Cleveland, OH	\$400 (est.)	Farkas, Karen (2014)
2016	Dem.	Philadelphia, PA	\$170-350 (est.)	Van Oot, Torey. 2016.

Table 2
Descriptive Statistics

	Mean	Std. Dev.	Min	Max
<i>Charlotte 2011-2013</i>				
Rooms	20,369	4,362	8,626	31,015
Price	\$85.22	\$13.45	\$60.31	\$212.00
Revenue	\$1.77	\$0.61	\$0.52	\$6.38
<i>Denver 2007-2009</i>				
Rooms	23,677	5,543	9,834	36,478
Price	\$97.28	\$15.62	\$62.13	\$215.01
Revenue	\$2.36	\$0.84	\$0.67	\$7.50
<i>St. Paul 2007-2009</i>				
Rooms	22,350	5,577	6,865	34,206
Price	\$95.21	\$12.31	\$65.56	\$196.52
Revenue	\$2.17	\$0.74	\$0.50	\$6.65
<i>Tampa 2011-2013</i>				
Rooms	27,768	5,363	14,074	43,046
Price	\$96.32	\$12.53	\$72.23	\$189.00
Revenue	\$2.72	\$0.85	\$1.02	\$6.98

Revenue data are in millions of dollars.

Table 3
Charlotte Regression Results

Variable	Number of Rooms	Average Room Price	Total Revenue
Day7Before	-1,679*** (439)	12.30*** (1.15)	108,056** (53,053)
Day6Before	-2,144*** (451)	14.11*** (1.17)	99,703* (54,543)
Day5Before	-4,143*** (445)	19.83*** (1.11)	-11,764 (51,743)
Day4Before	-3,554*** (474)	49.09*** (1.09)	591,516*** (52,453)
Day3Before	-1,602** (638)	64.18*** (1.61)	1,259,050*** (86,007)
Day2Before	7,993*** (586)	103.65*** (1.43)	3,131,551*** (76,858)
Day1Before	13,591*** (986)	135.59*** (2.04)	4,754,954*** (118,847)
Convention (3 days)	6,804*** (620)	114.75*** (1.54)	4,111,985*** (78,805)
Day1After	-9,273*** (566)	26.50*** (1.41)	-427,714*** (75,771)
Day2After	-10,500*** (581)	-5.80*** (1.42)	-963,275*** (77,504)
Day3After	-4,216*** (538)	0.93 (1.29)	-361,508*** (70,708)
Day4After	-1,091** (537)	3.47*** (1.30)	-28,021 (70,847)
Day5After	-209 (551)	1.73 (1.29)	32,530 (72,777)
Day6After	479 (541)	1.69 (1.26)	97,034 (71,234)
Day7After	-417 (537)	2.28* (1.25)	10,596 (70,361)
Charlotte Unemp	559 (1,170)	3.39 (3.09)	103,144 (161,339)
U.S. Unemp	-1,193 (2,266)	-3.68 (5.81)	-175,792 (306,699)
Charlotte Pop	146 (280)	0.83 (0.74)	27,959 (35,805)
Constant	-304,749 (635,782)	-1,785.13 (1,671.45)	-60,988,850 (81,298,824)

Parentheses contain standard errors; *, **, and *** denote $p < 0.1$, $p < 0.05$, and $p < 0.01$, respectively. Models also include year, month, and day of week fixed effects, a dummy variable for major holidays, and a city-specific time trend. $N=1,096$.

Table 4
Denver Regression Results

Variable	Number of Rooms	Average Room Price	Total Revenue
Day7Before	-2,245*** (715)	8.92*** (1.51)	8,704 (99,529)
Day6Before	-1,162 (726)	10.51*** (1.55)	210,551** (101,776)
Day5Before	-538 (732)	14.11*** (1.56)	403,242*** (102,504)
Day4Before	-1,440** (726)	21.93*** (1.50)	479,011*** (99,972)
Day3Before	-2,543*** (745)	34.81*** (1.52)	592,437*** (100,634)
Day2Before	-414 (752)	62.85*** (1.53)	1,599,794*** (101,125)
Day1Before	7,453*** (745)	103.70*** (1.59)	3,840,623*** (100,967)
Convention (4 days)	5,092*** (775)	102.29*** (1.82)	4,111,910*** (114,053)
Day1After	-5,071*** (809)	24.48*** (1.64)	34,833 (108,336)
Day2After	-5,385*** (820)	-0.27 (1.67)	-551,594*** (109,499)
Day3After	-4,086*** (816)	-7.35*** (1.74)	-588,908*** (109,792)
Day4After	-5,215*** (1,253)	-2.16 (3.21)	-673,262*** (181,014)
Day5After	-6,475*** (742)	2.34 (2.09)	-638,716*** (117,447)
Day6After	264 (732)	13.81*** (2.09)	522,192*** (116,447)
Day7After	2,650*** (730)	17.05*** (2.12)	875,445*** (115,795)
Denver Unemp	-994 (2,620)	-5.53 (6.37)	-250,341 (361,341)
U.S. Unemp	-106 (1,956)	-0.83 (4.96)	-27,540 (272,485)
Denver Pop	-143** (71)	0.12 (0.18)	-14,864 (9,545)
Constant	370,790** (172,882)	-192.60 (434.99)	38,821,196* (23,331,368)

Parentheses contain standard errors; *, **, and *** denote $p < 0.1$, $p < 0.05$, and $p < 0.01$, respectively. Models also include year, month, and day of week fixed effects, a dummy variable for major holidays, and a city-specific time trend. $N = 1,096$.

Table 5
St. Paul Regression Results

Variable	Number of Rooms	Average Room Price	Total Revenue
Day7Before	-2,033*** (576)	3.60*** (1.04)	-101,311 (76,003)
Day6Before	-2,364*** (605)	4.58*** (1.09)	-96,007 (79,723)
Day5Before	-4,108*** (620)	7.14*** (1.12)	-226,509*** (81,214)
Day4Before	-5,373*** (598)	13.44*** (1.04)	-247,615*** (78,148)
Day3Before	-2,287*** (617)	34.71*** (1.09)	615,353*** (80,436)
Day2Before	3,356*** (612)	53.17*** (1.08)	1,996,498*** (79,911)
Day1Before	12,130*** (616)	89.27*** (1.08)	4,010,311*** (79,330)
Convention (4 days)	8,023*** (1,189)	89.76*** (3.08)	3,723,488*** (154,604)
Day1After	-5,111*** (577)	16.88*** (1.46)	-138,596* (83,996)
Day2After	-4,912*** (578)	2.63* (1.45)	-395,745*** (84,099)
Day3After	-2,704*** (567)	6.20*** (1.51)	-199,790** (83,832)
Day4After	-860 (588)	3.64** (1.44)	27,955 (86,323)
Day5After	-29 (620)	4.50*** (1.45)	163,322* (90,403)
Day6After	429 (606)	2.35 (1.43)	151,930* (88,564)
Day7After	-511 (576)	1.93 (1.41)	12,449 (83,919)
MSP Unemp	-1,266 (1,899)	-0.22 (3.72)	-72,825 (241,210)
U.S. Unemp	94 (1,122)	-3.64* (2.09)	-115,775 (142,301)
MSP Pop	26 (112)	-0.12 (0.22)	3,929 (13,827)
Constant	-60,542 (360,913)	487.26 (704.15)	-10,176,776 (44,496,059)

Parenteses contain standard errors; *, **, and *** denote $p < 0.1$, $p < 0.05$, and $p < 0.01$, respectively. Models also include year, month, and day of week fixed effects, a dummy variable for major holidays, and a city-specific time trend. N=1,096.

Table 6
Tampa Regression Results

Variable	Number of Rooms	Average Room Price	Total Revenue
Day7Before	1,369** (634)	5.78*** (1.06)	286,321*** (83,810)
Day6Before	1,418** (633)	6.61*** (1.05)	304,408*** (83,200)
Day5Before	747 (627)	9.03*** (1.04)	303,459*** (82,559)
Day4Before	863 (626)	16.93*** (1.03)	529,952*** (82,334)
Day3Before	449 (619)	37.38*** (1.04)	1,067,100*** (81,329)
Day2Before	2,137*** (641)	61.52*** (1.07)	2,088,051*** (83,981)
Day1Before	14,645*** (681)	102.17*** (1.14)	4,907,043*** (89,641)
Convention (4 days)	10,464*** (740)	96.54*** (1.25)	4,443,218*** (104,528)
Day1After	-5,558*** (686)	30.15*** (1.18)	155,887* (91,640)
Day2After	-904 (649)	8.55*** (1.17)	136,979 (86,160)
Day3After	4,302*** (611)	10.56*** (1.13)	685,238*** (82,505)
Day4After	-2,563** (1,054)	-1.93 (2.02)	-171,803 (129,927)
Day5After	-3,788*** (600)	-2.12* (1.10)	-380,238*** (79,114)
Day6After	-1,638*** (590)	0.26 (1.09)	-148,880* (78,051)
Day7After	-1,756*** (579)	1.32 (1.09)	-112,842 (77,556)
Tampa Unemp	-779 (2,053)	-6.08* (3.66)	-383,478 (270,849)
U.S. Unemp	640 (1,986)	4.53 (3.20)	301,762 (259,005)
Tampa Pop	92 (98)	0.19 (0.18)	15,181 (13,159)
Constant	-228,612 (271,945)	-414.39 (483.29)	-38,870,371 (36,297,413)

Parenteses contain standard errors; *, **, and *** denote $p < 0.1$, $p < 0.05$, and $p < 0.01$, respectively. Models also include year, month, and day of week fixed effects, a dummy variable for major holidays, and a city-specific time trend. N=1,096.

**Table 7
Cumulative Effects**

	Window Around Convention				
	Convention	+/- 1Day	+/- 3 Days	+/- 5 Days	+/- 7 Days
<i>Charlotte</i>					
Rooms	20,412	24,730	16,405	7,408	3,647
Revenue	\$12.34	\$16.66	\$19.73	\$20.31	\$20.63
<i>Denver</i>					
Rooms	20,368	22,750	10,322	-3,346	-3,839
Revenue	\$16.45	\$20.32	\$21.67	\$21.25	\$22.86
<i>St. Paul</i>					
Rooms	31,092	43,711	37,164	26,794	22,315
Revenue	\$14.89	\$18.77	\$20.78	\$20.50	\$20.47
<i>Tampa</i>					
Rooms	41,856	50,943	56,927	52,186	51,579
Revenue	\$17.77	\$22.84	\$26.81	\$27.09	\$27.42
<i>Average</i>					
Rooms	28,682	35,534	30,205	20,761	18,426
Revenue	\$15.36	\$19.65	\$22.25	\$22.29	\$22.85

Revenue is in millions. The Charlotte convention lasted three days while all others lasted four days.

Table 8
City-by-City Placebo Regression Results

<i>2008 Republican Convention—St. Paul</i>			
Placebo City	Number of Rooms	Average Room Price	Total Revenue
Cleveland	-2,312*** (371.3)	-4.38*** (0.92)	-267,534*** (43,168)
Tampa	-3,606*** (562.9)	-6.00*** (1.35)	-460,299*** (79,764)
<i>2012 Democratic Convention—Charlotte</i>			
Placebo City	Number of Rooms	Average Room Price	Total Revenue
Cleveland	-2,842*** (420.3)	-7.11*** (1.05)	-357,190*** (50,725)
St. Louis	-4,894*** (773.6)	-6.84*** (1.44)	-608,353*** (100,287)
St. Paul	-7,485*** (954.1)	-11.54*** (1.75)	-1,066,004*** (141,532)
<i>2012 Republican Convention—Tampa</i>			
Placebo City	Number of Rooms	Average Room Price	Total Revenue
Phoenix	-1,376 (871.7)	-1.06 (0.94)	-187,844 (102,826)
Salt Lake City	-3,866*** (527.1)	-11.20*** (2.71)	-532,146*** (88,505)

*, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively. Newey-West standard errors are in parentheses. Models also include year, month, and day of week fixed effects, a dummy variable for major holidays, and the unemployment rate.

Table 9
Pooled Placebo Regression Results

<i>Pooled Data</i>			
	Number of Rooms	Average Room Price	Total Revenue
Convention	8,326*** (1,230)	100.65*** (5.24)	4,163,221*** (171,499)
<i>Placebo Test</i>			
	Number of Rooms	Average Room Price	Total Revenue
Placebo Convention	-3,728*** (400)	-3.46** (0.92)	-460,265*** (56,364)

*, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively. Standard errors clustered by city are in parentheses. Models also include year, month, day of week, and city fixed effects, a dummy variable for major holidays, a city-specific population control and city-specific time trends, and both the national and city-specific unemployment rates.