Working Paper Series

The Economic Impact of a Casino Monopoly: Evidence from Atlantic City

WP 23-07

Adam Scavette
Federal Reserve Bank of Richmond

FEDERAL RESERVE BANK OF RICHMOND®
Richmond ▪ Baltimore ▪ Charlotte

The Economic Impact of a Casino Monopoly: Evidence from Atlantic City

Adam Scavette*

May 4, 2023

Abstract

New Jersey voters approved legalized gambling for Atlantic City in a 1976 referendum, making it the second state after Nevada in 1931. The state explicitly leveraged the city's regional monopoly, which it held from 1978 through 1992, on casinos east of the Mississippi River as an economic development strategy to revive the blighted seaside resort town. The literature on the economic development effects of casinos suggests that sparsely populated areas without nearby competing gambling venues tend to benefit the most. Using a difference-in-differences approach, I model the economic impact of casino legalization on the Atlantic City Metropolitan Area (Atlantic County, NJ) across five-, ten-, and fifteen-year treatment horizons. I find a significant positive impact of legalized casinos on personal income and housing prices for only the five-year treatment horizon, and significant positive impacts for payroll employment and wages across all three treatment horizons.

Keywords: Casinos, Employment, Economic Development.

JEL Codes: R11, R12, R58,

Acknowledgements: The author would like to thank Robert Calvert Jump, Michael Lahr, Jeffrey Lin, Thomas Lubik, Alyssa Oshiro, and Michael Smart for helpful comments on previous drafts of this paper.

Conflict of interest statement: No specific funding has been received for this study. The views expressed here are those of the author and do not necessarily reflect those of the Federal Reserve Bank of Richmond or the Federal Reserve System.

*Federal Reserve Bank of Richmond. Email: adam.scavette@rich.frb.org

Everything dies, baby, that's a fact

But maybe everything that dies someday comes back

Put your makeup on, fix your hair up pretty

And meet me tonight in Atlantic City

— Bruce Springsteen, *Atlantic City* (1982)

1 Introduction

Nicknamed "America's Playground," Atlantic City welcomed nearly sixteen million tourists every summer during its 1930s heyday (Johnson et al., 2018). The small seaside resort offered visitors a boardwalk, four miles of beach, and a flagrant disregard of the federal prohibition on alcohol sales. The city's success and issues with organized crime during the period were immortalized in Johnson (2002) and the HBO series that it inspired, *Boardwalk Empire*. Unfortunately, the city's appeal to tourists diminished in the postwar period as the rise of automobiles, highway building, and inexpensive air travel broadened recreational options (Atlantic County Department of Regional Planning and Economic Development, 2000). Thus, Atlantic City shared the fate of many older northeast American cities of population loss and economic blight (Simon, 2004). Media coverage of the city's seedy and decaying features (e.g., poor quality hotels, dirty streets, burlesque theaters) as it hosted the 1964 Democratic National Convention cemented its reputation as a failed resort (Darrow, 2014; Press, 2016).

In 1976, New Jersey voters approved legalized casino gaming for Atlantic City as a way to revive the city's distressed economy. When its first casino opened two years later, Atlantic City became the second destination for legalized gambling in the United States (Nevada legalized gambling in 1931) and the only option on the East Coast. By the early 1990s, the casinos had made Atlantic City the most-visited tourist destination in the United States with thirty-three million visitor-trips (Madhusudhan, 1995).

Commercial gaming is now more prevalent across the United States than it was in the

1970s. Since then, commercial casinos have become legal in over thirty states and "American favorability toward gaming grows as the industry expands," according to a 2021 nationwide telephone survey (American Gaming Association, 2021).[1] According to that same survey, nearly two out of three respondents believe that gaming provides a positive benefit to the economy. Research examining the economic impact of casinos on host economies finds that casinos support economic development, but the effect is higher in lower density areas and is moderated by the presence of nearby casinos (Zhang et al., 2020; Scavette, 2022). Therefore, the empirical evidence suggests that the economic effects of casinos for host regions would be strongest outside of a major urban area in a monopoly environment (none or few nearby gambling venues). A not unsubstantial body of research suggests that gaming monopolies tend to produce strong economic development effects. But little of it centers on Atlantic City during the period when it held a regional monopoly on gaming. Furthermore, the research that does exist presents descriptive statistics rather than a causal model which evaluates the impact of Atlantic City casinos against an untreated counterfactual.

The development of casinos in Atlantic City is one of the first examples of a state using legal gaming as an economic development strategy for a struggling area. Although much of the literature considers the casino experiment to be a failure at reviving Atlantic City itself, casino gaming likely stimulated major economic development in the wider region (Braunlich, 1996; Rubenstein, 1984). By learning from the Atlantic City experience, policymakers might better assess the upper bound of what casinos are able to achieve for regional economic development in a period of gaming scarcity, or when the city held a gaming "monopoly" on the East Coast. I apply the simple difference-in-differences approach as well as the synthetic difference-in-differences method, as outlined in detail by Arkhangelsky et al. (2021), to explore the regional economic impact of commercial casinos in the Atlantic City Metropolitan Statistical Area[2] from 1978 through 1992. The 1992 opening of Connecticut's Foxwoods Casino represented the end of Atlantic City's monopoly era after which Rose (1995) suggests the city experienced "its market being eaten away by the opening of closer casinos of convenience" (pp. 35). In order to estimate the economic impact of casinos on the lo-

[1]The survey was conducted by YouGov and Kantar on behalf of the American Gaming Association.
[2]The Atlantic City Metropolitan Statistical Area is coterminous with Atlantic County, New Jersey.

cal economy, I will estimate respective models for payroll employment, wages, population, personal income, and housing prices over three treatment horizons (five-, ten-, fifteen-year).

2 Background and Motivation

2.1 Literature Review

There is an extensive body of literature about the negative social and health impacts of casinos on host regions such as problem gambling (Walker, 2013), crime (Friedman et al., 1989; Albanese, 2019), and drunk driving fatalities (Cotti & Walker, 2010). Additionally, negative local economic consequences arising from casino development have been studied such as reduced household wealth (Barron et al., 2002) and housing prices (Huang et al., 2018). However, while several studies measure the positive local economic impact of both tribal and commercial casinos (Garrett, 2004; Lim & Zhang, 2017; Wenz, 2014), few utilize robust causal inference methods or event study designs for identification.

Many studies evaluating the economic impact of casinos on host regions find short-lived positive economic effects of varying degrees on measures such as employment, wages, and personal income. Using panel regression methods, Cotti (2008) models U.S. counties with new casinos from 1990 through 1996 and finds an 8 percent increase in employment compared to non-casino counties, but no impact on wages. The most sizable impacts occurred between one and three years after the casino opened. Covering a similar treatment period (1988 through 1994), Rephann et al. (1997) matches sixty-eight U.S. counties that developed casinos to non-casino control counties on pre-treatment characteristics (industrial structure, spatial position, economic growth, and demographics) and compares their growth rate differences for several economic variables. Earnings (46 percentage points), employment (28 percentage points), and per capita personal income (5 percentage points) grew faster in the casino counties than in the matched counties. In a more recent study of Canadian casino openings between 1991 and 2006, Humphreys & Marchand (2013) find that census divisions with new casinos experience substantial employment and wage growth for one to five years following their openings (doubling of employment and wages for divisions that did not have

existing casinos). However, their analysis suggests that the positive labor market effects did not extend beyond five years, and multiplier effects from casino development to other industries are limited (i.e., most resulting positive employment and wage growth are limited to the hospitality industry).

Although many studies indicate modest economic gains for host regions that develop casinos, there is growing evidence of an effect that reduces the marginal benefits of developing in geographic proximity to existing ones, referred to in the literature as a "saturation", "cannibalization" or "competition" effect (Walker & Nesbit, 2014; Gallagher, 2014; Geisler & Nichols, 2016). In other words, competition between casinos in the same geographic market does not produce a positive agglomeration impact. Identifying a potential channel through which the "saturation" effect occurs, Walker (2013) indicates that consumers substitute between gambling activities to a point where consumption at new gambling venues may come at the expense of nearby existing gambling operations (e.g., existing commercial casinos, horse tracks, lottery). However, both Walker & Nesbit (2014) and Gallagher (2014) suggest that Atlantic City and other densely clustered destination casino markets (e.g., Biloxi, Las Vegas) likely benefit from retail agglomeration effects such that the addition of further casinos may add to the location's appeal in attracting tourist customers.

Lastly, many studies find that the economic benefits from casino development tend to be higher in lower density areas (Cotti, 2008; Garrett, 2004; Wenz, 2014). Garrett (2004) suggests that casino gaming is harder to detect in more-metropolitan areas where total employment is more variable and gaming represents a smaller share of total employment.

2.2 Casino Gaming in Atlantic City

After rejecting statewide casino gambling two years earlier,[3] New Jersey voters legalized casino gaming in a 1976 referendum that limited the casinos to Atlantic City. The resulting amendment to the state constitution clarified how Atlantic City's regional monopoly on gambling might revive its appeal as a tourist destination and benefit the local economy:

[3] According to then New Jersey State Senator Raymond Bateman, "if approved, the constitutional amendment [as proposed in the 1974 referendum] would enable any community to have a state supervised casino if local residents authorized it with their own referendum." Waggoner (1974)

> *"Legalized casino gaming has been approved by the citizens of New Jersey as a* ***unique tool of urban redevelopment for Atlantic City****. In this regard, the introduction of a limited number of casino rooms in major hotel convention complexes ... will facilitate the redevelopment of existing blighted areas ... and attract new investment capital to New Jersey in general and to Atlantic City in particular."* New Jersey Casino Control Act (1977)

The resulting state legislation, the Casino Control Act, established the New Jersey Casino Control Commission (NJCCC) in 1977 as the state's gaming control board, which is responsible for licensing casinos and key casino employees. The legislation requires applicants for the latter to establish residency in the state before receiving a license. [4] Additionally, the Casino Reinvestment Development Authority (CRDA) was established in 1984 to guide the investment of some casino tax revenues into public and private projects to revitalize Atlantic City, Atlantic County, and other parts of New Jersey.[5]

The first casino opened in Atlantic City (Resorts International) in 1978, followed by twelve others between 1979 and 1990.[6] The city enjoyed a regional monopoly on casino gambling in the eastern United States until 1992, when the Mashantucket Pequot Tribal Nation opened Foxwoods Resort Casino in Connecticut. Rose (1995) characterizes how the Foxwoods opening spurred an end to the city's coastal casino monopoly:

> *"Political and economic pressure to break the Foxwoods monopoly in the Northeastern U.S. market made competition inevitable. In 1993, an Indian casino without slot machines was opened by the Oneida tribe in the middle of New York state; casino ships with slots started operating out of ports in Connecticut; an Indian tribe in Rhode Island won a court order allowing it to open a casino; and legislation for slot machines, video lottery terminals, and more*

[4] "Each applicant employed by a casino licensee shall be a resident of the State of New Jersey prior to the issuance of a casino key employee license; provided, however, that upon petition by the holder of a casino license, the commission may waive this residency requirement for any applicant whose particular position will require him to be employed outside the State; and provided further that no applicant employed by a holding or intermediary company of a casino licensee shall be required to establish residency in this State." New Jersey Casino Control Act (1977)

[5] The state administered two key taxes on Atlantic City casinos: the Casino Revenue Tax and the Investment Alternative Tax. The Casino Revenue Tax was set at 8 percent of gross gaming revenues and collected by the NJCCC to use in support of programs for the disabled and elderly. The Investment Alternative Tax was set at 2.5 percent of gross revenues and collected by the CRDA to invest in economic development projects (Madhusudhan, 1995). In comparison, Nevada charged casinos a 7.75 percent effective tax rate, 6.75 percent tax on gross gaming revenues, and 1 percent of taxes in fees. All Nevada tax revenues are directed into the state's general fund (UNLV, 2023).

[6] Caesar's (1979), Bally's Park Place (1979), The Brighton (1980), Harrah's (1980), Golden Nugget (1980), Claridge (1981), Playboy (1981), Tropicana (1981), Trump Plaza (1984), Trump Castle (1985), Showboat (1987), Trump Taj Mahal (1990). Source: Atlantic City Free Public Library (2022).

casinos on riverboats and on land was introduced in state legislatures in Massachusetts, Pennsylvania, Connecticut, and nearly every other jurisdiction north of Atlantic City" (pp. 25).

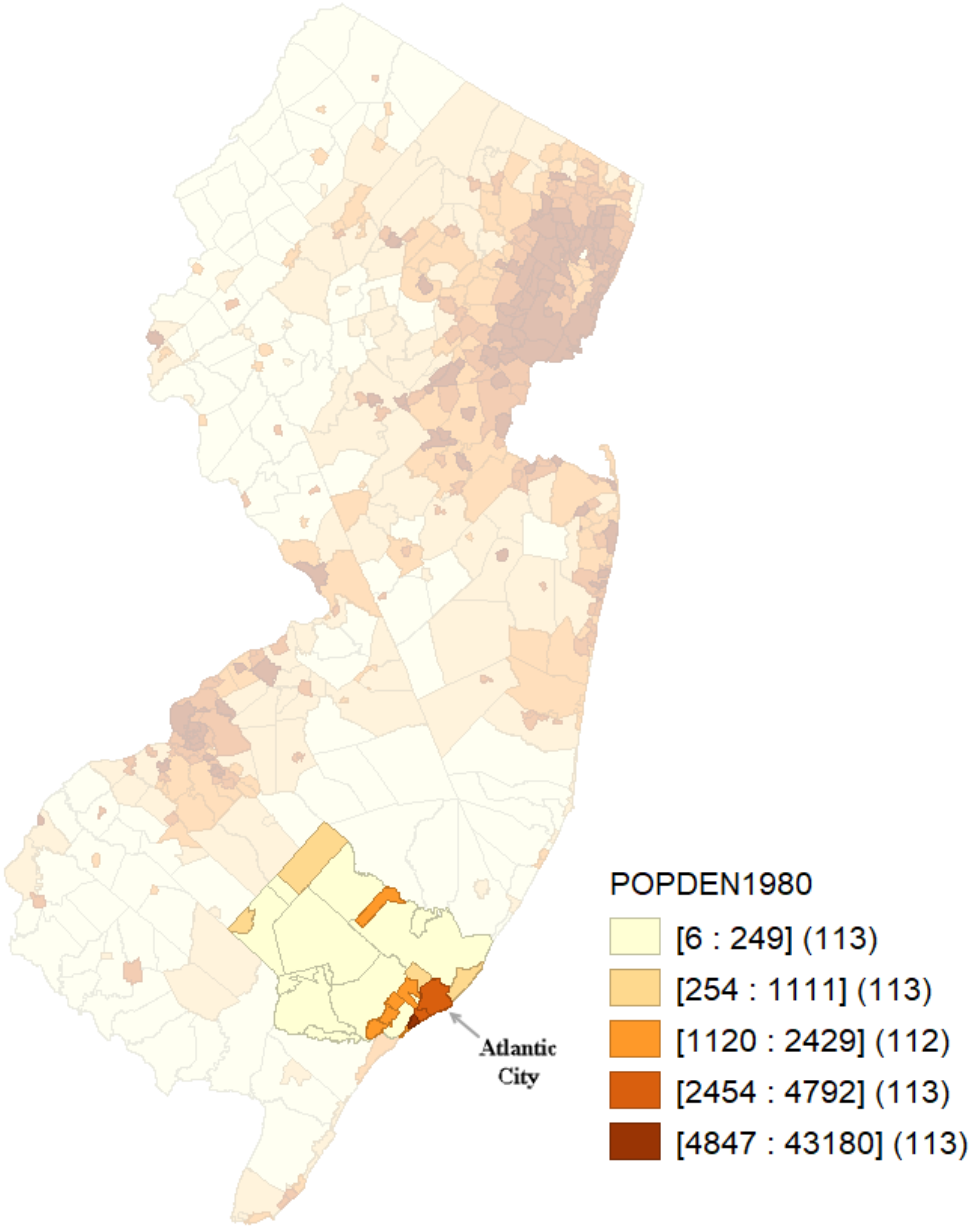

Figure 1: Map of New Jersey Municipalities (with Atlantic County emphasized) by 1980 Population Density Quintiles (People per Square Mile). Source: U.S. Census

3 Data

I use data on five different annual economic development variables for New Jersey counties between 1970 and 1992, except for the housing price series which begins in 1975. The payroll employment and wage series come from U.S. Census' County Business Patterns (CBP). The

payroll employment series is "Total Mid-March Employees," and the average weekly wage series is constructed by dividing the quotient of "Total First Quarter Payroll" to "Total Mid-March Employees" by thirteen. Population and Per Capita Personal Income come from the Bureau of Economic Analysis' "Personal Income by County, Metro, and Other Areas" dataset. The housing price index series is the "House Price Index for Counties (All-Transactions Index)" from the Federal Housing Finance Agency where 1990 is the base year.

Atlantic County's municipalities are mapped and shaded by 1980 population density quintiles in Figure 1. As discussed in the previous section, the literature suggests that Atlantic County's relatively low population density[7] would have allowed it to experience stronger economic development benefits from casino development than its more urban counterparts elsewhere in the state.

Before the casino referendum passed, Atlantic County was below the median levels for employment per capita, average weekly wage, and personal income per capita across New Jersey counties. Figure 2 plots employment per capita, average weekly wage, and personal income per capita across New Jersey's counties for a pre-treatment year (1975), five years (1982), ten years (1987), and fifteen years after treatment (1992), respectively. In terms of employment per capita, Atlantic County ranked thirteenth out of the twenty-one counties before treatment, but rose to second within five years of treatment. Ranked twentieth, Atlantic County had the second to lowest average weekly wage before treatment before rising to fourteenth within five years of treatment. Lastly, the county was ranked near the median county at eleventh for per capita personal income pre treatment but rose to seventh by 1982. Its low average weekly wage and personal income rankings prior to casino development are not surprising given that, at 12.5 percent, Atlantic County had the fourth lowest educational attainment (bachelor's degree or higher) across New Jersey counties in 1980.[8] With a below-median employment to population ratio and some of the lowest wages

[7]The United States Department of Agriculture's Rural Urban Continuum Codes suggest that Atlantic County was the fifth most rural county in the state in 1974 (behind Cape May, Hunterdon, Ocean, and Sussex). Source: USDA, Economic Research Service.

[8]The percentage of New Jersey's population with a bachelor's degree or higher in 1980 was 18.3 percent. Source: U.S. Census General Social and Economic Characteristics.

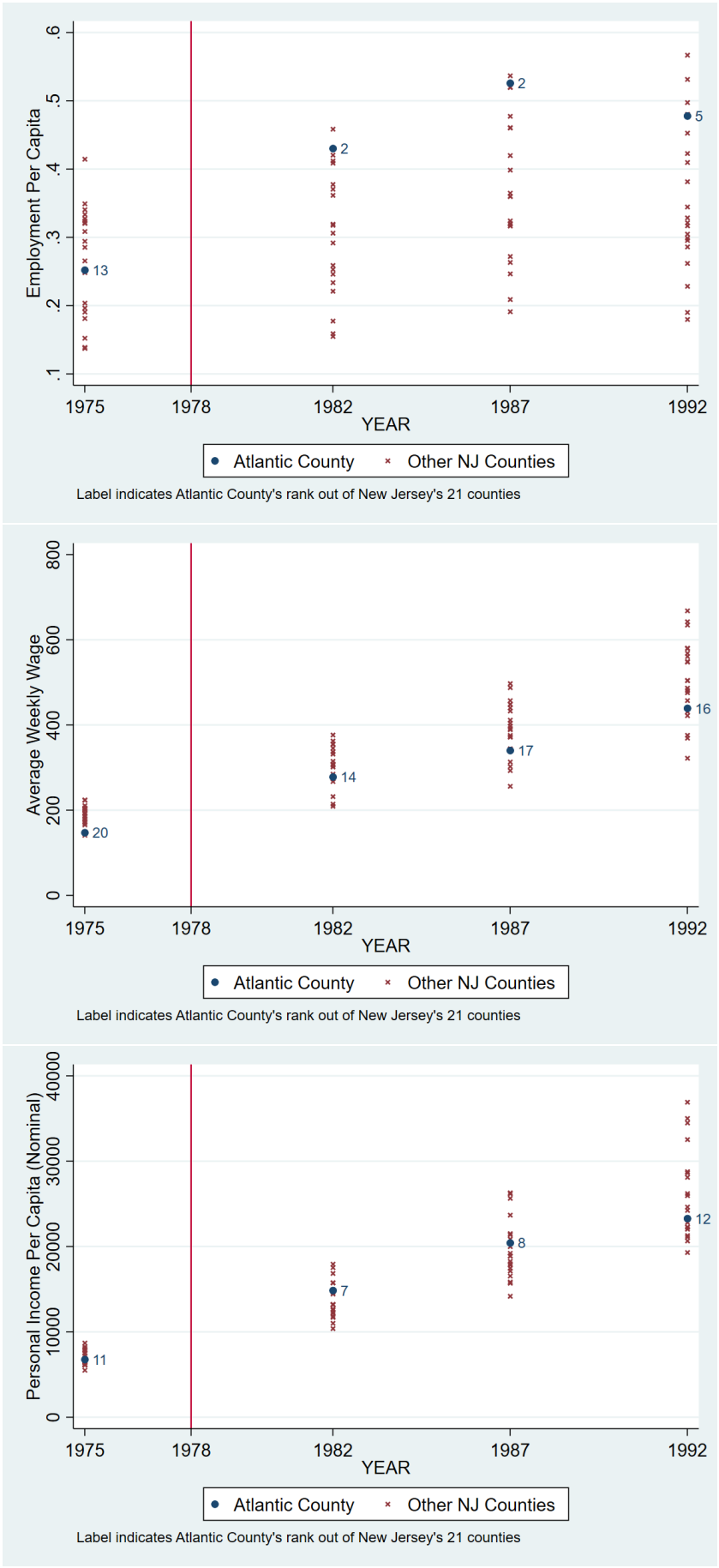

Figure 2: Scatterplots for employment per capita (upper panel), average weekly wages (middle panel), and personal income per capita (lower panel).

in the state, Atlantic County could stand to benefit from a supply of high-paying hospitality jobs to employ its largely non-college-educated population.

4 Methods

My main results use two specifications: a difference-in-differences model and a synthetic difference-in-differences model. The difference-in-differences model includes area and time fixed effects to estimate the impact of casino development on Atlantic County:

$$y_{it} = \alpha_i + \delta_t + \beta D_{it} + \epsilon_{it}. \tag{1}$$

The dependent variable is the natural log of total payroll employment, average weekly wages, per capita personal income, population, or housing prices in county i, $i = 1, ..., 21$, and year t, in which $t = 1974, ..., 1992$ for average weekly wages, $t = 1976, ..., 1992$ for housing price index, $t = 1970, ..., 1992$ for payroll employment, population, and per capita personal income.[9] The area and time fixed effects are denoted by α_i and δ_t, respectively, and the dummy variable D_{it} equals one from 1978 onward for Atlantic County, as seen in Figure 1, and zero otherwise. Therefore, the control group consists of all other New Jersey counties. The area effects control for time-invariant differences in local economic characteristics from unobservable factors that vary across counties, while the time effects capture common time trends that are shared across counties. I cluster standard errors at the county level in every model.

I report results from a generalized (or event-study) difference-in-differences model in Figure 3 that capture lead and lag effects of casino development, which show violations of the parallel trends assumption across several of the models. This finding is not surprising given that Atlantic County's economy was performing much worse than the rest of the state when it was chosen as the site for casino development in the mid-1970s. Since the difference-in-differences models requires the assumption of parallel pre-treatment trends, results from those models

[9]The above years represent the models with fifteen-year treatment horizons. The final years for all models with ten-year and five-year treatment horizons are 1987 and 1982, respectively.

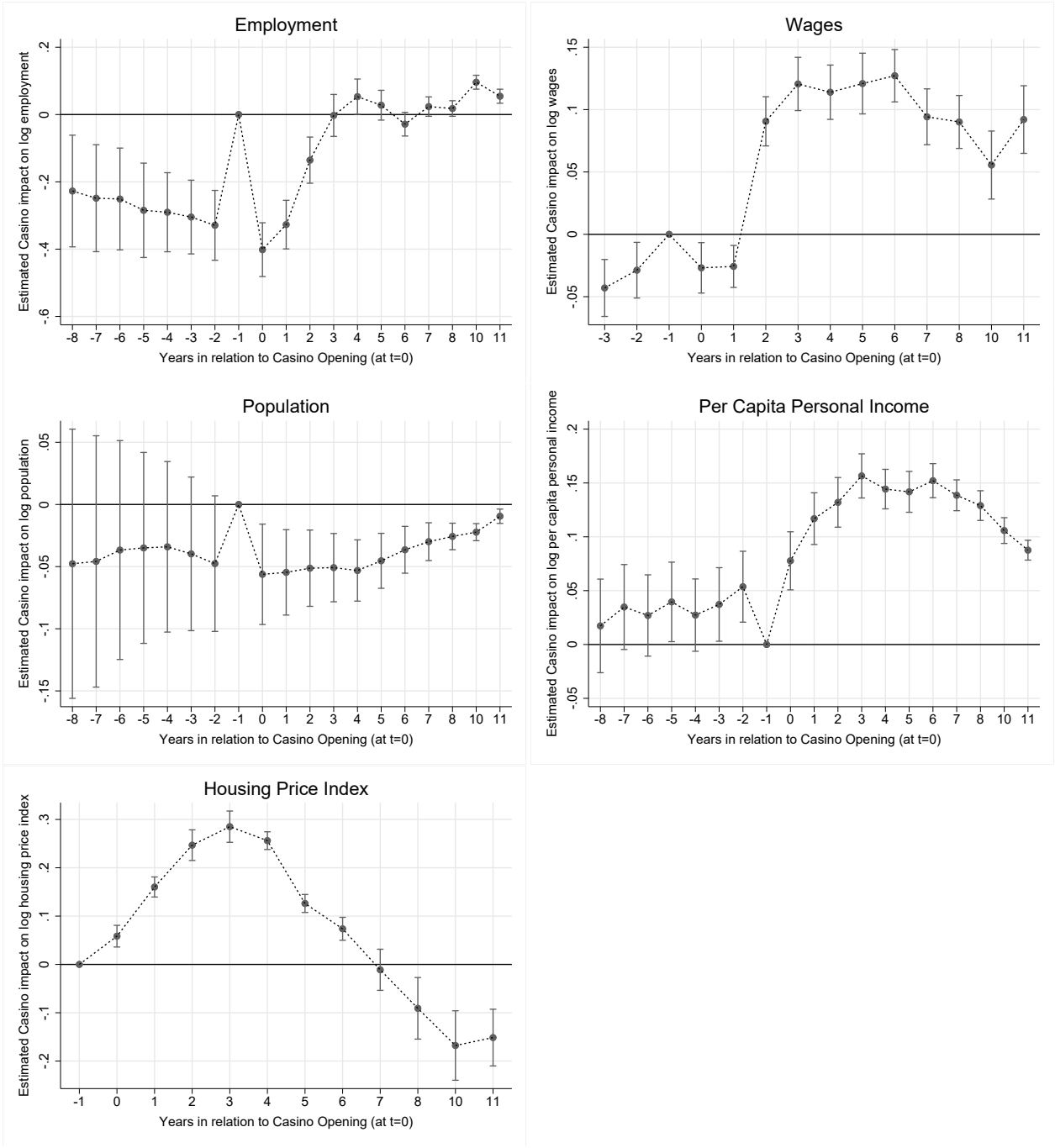

Figure 3: Lead and lag effects of the Casino Monopoly on Atlantic County's employment, wages, population, personal income, and housing price index

are likely to be biased. Therefore, I use the synthetic difference-in-differences estimator from Arkhangelsky et al. (2021) to allow for potentially different pre-trends among the treated and control units. The method optimizes the selection of a comparison group for Atlantic County by effectively re-weighting the unit and time weights in Equation 1. The weighting by pre-treatment observable characteristics ensures that pre-treatment outcomes for control units are approximately parallel, on average, to pre-treatment outcomes for treated units, which is visible across the outcome trends for the respective models in Figure 4. The average post-treatment outcome for the control units will differ by a constant amount from the weighted average of the pre-treatment outcomes for the same control units (Arkhangelsky et al., 2021, pp.4090).

5 Results

The results from my simple difference-in-differences models and synthetic difference-in-differences models are presented in Figure 5. I discuss my preferred results from the synthetic difference-in-differences models here as the method deals with the potential bias arising from differing pre-treatment trends. The top panel reports coefficient estimates for the five-year treatment horizon (ending in 1982), which suggests a positive treatment effect on Atlantic County due to casino development for employment (26 percent), wages (9 percent), personal income (9 percent), and house prices (19 percent). The middle panel reports coefficient estimates for the ten-year treatment horizon (ending in 1987), which suggests a positive treatment effect for employment (38 percent) and wages (10 percent). Lastly, the bottom panel reports coefficient estimates for the fifteen-year treatment horizon (ending in 1992), which suggests a positive treatment effect for employment (45 percent) and wages (10 percent). However, the treatment effect on population is not statistically different from zero for any of the three time horizons.

The differences between the simple and synthetic difference-in-differences models in 5 suggest that differential pre-trends are pronounced in several of the series. The results from the employment models suggest that the differential pre-trends between Atlantic County and the

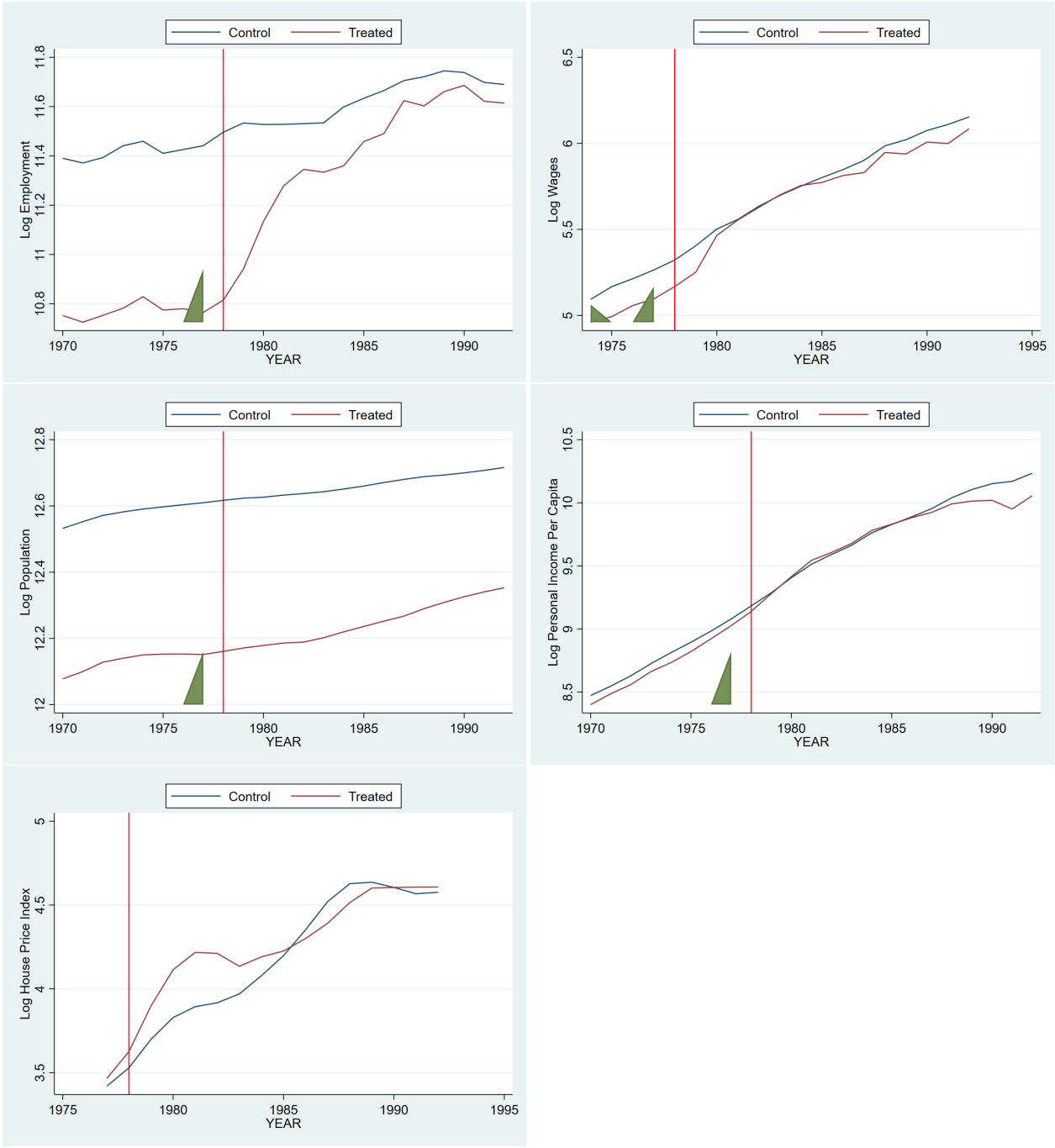

Figure 4: Synthetic Difference-in-Differences Outcome Trends for Atlantic County's employment, wages, population, personal income, and housing price index

rest of the state result in an underestimate (negative bias) of an employment treatment effect by 10 to 15 percentage points across the simple difference-in-differences models. However, the differential pre-trends result in an overestimate (positive bias) of 4 to 5 percentage points across the simple models for personal income. The simple results for personal income would have made the treatment effect significant across all three treatment horizons instead of for the five-year model only. Additionally, the simple models appear to underestimate the treatment effect on house prices by 3 to 4 percentage points, even though the simple model indicates a significant effect for the ten-year treatment horizon when the synthetic model does not. There are no major differences between the simple and synthetic model treatment effects for population or wages.

The primary takeaway from the results in Figure 5 is that casino development had a persistent positive effect on payroll employment and wages over the fifteen-year horizon of Atlantic City's monopoly. While the impact on wages is somewhat stable at 8 to 10 percent across the time horizons, the impact on payroll employment is monotonically increasing across the three time horizons. It is important to note that the city was consistently adding casinos over this time period such that there were nine casinos by 1982, twelve by 1987, and thirteen by 1992. The sustained and increasing job growth potentially suggests a lack of a cannibalization effect between the casinos such that the demand for Atlantic City casino services was able to match the supply during this monopoly period.

Another takeaway is that a positive treatment effect of casinos on house prices is only significant for the five-year time horizon. This result is consistent with findings by Sweet (2017) that speculative development in the late 1970s and early 1980s produced an extreme market imbalance, especially for properties in close proximity to casinos. Additionally, the CRDA's use of eminent domain and condemnation of properties throughout Atlantic City further reduced its housing stock over the 1980s. The author suggests that this housing supply crunch pushed more of Altantic City's already small population of middle-class residents into Atlantic County suburbs, leaving only the city's poorest residents. Therefore, the increase in housing prices do not necessarily reflect welfare gains for city or county residents.

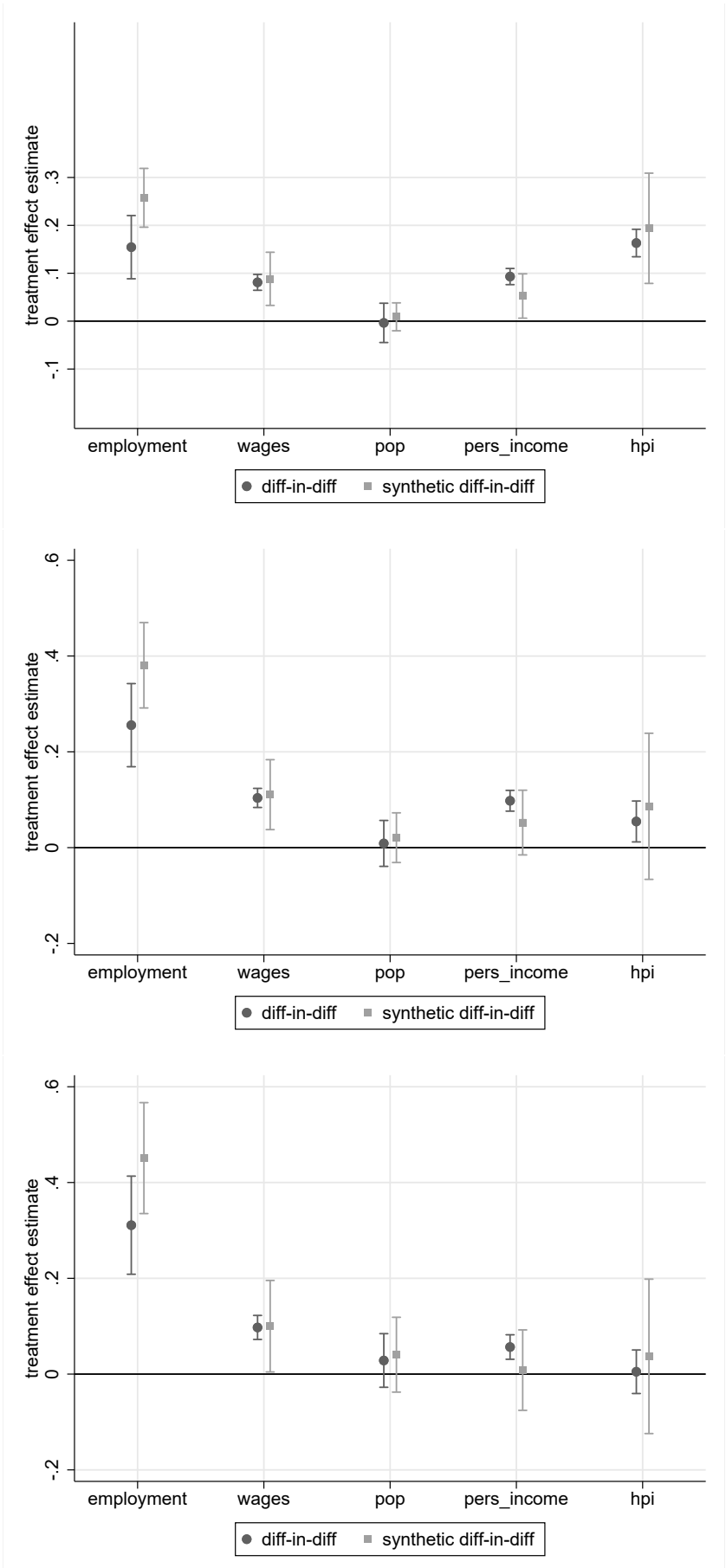

Figure 5: Point estimates and 95% confidence intervals of the simple and synthetic diff-in-diff models for the five-year (upper panel), ten-year (middle panel), and fifteen-year treatment horizons (lower panel).

6 Discussion

I provide evidence on the impact of legalized casino development on the economy of the Atlantic City Metropolitan Area (Atlantic County, NJ) by estimating treatment effects on payroll employment, average weekly wages, population, personal income per capita, and housing prices. I use public data from the U.S. Census, the Bureau of Economic Analysis, and the Federal Housing Finance Agency to construct the variables. I compare the outcomes in Atlantic County to New Jersey's twenty other counties from 1970 through 1992, estimating models for five-, ten-, and fifteen-year treatment horizons. Using a synthetic difference-in-differences model, I find no impact on the population for the treated area. I find positive impacts on personal income per capita (5 percent) and housing prices (19 percent) for the five-year treatment horizon (ending 1982). Furthermore, I find a positive and significant impacts for wages across the three models (9, 10, and 10 percent). Finally, I observe a positive significant impact on payroll employment which is monotonically increasing over the three time horizons (26, 38, and 45 percent).

My results suggest that casino development had a strong and persistent impact on Atlantic County's labor market (payroll employment and wages). My five-year result for payroll employment at 26 percent is much higher than the impact found in Cotti (2008) (8 percent), comparable to Rephann et al. (1997) (28 percent), but lower than Humphreys & Marchand (2013) (100 percent). It should be noted that the latter study uses Canadian census divisions rather than U.S. counties so it may not be a good comparison.[10] However, my persistent and monotonically increasing results for Atlantic County payroll employment are inconsistent with those three studies in terms of the duration of the employment effect. All three studies find the positive labor market effects to be strongest within one to three years of casino openings and to decay quickly thereafter, which may be the result of competition effects which are not present for Atlantic City in my study period. Additionally, the five-year impact that I found on wages (8 percent) is higher than Cotti (2008) (no impact) but lower than findings by Rephann et al. (1997) (28 percent) and Humphreys & Marchand (2013)

[10] There are 293 census divisions across Canada's ten provinces and three territories.

(100 percent) for similar treatment horizons.

It appears that the primary driver of the strong labor market effects from casino development were due to relatively high-paying service jobs, mostly by direct hiring from the casinos themselves. Of the 65,598 private nonfarm jobs that Atlantic County added between 1975 and 1992, 55,207 (84 percent) were in services, 4,910 were in retail (7.5 percent), and 2,600 were in finance (4 percent).[11] Furthermore, private nonfarm earnings increased by 3.4 billion dollars between 1975 and 1992, where 2.4 billion was due to increased earnings in the service industry (69 percent) and 1.4 billion from hotels and other lodging places alone (43 percent).[12]

Area	Variable	1980	1990
Atlantic City	Male Labor Force Participation Rate (%)	64	70.7
	Unemployment Rate (%)	11.2	9.6
	Poverty Rate (%)	24.9	25
	Population	40,199	37,986
	Real Per Capita Income ($ 1984)	7,864	9,696
Atlantic County	Male Labor Force Participation Rate (%)	73.4	77.1
	Unemployment Rate (%)	8.5	5.5
	Poverty Rate (%)	12.6	9.4
	Population	194,199	224,327
	Real Per Capita Income ($ 1984)	9,911	12,922

Source: U.S. Census General Social and Economic Characteristics

Figure 6: Economic Characteristics of Atlantic City vs. Atlantic County

Since the analysis here is for Atlantic County rather than Atlantic City, one should also consider who may have benefited from the strong job and wage growth over the study period. Figure 6 displays the economic characteristics of the residents of both Atlantic City and Atlantic County near the beginning of the treatment period (1980) and toward the end (1990). While Atlantic City experienced an increase in the male labor force participation rate over the period (7 percentage points), it lost 6 percent of its population, while retaining its high poverty and unemployment rates. However, Atlantic County increased its population by 16 percent and reduced its unemployment and poverty rates by 3 percentage points

[11]Source: U.S. Bureau of Economic Analysis, "CAEMP25S Total full-time and part-time employment by SIC industry 1/" (accessed Tuesday, January 10, 2023).

[12]Source: U.S. Bureau of Economic Analysis, "CAINC5S Personal income by major component and earnings by SIC industry 1/" (accessed Tuesday, January 10, 2023).

each. Additionally, Atlantic County experienced larger growth in real per capita income than Atlantic City (30 percent vs. 23 percent). These results are largely consistent with research (Braunlich, 1996; Rubenstein, 1984) suggesting that casino development helped the Atlantic City Metropolitan Area more than Atlantic City itself, as well as analysis by Rephann et al. (1997) who find earnings and jobs drains outside of their studied casino counties. Results from the latter indicate that casino jobs often go to residents outside of the casino's immediate area, which is likely a deliberate labor recruitment strategy by casino management. Furthermore, property speculation due to casino development resulted in a low housing stock and high prices which drove population loss and further concentrated poverty in the city (Sweet, 2017).

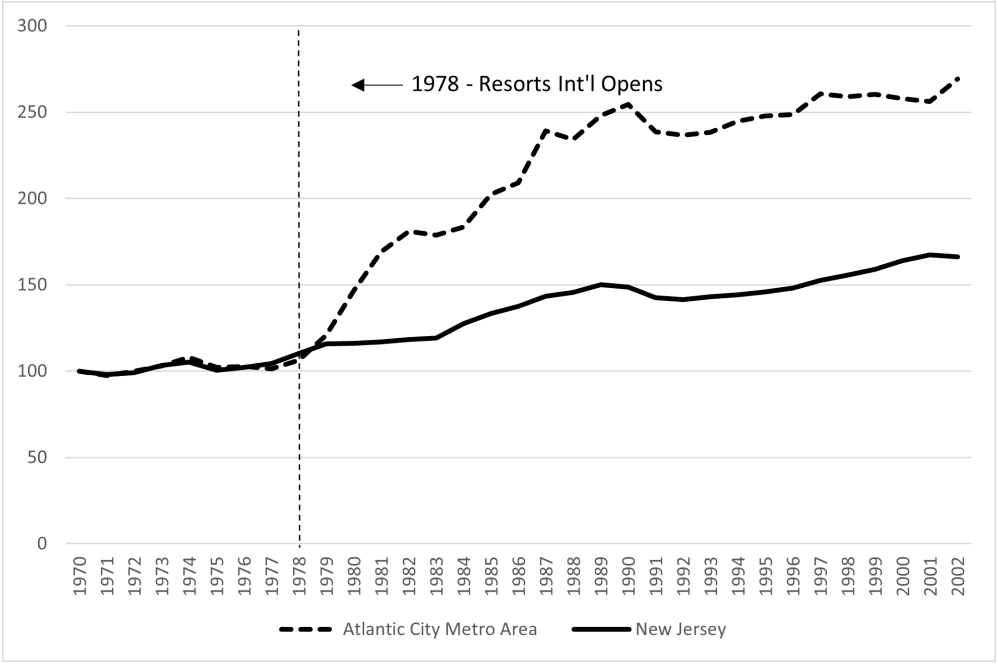

Figure 7: Payroll Employment Change: Atlantic City Metropolitan Area vs. New Jersey, 1970-2002. 1970=100. Source: U.S. Census' County Business Patterns

Overall, this study suggests that casino development was a rather successful economic development strategy for Atlantic County. Back in the 1970s, the county held relatively low employment, wage, and education levels. When Atlantic City regained its appeal as a top tourist destination in the 1980s, the county's fortunes blossomed. The casinos brought in a high supply of leisure and hospitality jobs which resulted in the county having the second highest employment to population ratio in the state only five years later with consistent

employment and wage growth thereafter. However, casino development's success as an economic development strategy appears to be primarily driven by the city's regional monopoly on gaming. If Atlantic County's growth were driven by a retail agglomeration effect, as suggested by (Walker & Nesbit, 2014; Gallagher, 2014), then the end of the city's casino monopoly might not necessarily disrupt its economic advantage. However, as seen in Figure 7, employment growth began to stall in the early 1990s as the city encountered competition from Foxwoods and other burgeoning gambling locations. While Atlantic County's employment grew much faster than New Jersey's during its monopoly era (122 percent vs. 28 percent), its growth fell below the state's in the subsequent ten year period (14 percent vs. 17 percent). Today, legalized gambling is available in nearly every U.S. state so the ability for casino development to generate the same regional economic development benefits has likely waned considerably (Scavette, 2022).

References

Albanese, J. (2019). Casino Gambling Impacts on Crime and Public Safety: A Review of 30 Years of Research. *International Journal of Criminal Justice Sciences*, *14*, 320–338.

American Gaming Association (2021). American favorability toward gaming grows as industry expands.
URL https://www.americangaming.org/new/american-favorability-toward-gaming-grows-as-

Arkhangelsky, D., Athey, S., Hirshberg, D. A., Imbens, G. W., & Wager, S. (2021). Synthetic difference-in-differences. *American Economic Review*, *111*(12), 4088–4118.

Atlantic City Free Public Library (2022). History of casino gambling in atlantic city.
URL http://www.acfpl.org/ac-history-menu/atlantic-city-heritage-collections/15-heston-archives/68-history-of-casino-gambling-in-atlantic-city

Atlantic County Department of Regional Planning and Economic Development (2000). Atlantic county master plan.

Barron, J., Staten, M., & Wilshusen, S. (2002). The impact of casino gambling on personal bankruptcy filing rates. *Contemporary Economic Policy*, *20*, 440–455.

Braunlich, C. (1996). Lessons from the Atlantic City Casino Experience. *Journal of Travel Research*, *34*, 46–56.

Cotti, C. (2008). The Effect of Casinos on Local Labor Markets: A County Level Analysis. *Journal of Gambling Business and Economics*, *2*, 17–41.

Cotti, C., & Walker, D. (2010). The impact of casinos on fatal alcohol-related traffic accidents in the United States. *Journal of Health Economics*, *29*, 788–796.

Darrow, C. (2014). How the 1964 democratic convention sank atlantic city. *Philadelphia Inquirer*.
URL https://www.inquirer.com/philly/news/new_jersey/20140827_How_the_1964_Democratic_Convention_sank_Atlantic_City.html

Friedman, J., Hakim, S., & Weinblat, J. (1989). Casino gambling as a "growth pole" strategy and its effect on crime. *Journal of Regional Science*, *29*, 615–623.

Gallagher, R. (2014). An examination of cannibalization effects within the riverboat gaming industry: The case of the Illinois-area casinos. *Growth and Change*, *45*, 41–59.

Garrett, T. (2004). Casino Gaming and Local Employment Trends. *Federal Reserve Bank of St. Louis Review*, *86*, 9–22.

Geisler, K., & Nichols, M. (2016). Riverboat casino gambling impacts on employment and income in host and surrounding counties. *Annals of Regional Science*, *56*, 101–123.

Huang, H., Humphreys, B., & Zhou, L. (2018). Do urban casinos affect nearby neighbourhoods? Evidence from Canada. *Papers in Regional Science*, *97*.

Humphreys, B., & Marchand, J. (2013). New casinos and local labor markets: Evidence from Canada. *Labour Economics*, *24*, 151–160.

Johnson, J., Plummer, B., Brennan, K., & Wilson, M. (2018). Atlantic city: Building a foundation for a shared prosperity. *Office of the Governor, State of New Jersey*.

Johnson, N. (2002). *Boardwalk Empire: The Birth, High Times, and Corruption of Atlantic City*. Medford Press.

Lim, S. H., & Zhang, L. (2017). Does casino development have a positive effect on economic growth? *Growth and Change*, *48*, 409–434.

Madhusudhan, R. G. (1995). Implications of legalized gambling for state and local finances: The case of new jersey. *Federal Reserve Bank of Boston: Casino Development Conference Proceedings*.

New Jersey Casino Control Act (1977). 5:12-1 declaration of policy and legislative findings. URL https://www.nj.gov/casinos/law/act/index.html

Press, A. C. (2016). How the 1964 democratic convention showed atlantic city's decay. *Atlantic City Press*.
URL https://pressofatlanticcity.com/news/breaking/

how-the-1964-democratic-convention-showed-atlantic-citys-decay/article_5ba9e6ea-2a64-11e4-8442-001a4bcf887a.html

Rephann, T. J., Dalton, M., Stair, A., & Isserman, A. (1997). Casino Gambling as an Economic Development Strategy. *Tourism Economics*, *3*, 161–183.

Rose, I. N. (1995). Gambling and the law: Endless field of dreams. *Federal Reserve Bank of Boston: Casino Development Conference Proceedings*.

Rubenstein, J. (1984). Casino gambling in Atlantic City: Issues of development and redevelopment. *Annals of the American Academy of Political and Social Science*, *474*, 61–71.

Scavette, A. (2022). Casinos and regional economies: Has the game changed? *Federal Reserve Bank of Richmond Economic Brief*, *22-28*.

Simon, B. (2004). *Boardwalk of Dreams: Atlantic City and the Fate of Urban America*. Oxford University Press.

Sweet, E. (2017). Evaluating state based economic development policy: Learning from atlantic city. *Columbia University. Department of Architecture and Planning*.

UNLV (2023). Nevada gaming summary. *University of Nevada Las Vegas Center for Gaming Research*.
URL https://gaming.library.unlv.edu/all-reports.html

Waggoner, W. (1974). Jersey group seeks voters' rejection of casino gambling. *New York Times*.
URL https://www.nytimes.com/1974/09/12/archives/jersey-group-seeks-voters-rejection-of-casino-gambling-byrne-backs.html

Walker, D. (2013). *Casinonomics: The Socioeconomic Impacts of the Casino Industry*. Springer.

Walker, D., & Nesbit, T. (2014). Casino revenue sensitivity to competing casinos: A spatial analysis of Missouri. *Growth and Change*, *45*, 21–40.

Wenz, M. (2014). Valuing casinos as a local amenity. *Growth and Change*, *45*, 136–158.

Zhang, C., Irving, W., & Lahr, M. (2020). Gaming Market Saturation and Location Growth Potential: The Case of Atlantic City. *Rutgers Economic Advisory Services Working Paper*.