

AN ANALYSIS OF THE ECONOMIC IMPACT OF LEGALIZED SPORTS BETTING

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INTRODUCTION

As of May 2019, thirty-one states in the United States have introduced legislation to legalize sports betting. In four separate states and the District of Columbia, legislation to legalize sports betting has been introduced and passed. There are also eight states that have already legalized sports betting completely. Out of the fifty states in the United States, this leaves only seven states in total that have yet to introduce legislation regarding the legality of sports betting¹.

Nevada, for the longest time, was the only state in the United States to have legalized sports betting, but Delaware, in June of 2018, moved to make it legal there². Soon, many other states followed suit, including New Jersey and Pennsylvania. Although there are many ethical, religious, and miscellaneous reasons not to legalize sports betting, prior research³ conducted on the effects of sports betting on the economy, including gross domestic product (GDP) growth, jobs, unemployment, income, and tax revenue, have suggested that the economic effects are indisputable, possibly explaining why so many states have moved to or brought up legislation to legalize sports betting.

Still, not a whole lot of states have legalized sports betting completely. Some are ready to, but most states that have legalized it already have done so pretty recently. This generally means that more data is needed to fully contextualize its effects. And as more states continue to legalize

¹ Rodenberg, Ryan. "United States of Sports Betting: An Updated Map of Where Every State Stands." ESPN. May 10, 2019. Accessed May 12, 2019.
http://www.espn.com/chalk/story/_/id/19740480/the-united-states-sports-betting-where-all-50-states-stand-legalization.

² See note 1 above.

³ *ECONOMIC IMPACT OF LEGALIZED SPORTS BETTING*. PDF. Oxford Economics, May 2017.

it, it becomes necessary to conduct more research and update previous findings and conclusions based on the introduction of new data. I will be narrowing the scope of my analysis to GDP growth, specifically comparing GDP growth in states that have legalized it and states that have not legalized it, my control group. Using data from the Bureau of Economic Analysis, I will also be comparing GDP growth before and after the legalization in states that have legalized it. Based on research previously conducted on this issue and the recent push by many states, I will try to prove, through my analysis, that legalizing sports betting has a significantly positive effect on GDP growth.

LITERATURE REVIEW

As noted before, prior research has been conducted on the economic impacts of sports betting. Oxford Economics⁴ released some of their findings in May 2017 and broke down potential scenarios into limited availability, moderate availability, and convenient availability, as well as base tax rate, low tax rate, and high tax rate. Limited availability is defined as sports betting only being offered onsite as casinos with no mobile betting, contrasted with convenient availability, which allows virtually all forms of sports betting. Base tax rate is defined as ten percent of gross gaming revenue (GGR), low tax rate is defined as 6.75% of GGR, and high tax rate is defined as 15% of GGR. All tax scenarios included a federal handle tax, valued at 0.25% of GGR. The raw data of the nine total scenarios possible in this study showed a significant contribution by sports betting towards GGR, direct jobs, tax revenue, and GDP. Sports betting, across all scenarios, performed better at the low tax rate, and economic impact on all metrics increased as the

⁴ *ECONOMIC IMPACT OF LEGALIZED SPORTS BETTING*. PDF. Oxford Economics, May 2017.

convenience of sports betting increased. Put another way, convenient availability had higher economic impacts than moderate and limited availability.

Their economic analysis attributes this increase in economic activity to three categories of impacts: direct, indirect, and induced. Direct impacts include direct spending on sports betting and other purchases on items that support sports betting. Indirect impacts include downstream supplier industry impacts, such as food and beverage purchased at the casino, legal, marketing maintenance, repair, and cleaning services, and the purchase of sports and media content. Induced impacts include examples such as employees spending their wages on rent, transportation, food and beverage, and entertainment in the local economy. The data as well as the assignment of the positive economic effects to these sensible impacts causes me to believe that states will see a significantly positive effect on GDP growth.

A report done by the Foundation for Economic Education⁵ reports that, as a result of the Supreme Court's ruling on *Murphy v. NCAA*, a federal ban on sports betting was lifted, allowing many states to legalize sports betting. They note the general propensity of Americans to bet, citing Super Bowl 52, when Americans bet an estimated \$4.76 billion on the one event alone. They also cite a different report by Oxford University, saying that "sports betting would contribute between \$11.6 billion and \$14.2 billion to U.S. gross domestic product (GDP) annually." They also report that a national legal sports gambling system would "create 125,000 to 152,000 jobs paying between \$6 billion and \$7.5 billion in total wages." The report done by the Foundation for Economic Education also cites many external factors effecting the economic impact of sports

⁵ Hauf, Patrick. "The Economic Benefits of Legalized Sports Betting in the U.S. Would Be Huge | Patrick Hauf." FEE. August 31, 2018. Accessed May 13, 2019. <https://fee.org/articles/the-economic-benefits-of-legalized-sports-betting-in-the-us-would-be-huge/>.

betting, such as technology. Mobile betting via apps could contribute an additional \$9 billion worth of revenue, and could become one of the biggest contributors to the US economy, according to the report. This information also supports my claim that a significantly positive effect on state GDP growth.

PROCESS AND METHODOLOGY

I will be using states that have not legalized sports betting as a control group and using states that have legalized it as the variable group. An initial concern with that variable group is that some states have only recently legalized sports betting, meaning data with this group can be limited. A summary of states and the status of sports betting in each respective state and the District of Columbia⁶ is provided below:

State	Legalized?	Since when?
Alabama	No	N/A
Alaska	No	N/A
Arizona	No	N/A
Arkansas	Recent bill passed	November 2018
California	No	N/A
Colorado	No	N/A
Connecticut	No	N/A
Delaware	Yes	June 2018
District of Columbia	Recent bill passed	May 2019
Florida	No	N/A
Georgia	No	N/A
Hawaii	No	N/A
Idaho	No	N/A
Illinois	No	N/A
Indiana	Recent bill passed	May 2019
Iowa	No	N/A
Kansas	No	N/A
Kentucky	No	N/A

⁶ Rodenberg, Ryan. "United States of Sports Betting: An Updated Map of Where Every State Stands." ESPN. May 10, 2019. Accessed May 12, 2019.
http://www.espn.com/chalk/story/_/id/19740480/the-united-states-sports-betting-where-all-50-states-stand-legalization.

Louisiana	No	N/A
Maine	No	N/A
Maryland	No	N/A
Massachusetts	No	N/A
Michigan	No	N/A
Minnesota	No	N/A
Mississippi	Yes	August 2018
Missouri	No	N/A
Montana	Recent bill passed	May 2019
Nebraska	No	N/A
Nevada	Yes	1931
New Hampshire	No	N/A
New Jersey	Yes	June 2018
New Mexico	Yes	October 2018
New York	Recent bill passed	2019
North Carolina	No	N/A
North Dakota	No	N/A
Ohio	No	N/A
Oklahoma	No	N/A
Oregon	No	N/A
Pennsylvania	Yes	November 2018
Rhode Island	Yes	November 2018
South Carolina	No	N/A
South Dakota	No	N/A
Tennessee	No	N/A
Texas	No	N/A
Utah	No	N/A
Vermont	No	N/A
Virginia	No	N/A
Washington	No	N/A
West Virginia	Yes	August 2018
Wisconsin	No	N/A
Wyoming	No	N/A

Because of the recency of some states implementing full-scale legalized sports betting, with the variable group, I will be only using GDP data before the first quarter of 2019. Since the history of sports betting in Nevada is long and complicated, I will be excluding Nevada from either group. States that have passed recent legislation have not had time to implement sports betting at a grand scale, so I will also be excluding these states from both groups. States that have introduced

legislation also have not implemented legalized sports betting, but I will also exclude these states from either group, out of fear that news of legalization could affect data. As a result of this, my control group will consist of all states that have not introduced any legislation regarding sports betting, Alaska, Florida, Idaho, Nebraska, Wisconsin, Wyoming, and Utah. My variable group will consist of Delaware, New Jersey, Mississippi, West Virginia, New Mexico, Pennsylvania, and Rhode Island. My analysis will compare GDP growth in the control and variable group from the first quarter of 2018 to the last quarter of 2018, and within the variable group, I will compare the growth rate in GDP of all states in the variable group, from the first quarter of 2018 to the last quarter of 2018, to 2.9% annual growth rate that the United States saw in 2018⁷.

DATA

GDP data for the first quarter of 2018 and 2019 for both groups⁸, is provided below in addition to GDP growth percentage. GDP is reported in millions of current dollars.

Control Group

State	Q1 – 2018	Q4 - 2018	Growth (%)
Alaska	52831.8	54851.4	3.82
Florida	1013896	1059144	4.46
Idaho	75082.4	78640.1	4.74
Nebraska	120822	124741.9	3.24
Wisconsin	331216.5	342470	3.40
Wyoming	38495.9	39898.8	3.64
Utah	173072.7	180861.7	4.50
Mean	-	-	3.97

⁷ Mutikani, Lucia. "U.S. Economic Growth in 2018 Misses Trump's 3 Percent Target." Reuters. February 28, 2019. Accessed May 13, 2019. <https://www.reuters.com/article/us-usa-economy/u-s-economic-growth-in-2018-misses-trumps-3-percent-target-idUSKCN1QH0HO>.

⁸ "Gross Domestic Product." U.S. Bureau of Economic Analysis (BEA). Accessed May 13, 2019. <https://www.bea.gov/data/gdp/gross-domestic-product>.

Variable Group

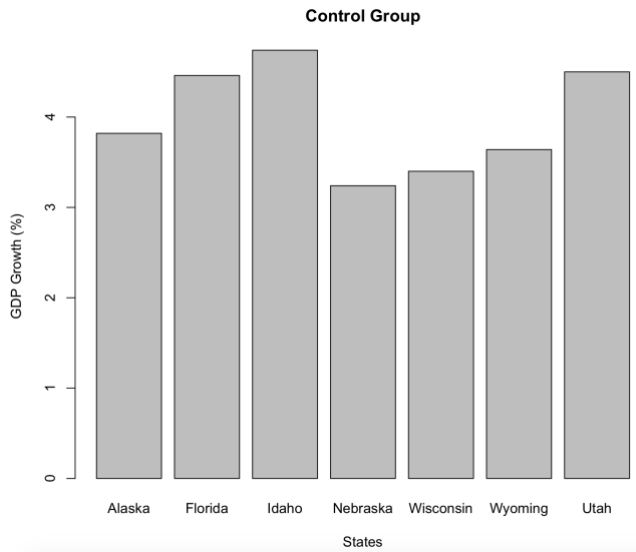
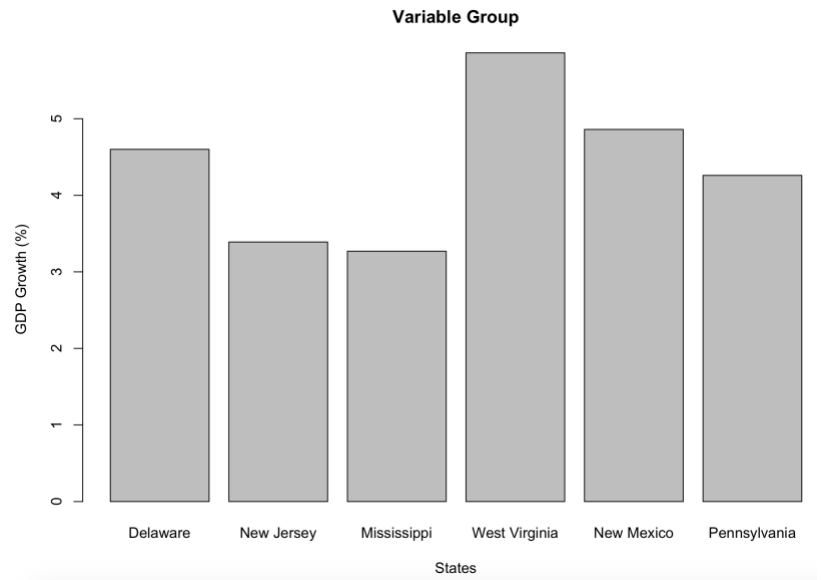
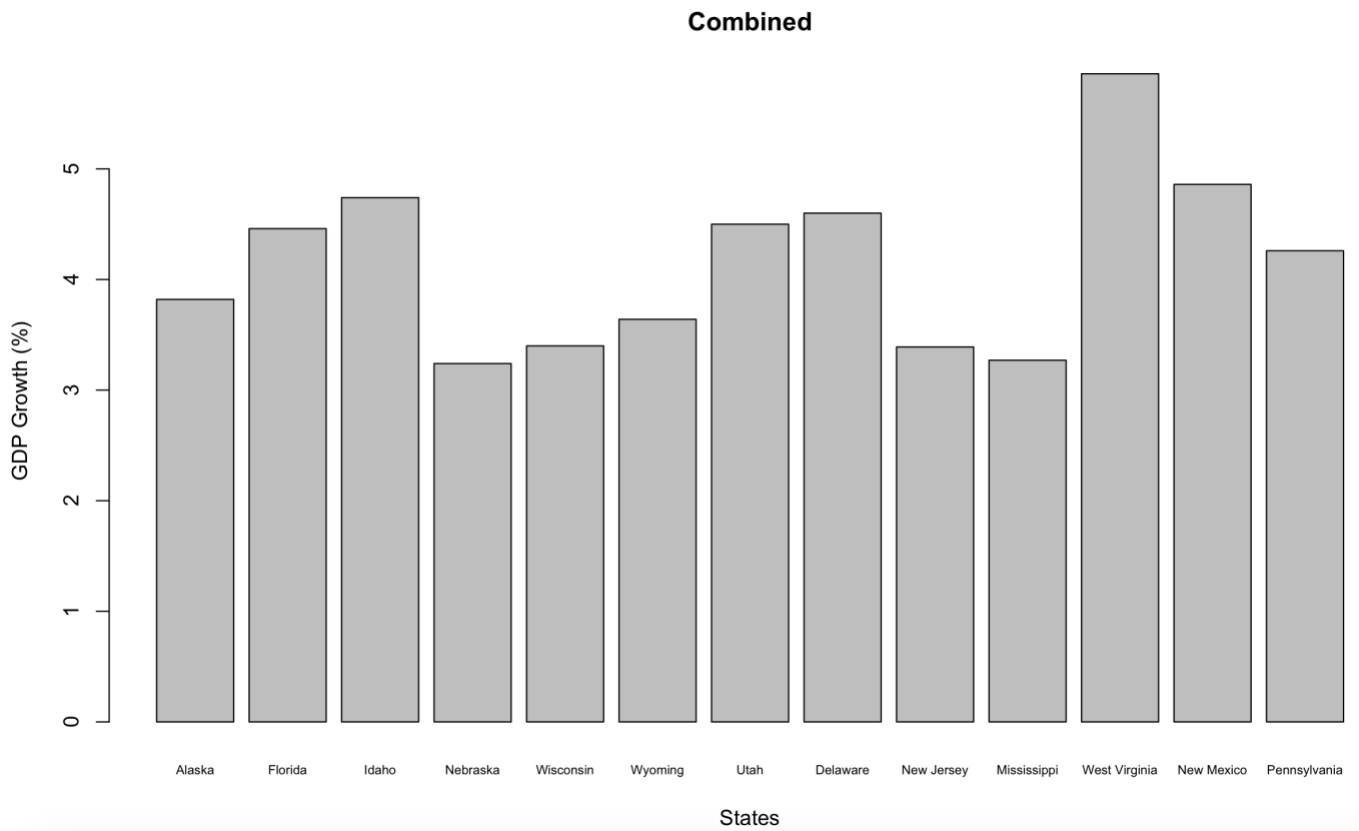
State	Q1 – 2018	Q4 - 2018	Growth (%)
Delaware	73167.9	76537.1	4.60
New Jersey	613929	634721.1	3.39
Mississippi	112086.6	115749.4	3.27
West Virginia	74784	79167.9	5.86
New Mexico	96751.8	101451.8	4.86
Pennsylvania	770473.2	803307.4	4.26
Rhode Island	60503.5	61340.9	1.38
Mean	-	-	3.95
Mean excluding RI	-	-	4.37

Percent Difference between Averages

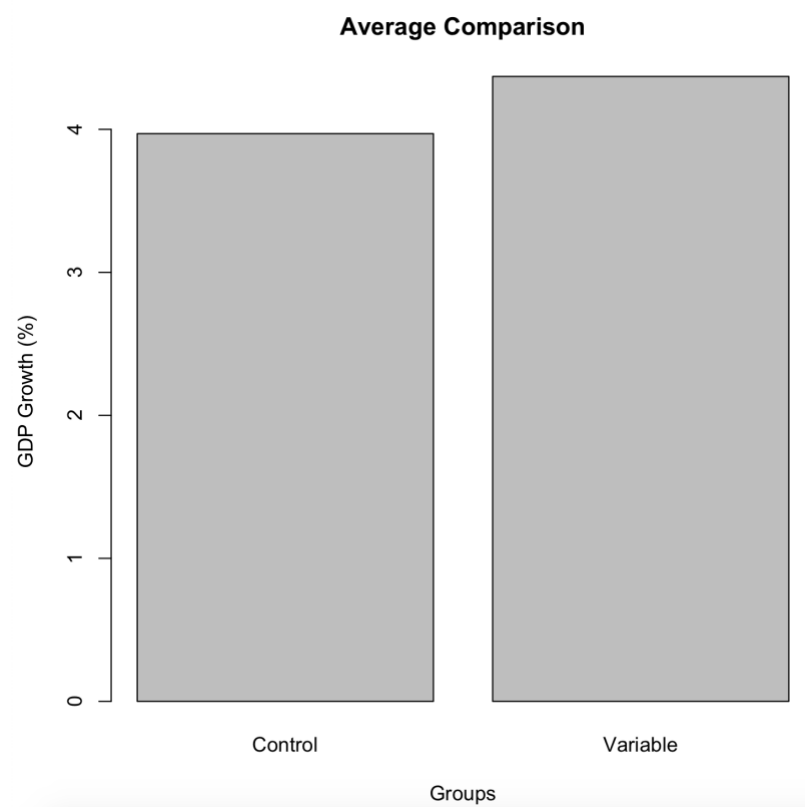
Item	Value (%)
Mean for Control	3.97
Mean for Variable	3.95
Mean for Variable (w/o RI)	4.37
% Difference	-0.50
% Difference (w/o RI)	10.08

Variable Group vs Average Annual Growth Rate

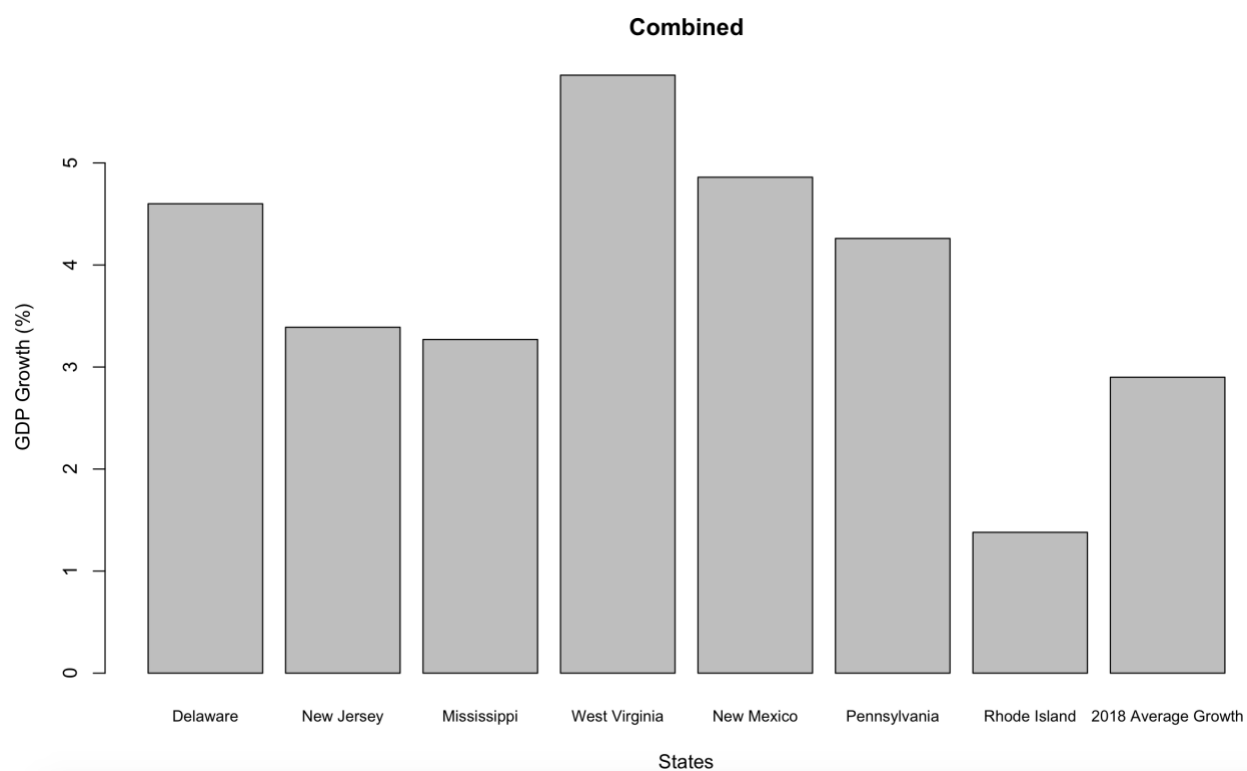
State	GDP Growth	Average	Percent Difference
Delaware	4.60	2.9	58.62
New Jersey	3.39	2.9	16.90
Mississippi	3.27	2.9	12.76
West Virginia	5.86	2.9	102.07
New Mexico	4.86	2.9	67.59
Pennsylvania	4.26	2.9	46.90
Rhode Island	1.38	2.9	-52.41
Mean	3.95	2.9	36.21
Mean excluding RI	4.37	2.9	50.69

Control GroupVariable Group w/o Rhode IslandCombined

Mean Value Comparison (excluding Rhode Island)



Variable Group Comparison with Average GDP Growth for 2018



RESULTS AND ANALYSIS

Taking data from the BEA, I obtained GDP data for the first and last quarter of 2018 of all states in all groups, and calculated GDP growth. GDP growth was particularly anemic in Rhode Island in between those quarters, and in conducting my analysis, I considered Rhode Island an outlier state whose GDP growth was especially affected by outside factors. Taking the average GDP growth of both groups, I found that there was at least a ten percent difference, excluding Rhode Island, in GDP growth between the control and variable group, of which the variable group outperformed by a significant margin. Keeping Rhode Island into consideration, the control group actually outperformed the variable group, on average, by a slim margin. It was not the case that all states in the variable group outperformed all states in the control group. In fact, some states in the control group outperformed some states in the variable group in terms of GDP growth.

It was determined that, if one were to compare the GDP growth of states in the variable group to the average annual GDP growth in 2018, all states, with the exception of Rhode Island, outperformed the average of 2.9%. If Rhode Island were to be considered an outlier, like in the previous analysis, it is the case that all states allowing full-scale legalized sports betting outperformed the average. Mississippi outperformed the average the least amongst the states in the variable group, but there is still a 12.76% difference between the state's GDP growth and the average. West Virginia, with outperformed the average the most, demonstrated a 102.07% difference in GDP growth. On average, including Rhode Island, the variable group outperformed the average by a perfect difference of 36.21%. Without Rhode Island, it outperformed by 50.69%.

CONCLUSION

After conducting analysis on the data, there is good evidence to suggest that the legalization of sports betting in a state does have a positive, non-negligible effect on GDP and GDP growth. On average, the variable group, excluding Rhode Island, demonstrated higher GDP growth than the control group, and every state in the variable group outperformed the average annual GDP growth reported for the year 2018, the average difference being over thirty-six percent including Rhode Island and fifty percent excluding Rhode Island, which is a strong indication that legalized sports betting has a positive impact on GDP growth.

The analysis, however, does not prove for certain that the difference in economic performance between the variable and control group is attributable to the legalization of sports gambling. There are many other factors to be considered, all of which would have to be normalized to isolate the effects of sports betting. Not all factors are quantifiable or identifiable, which would make this analysis incredibly difficult. The strength of this analysis is compromised by the anemic economic performance of Rhode Island. The state was considered an outlier in further analysis of the data, but again, other external factors would need to be considered in order to say that Rhode Island is indeed an outlier. The data and analysis do not prove that legal sports betting had any positive or negative effect on Rhode Island's poor economic GDP growth and performance.

Overall, the effects of legalized sports betting cannot be definitively determined because of the recency of this issue, the availability of data, and the inconsideration of a multitude of factors, especially in the case of Rhode Island. As a result, more research, perhaps at a time when more data is available, is needed to make a definitive conclusion. However, both analyses conducted present strong evidence to suggest that the legalization of sports betting does have a positive and non-negligible effect on GDP growth.

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